Wetland Delineation and Vernal Pool Survey Report

Number Nine Wind Farm
Aroostook County, Maine

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July 10, 2015

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1.0 INTRODUCTION

The Number Nine Wind Farm (Project) is a proposed grid-scale wind energy facility located in Aroostook County, Maine (Appendix A). The proposed Project is composed of 3 components. The Turbine Area will include up to 119 turbines; associated 34.5-kilovolt (kV) electrical collector lines (collector line) and access roads; a Project substation; and an Operations and Maintenance (O&M) building. Two segments of a 345-kV electrical generator lead line (generator lead) each form a separate component of the Project. The generator leads are identified as the North Generator Lead Line and the Bridal Path Generator Lead Line. A detailed Project description is provided in Section 1 of this application.

The Project components are shown on the figures provided in Appendix A and B. Generally, the turbines would be constructed on ridges and hills extending from the northern boundary of Dudley Township to the southern boundary of Westfield, including the townships of T10R3 WELS, E Twp, T9R3 WELS, TDR2 WELS, T8R3 WELS, and Saint Croix Twp. New and existing roads and crane paths will provide access to each turbine location. The electrical collector will connect each turbine and run mainly underground along Project roads within turbine strings and above ground between turbine strings, ultimately connecting to the proposed Project substation located in the south central portion of the turbine array in T9R3 WELS. The North Generator Lead Line would begin at the new substation in T9R3 WELS and extend south and east approximately 26.2 miles to Ludlow Road in Houlton. From Ludlow Road, the Bridal Path Generator Lead Line will extend approximately 25.4 miles southwesterly to a proposed switchyard in Haynesville. The Bridal Path Generator Lead Line will be located within an existing utility easement referred to as the "Bridal Path." Outside of the turbine array, existing roads will be used to access both sections of generator lead, and temporary construction roads within the generator lead corridors will be used for construction.

This report provides the results of wetland and waterbody delineations and vernal pools surveys completed for the Project. A general description of resources identified during the delineations and vernal pool surveys are provided as are the summary results for each Project component. Delineated resources are shown on the Natural Resource Maps in Appendix B, and resource summary tables are presented in Appendix C. Appendix D includes Wetland Determination Data forms, and Maine State Vernal Pool Assessment forms are provided in Appendix E. Representative photographs are provided in Appendix F. This report provides information typically required for the state and federal permitting processes.

2.0 SURVEY METHODS

2.1 WETLAND DELINEATION

Within the Turbine Area component of the Project, wetland and waterbody resource delineations were conducted in 2008, 2010, 2014, and 2015. Stantec Consulting Services Inc. (Stantec) completed the delineations in 2014 and 2015. Delineations conducted in 2008 and 2010 were completed by other consultants. Stantec was provided the Geographic Information System (GIS) data for the 2008 and 2010 delineations as well as wetland summary forms for the majority of these resources. During the 2014 and 2015 delineations, Stantec reviewed and verified the wetland and waterbody boundaries for the previously identified resources. In areas where resource boundaries were found to be different than previously mapped, resource boundaries were modified to reflect the current wetland and/or stream conditions. Where the resource boundaries were found to be accurate, Stantec included the previous data in this report. Delineation for the Turbine Area component included the area:

- Within 250 feet of proposed turbine locations;
- Within 200 feet of the proposed substation and O&M building and associated laydown area;
- Within 75 to 150 feet of roads that will include an associated collector line;
- Within 75 feet of roads without an associated collector line; and
- Within 30 to 75 feet of proposed laydown areas and batch plants.

For the North Generator Lead Line, delineations were completed by Stantec in 2014 and 2015. Delineations for the North Generator Lead Line were conducted with an approximately 170 foot wide corridor. Delineations along the Bridal Path Generator Lead Line were completed by others in 2010 and verified by Stantec in 2014. Additional delineations along the Bridal Path Generator Lead Line were conducted by Stantec in 2015. Because data provided to Stantec for the Bridal Path Generator Lead Line only included the GIS data from the 2010 delineation, Stantec verified and/or delineated resources and collected updated field data on each resource. The delineations for the Bridal Path Generator Lead Line were conducted within an approximately 225-foot wide corridor. At the southernmost end of the Bridal Path Generator Lead Line in Haynesville, the line crosses onto a parcel that will contain the proposed new switchyard. Wetlands delineated on this parcel were delineated by others in November 2013 and have been included as part of this report.

The majority of the wetland delineations were conducted under seasonally-appropriate field conditions. Wetland delineations in some areas were completed in December 2014 under "winter delineation" conditions and were field verified in May and June 2015. Wetland boundaries under federal and state jurisdiction were determined using the technical criteria

described in the *Corps of Engineers Wetlands Delineation Manual*[1] and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2)*[2]. Wetland boundaries were marked with pink pre-labeled "Wetland Delineation" flags and then labeled with a unique alphanumeric-code. Streams were identified and mapped based on the definitions provided in the Maine Natural Resource Protection Act (NRPA) and under Chapter 10 of the Land Use Planning Commission (LUPC) Rules and Standards. Stream banks or centerlines were flagged with pink labeled flagging. Wetland and stream boundaries were located using Trimble® Global Positioning System (GPS) receivers. Maine Department of Environmental Protection (MDEP) Wetlands of Special Significance (WSS) determinations made during the wetland and waterbody resource delineations were based on the criteria in the NRPA. Identification of WSS was limited to observable conditions within the Project area and available background information.

GPS data were used to produce the Natural Resource Maps (Appendix B). The results of these surveys are provided in Section 3.0 below, and additional details of these surveys are available in the tables provided in Appendix C. Corps Wetland Determination Data Forms are presented in Appendix D.

2.2 VERNAL POOL SURVEY

For the Turbine Area component of the Project, vernal pools surveys were conducted from 2008 to 2010, and in 2014 and 2015. From 2008 to 2010, these surveys were performed by other consultants. Stantec conducted surveys in 2014 and 2015 for those areas within the turbine component that were not previously surveyed. Stantec was provided the GIS data from the previous vernal pool surveys as well as the completed Maine State Vernal Pool Survey Forms for the 2008 and 2009 surveys. During a meeting on March 5, 2014, both the Maine Department of Inland Fisheries and Wildlife (MDIFW) and the U.S. Fish and Wildlife Service (USFWS) confirmed that data from previous surveys could be used as part of a permit application, provided the appropriate data was collected at the time of these surveys. To verify the accuracy and completeness of the previous data, Stantec selected a subset of approximately 35 percent of the vernal pools and performed a field verification of the vernal pools and the area surrounding each pool. During this verification, Stantec found that the past surveys were generally consistent with current conditions. Therefore, the results of surveys from 2008 through 2010 are included in this report. Stantec did not receive the completed Maine State Vernal Pool Survey Forms for the 2010 surveys and revisited these pools during the 2014 surveys. With the exception of the subset of pools described above, Stantec did not resurvey all areas covered during the previous vernal pool surveys. Because the subset of vernal pool data was found to be accurate, Stantec assumed that the remainder of the previously area surveyed contained accurate information.

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[1] Environmental Laboratory. (1987). Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
[2] U.S. Army Corps of Engineers. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)*, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

Vernal pool surveys for the turbine component of the Project were conducted:

- Within 250 to 500 feet of proposed turbine locations;
- Within 200 feet of the proposed substation and O&M building and associated laydown area;
- Within 100-250 feet of roads that will include an associated collector line; and
- Within 100 feet of roads without associated collector line.

In 2014, Stantec conducted vernal pool surveys within the 170 foot wide North Generator Lead Line corridor. In 2014 and 2015, Stantec conducted vernal pool surveys within the approximately 225-foot wide corridor for the Bridal Path Generator Lead Line. Vernal pool surveys on the proposed switchyard parcel in Haynesville were conducted by others in May 2014.

In 2008, 2009, 2010, 2014, and 2015 vernal pool surveys were conducted during the spring vernal pool amphibian breeding season between May and June. Some areas were incorporated into the Project in 2014 after seasonally appropriate vernal surveys had been completed. For these areas, potential vernal pools (PVPs) and Potential Significant Vernal Pools (PSVP) were identified based upon site characteristics such as the presence of wood frog tadpoles and/or salamander larvae, the presence of surface water or depressions with water-stained leaves. These PVPs and PSVPs were surveyed during May and June 2015.

Vernal pool surveys were conducted in accordance with the protocols outlined in the *Maine Association of Wetland Scientists (MAWS) Vernal Pool Survey Protocol*[3]. The purpose of the surveys was to evaluate vernal pool habitat. The results of these surveys were derived using standard field techniques and represent observations made during the amphibian breeding seasons. The presence, absence, and number of egg masses presented in this report reflect the results of these surveys. Vernal pools are dynamic habitats that vary in water level, vegetative cover, and other physical characteristics during the course of a year, as well as from year to year. In addition, the breeding activity of amphibians, particularly the initiation of breeding, is dependent upon seasonal environmental parameters such as temperature and precipitation. Due to this variability, the presence and number of egg masses may differ between breeding seasons and during the course of a given breeding season.

During the vernal pool surveys, once a pool was encountered it was thoroughly surveyed by slowly wading through the pool basin, searching for amphibian breeding activity, recording the presence and number of egg masses, and noting other vernal pool-dependent species use. Presence of these amphibians in other life stages was noted, as were the physical and biological characteristics of the pool such as the presence/absence of a permanently flowing inlet or outlet and the presence/absence of fish. Once a determination was made that a regulatory vernal pool was present, a GPS receiver was used to locate the boundary of the vernal pool envelope. GPS data were then used to produce the attached Natural Resource Maps

[3] Maine Association of Wetland Scientists Vernal Pool Technical Committee. 2014. Vernal Pool Survey Protocol. April 2014.

(Appendix B). Each pool was assigned a unique alpha-numeric code (e.g., VP_06RK_M, SVP_81TT_N) that appears on the maps and within this report. Second visits were performed to select vernal pools based on the results of the first visit, the physical and biological characteristics of each pool, and the timing of the first survey. The results of these surveys can be found in Section 3.3 below, and further detail can be found in the vernal pool tables in Appendix C and on the Maine State Vernal Pool Assessment Forms in Appendix E.

The data collected during the surveys were used to determine if the pools met the criteria of a Significant Vernal Pool (SVP) as defined in Chapter 335(9) of the NRPA. That rule defines a vernal pool as "a natural, temporary to semi-permanent body of water occurring in a shallow depression that typically fills during the spring or fall and may dry during the summer. Vernal pools have no permanent inlet or outlet and no viable populations of predatory fish." During seasonally appropriate surveys, an SVP contains one or more of the following:

- 40 or more wood frog (*Lithobates sylvatica*) egg masses;
- 20 or more spotted salamander (*Ambystoma maculatum*) egg masses;
- 10 or more blue spotted salamander (*Ambystoma laterale*) egg masses;
- Presence of fairy shrimp (*Eubranchipus* spp.); or
- Documented use by a state-listed rare, threatened or endangered species that commonly require a vernal pool to complete a critical portion of their life-history such as Blanding's turtle (*Emydoidea blandingii*), spotted turtle (*Clemmys guttata*), or ringed bog haunter dragonfly (*Williamsonia lintneri*).

Vernal pools that occur within a wetland but are not naturally-occurring are not regulated vernal pools under NRPA. However, these pools may be regulated by the U.S. Army Corps of Engineers (Corps), the U.S. Environmental Protection Agency, and the USFWS under the Clean Water Act depending on their function and value. Because some of the pools may be regulated by one of these federal agencies, the characteristics of each pool were compared to the definition of a vernal pool included in the Corp's Maine General Permit (GP). It should be noted that the Corps does not regulate vernal pools if they are not located within a jurisdictional wetland. The Corps provides the following definition of a wetland in the GP:

> Temporary to semi-permanent bodies of water occurring in a shallow depression that typically fill during the spring and fall and may dry during the summer. Vernal pools have no permanent inlet or outlet or viable populations of predatory fish. A vernal pool may provide the primary breeding habitat for wood frogs, spotted salamanders, blue-spotted salamanders, and fairy shrimp, as well as valuable habitat for other plants and wildlife including several rare, threatened and endangered species. For the purposes of the GP, the presence of any of the following species in any life stage in any abundance level/quantity would designate the waterbody as a vernal pool: fairy shrimp, blue spotted salamanders, spotted salamanders or wood frogs.

The Corps does not distinguish between natural and man-made vernal pools and does not classify vernal pools as SVPs. Rather, the Corps regulates pools based on function and considers an additional subset of higher functioning vernal pools for regulation. Those vernal pools considered to be higher functioning resources are based upon egg mass counts, use by a diverse assemblage of vernal pool-associated amphibians, the presence of one or more rare, threatened or endangered species, or the presence of fairy shrimp, including:

- Pools meeting the NRPA definition of an SVP;
- Man-made pools that meet the egg mass count thresholds for an SVP;
- Individual pools with documented presence of wood frog, spotted salamander, and blue spotted salamander egg masses, regardless of the pool's origin (natural or man-made);
- Pools with documented use by blue spotted salamander, regardless of the number of egg masses;
- Clusters of two or more pools, regardless of origin, that have overlapping critical terrestrial habitat within 100 feet of the pool envelopes and cumulatively have egg mass counts that meet or exceed the thresholds for an SVP; and

If amphibian breeding was documented in an area that did not meet the regulatory requirements to be considered a vernal pool, the resource was recorded as an Amphibian Breeding Area (ABA). ABAs were most often documented in ditches, borrow pits, vehicle ruts or other man-made features that did not meet the jurisdictional definition of a wetland. ABAs were also documented in permanent water bodies, water bodies with a permanent outlet, or water bodies containing fish, all of which exclude the pool from being considered a jurisdictional vernal pool under both the NRPA and the Corp's Maine GP. ABAs are shown on the Natural Resource Maps and are included in the vernal pool summary tables in Appendix C.

3.0 NATURAL RESOURCE SURVEY RESULTS

3.1 GENERAL SITE DESCRIPTION

The Turbine Area component of the Project includes many ridgelines dispersed across the landscape with elevations ranging from approximately 800 to 1,300 feet. These ridgelines include East Branch Pinnacles, Burnt Land Ridge, Hedgehog Mountain, Nineteen Mountain, Collins Ridge, Spruce Top, Maple Mountain, Hovey Mountain, Howe Brook Mountain, The Pinnacle, as well as other named and unnamed ridges. The valleys and lowlands between the ridgelines are a mix of uplands, wetlands and waterbodies. The primary land use in this area is industrial forestland managed for timber growth, with a few private camps scattered throughout the area and along the lakes and ponds. There is a network of unpaved roads that are used primarily for timber harvesting, for access to the private camps, and for recreational use (hunting, fishing, etc.). The North Generator Lead Line extends through a similar landscape, although the elevation is generally lower than that of the turbine component. The North

Generator Lead Line also crosses through lightly populated areas and agricultural land located primarily in Littleton and Houlton. The Bridal Path Generator Lead Line includes industrial forest lands, but also crosses through lightly populated areas and agricultural lands located primarily in Houlton and Linneus.

Upland forests are a mixture of recent clear cuts, regenerating clear cuts, strip or partial cuts, over story removal cuts, mature forest, and plantations. The dominant forest communities are Beech-Birch-Maple Forest[4] and Spruce-Northern Hardwoods Forest in various stages of regeneration. Dominant trees present in these forested uplands include yellow birch (*Betula alleghaniensis*), red spruce (*Picea rubens*), American beech (*Fagus grandifolia*), sugar maple (*Acer saccahrum*), balsam fir (*Abies balsamea*), paper birch (*Betula papyrifera*), and striped maple (*Acer pensylvanicum*). The understory ranges from sparse to densely vegetated depending in large part on the successional stage of the area. Species present in the sapling and shrub layer include those tree species listed above, as well as beaked hazelnut (*Corylus cornuta*), hobblebush (*Viburnum lantanoides*) and northern mountain-ash (*Sorbus decora*). Canadian bunchberry (*Cornus canadensis*), hay-scented fern (*Dennstaedtia punctilobula*), wild sarsaparilla (*Aralia nudicaulis*), and evergreen wood fern (*Dryopteris intermedia*) dominate the herbaceous layer with bracken fern (*Pteridium aquilinum*), yellow bluebead-lily (*Clintonia borealis*), may star (*Trientalis borealis*), painted trillium (*Trillium undulatum*), common red raspberry (*Rubus idaeus*), and seedlings of tree species also present.

Forested, scrub-shrub, and emergent wetlands, as well as lakes, ponds, rivers and small to moderate-sized perennial and intermittent streams are located throughout the Turbine Area and along the generator lead corridors. Wetlands that occur on the ridgelines and hills are located primarily in natural topographic low points and drainages or have been created or enhanced by timber harvesting disturbances, such as skidder ruts and old ditches, which have developed into wetlands.

Larger wetlands occur in lowlands and valleys between the ridgelines and are often associated with streams. Larger water courses (e.g., North Branch Meduxnekeag River) also have associated floodplains that contain scrub-shrub and emergent wetlands.

3.2 WETLAND TYPE DESCRIPTIONS

During delineation, Stantec identified forested, scrub-shrub, emergent and open water wetlands as well as rivers and streams.[5] General descriptions of these resources are provided below.

[4] Gawler, S, and A. Cutko. 2010. Natural Landscapes of Maine: A Guide to Natural Communities and Ecosystems. Maine Natural Areas Program, Maine Department of Conservation, Augusta, Maine.
[5] Wetland classifications based on: Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. Office of Biological Services, U.S. Fish and Wildlife Service. FWS/OBS-79/31.

3.2.1 Forested Wetlands

Forested wetlands are common throughout the delineated areas. They are less common at the southern end of the North Generator Lead Line and along the Bridal Path Generator Lead Line. This is due to the presence of agricultural lands and because portions of the Bridal Path Generator Lead Line were historically cleared for a previously proposed utility line.

The canopy of these forested wetlands is dominated by yellow birch, northern white cedar (*Thuja occidentalis*), balsam fir, balsam poplar (*Populus balsamifera*), and green ash (*Fraxinus pennsylvanica*), with a smaller component of black ash (*Fraxinus nigra*) and red maple (*Acer rubrum*). Tree species that typically grow in uplands are also commonly found in forested wetlands, including red spruce, eastern hemlock (*Tsuga canadensis*), sugar maple, quaking aspen (*Populus tremuloides*), and striped maple. These species were either found on hummocks/mounds, or have developed morphological adaptations for living in low oxygen soils, such as a shallow root system.

Speckled alder (*Alnus incana*) and shrub and sapling size tree species are common within the shrub layer with lesser amounts of white meadowsweet (*Spiraea alba*), rosy meadowsweet (*Spiraea tomentosa*), common winterberry (*Ilex verticillata*), mountain holly (*Nemopanthus mucronatus*), and long-beaked willow (*Salix bebbiana*). Hobblebush and beaked hazelnut are two upland shrub species typically found along the wetland boundary on hummocks/mounds.

The herbaceous layer of forested wetlands is typically dominated by common woolsedge (*Scirpus cyperinus*) and cinnamon fern (*Osmundastrum cinnamomeum*) with interrupted fern (*Osmunda claytoniana*), sensitive fern (*Onoclea sensibilis),* bristly blackberry (*Rubus hispidus*), fowl meadow grass (*Glyceria striata*), northeastern manna grass (*Glyceria melicaria*), nodding sedge (*Carex gynandra*), spotted touch-me-not (*Impatiens capensis*), sharp-toothed nodding-aster (*Oclemena acuminata*), purple-stemmed American-aster (*Symphyotrichum puniceum*), white turtlehead (*Chelone glabra*), tall white-aster (*Doellingeria umbellata*), northern water-horehound (*Lycopus uniflorus*), three-leaved goldthread (*Coptis trifolia*), and common red raspberry also present.

Soils within forested wetlands are generally stony, silt to sand, glacial till with a moderately deep hard pan. The pan is a barrier to water infiltration that creates a shallow to moderately deep seasonal water table. Most of the forested wetlands consist of a mineral soil (dominantly silty or sandy texture) with a dark surface, or mucky surface, underlain by a depleted matrix. Wetter soils exhibit shallow organics (6 to 10 inches) over rock or depleted mineral soil, and histosols (16 inches or more of organics).

At the time of the surveys, commonly observed hydrologic indicators included areas of surface water, saturation at the soil surface, high water table (within 12 inches of surface), water-stained leaves, drainage patterns, microtopographic relief, and geomorphic positions capable of holding water.

3.2.2 Scrub-shrub Wetlands

Scrub-shrub wetlands are found throughout the delineated area, although they were not as common as forested wetlands. Scrub-shrub wetlands were often found interspersed with forested wetlands within the same system and are most common on the previously cleared sections of the Bridal Path Generator Lead Line.

Scrub-shrub communities, particularly in the Turbine Area of the Project, are typically previously forested wetlands that were altered by timber harvesting activities. Naturally occurring scrub-shrub communities are more generally found in association with the larger watercourses. Scrub-shrub wetlands that represent early successional forested wetlands are typically dominated by shrub and sapling sized tree species such as balsam fir, yellow birch, balsam poplar, red spruce, red maple, black ash, green ash, quaking aspen, and big-tooth aspen (*Populus grandidentata*). Speckled alder is often dominant or codominant with the tree species. Other shrub species also present include long-beaked willow, pussy willow (*Salix discolor*) and white meadowsweet. Species commonly present in the herbaceous layer of these wetlands include fowl manna grass, northeastern manna grass, bluejoint (*Calamagrostis canadensis*), nodding sedge, common woolsedge, three-seed sedge, awl-fruited sedge (*Carex stipata*), bristly blackberry, dwarf raspberry (*Rubus pubescens*), cinnamon fern, interrupted fern, sensitive fern, spotted touch-me-not and tree seedlings.

Soils in these communities are similar to the soils described in the forested wetlands. At the time of the surveys, commonly observed hydrologic indicators included areas of surface water, saturation within the upper 12 inches of soil, water-stained leaves, drainage patterns, and geomorphic position.

Within the naturally occurring scrub-shrub communities, speckled alder was typically dominant with winterberry, southern arrow-wood (*Viburnum dentatum*), mountain holly, black ash, American elm (*Ulmus americana*), red maple, American larch (*Larix laricina*), balsam poplar, and balsam fir. The herbaceous layer includes northeastern manna grass, bluejoint, tall meadow-rue (*Thalictrum pubescens*), sensitive fern, cinnamon fern, interrupted fern, and woodland horsetail (*Equisetum sylvaticum)*.

Wetter soils often can be a limiting factor for healthy tree growth so the natural scrub-shrub wetlands typically have a wetter hydrologic regime. This typically is evidenced by widely occurring thick mucky/organic soil with the underlying mineral soils having a depleted or gleyed matrix color. At the time of the surveys, hydrologic indicators included areas of surface water, high water table, soil saturation to surface, geomorphic position, and drainage patterns.

3.2.3 Emergent Wetlands

Emergent wetlands are common throughout the delineated area. Emergent wetlands occurring in previously forested areas that have been altered by timber harvesting activities are

typically referred to as wet meadows. Wet meadows are dominated by herbaceous species that are adapted to saturated soil conditions but are not adapted to long periods of inundations as would be common in marsh habitats. These wet meadow wetlands are dominated by herbaceous vegetation such as fowl manna grass, northeastern manna grass, bluejoint, nodding sedge (*Carex gynandra*), common woolsedge, red-tinge bulrush (*Scirpus microcarpus*), cinnamon fern, interrupted fern, lamp rush (*Juncus effuses*), spotted touch-me-not, and wrinkle-leaf goldenrod (*Solidago rugosa*). Soils in the altered or cut communities are similar to the soils described above for the forested wetlands. At the time of the surveys, commonly observed hydrologic indicators included areas of surface water, soil saturation to surface, water-stained leaves, geomorphic position, and drainage patterns.

Naturally occurring emergent wetland communities are uncommon within the delineated areas. These include former beaver (*Castor canadensis*) impoundments and emergent depressions within forested wetlands. The emergent depression located within forested wetlands often function as vernal pools. Dominant vegetation within these naturally occurring emergent communities is similar to that found in the wet meadows described above. Soils within these wetlands are variable ranging from a shallow organic horizon (3 to 5 inches) over rock to several inches of organic material over a depleted or gleyed mineral horizon, or thick muck and/or thick organic soil. Observed hydrologic indicators were similar to those described for the wet meadow communities.

3.2.4 Open Water Wetlands

Open water wetland communities within the delineated areas are typically the result of beaver activity or impoundments created by road construction. These wetlands are either permanently or semi-permanently flooded to a degree that restricts growth of vegetation. Open water wetlands resulting from beaver activity are dynamic systems that can fluctuate in water level from year to year or within a year. These wetlands typically contain aquatic and herbaceous vegetation along the edge of impoundment similar to what is described for emergent wetlands above. Open water wetlands are relatively limited within the Project area.

3.2.5 Rivers and Streams

Rivers and streams identified within the delineated areas ranged from ephemeral resources that typically only flow following snow melt or rain events to large perennial resources such as the East Branch of Presque Isle Stream, Number Nine Stream and the Meduxnekeag River. Larger, lower perennial streams were more prevalent along the generator lead lines, with more upper perennial and intermittent streams present in the turbine component of the Project. The majority of mapped perennial streams had dominant substrates that consisted of boulder, cobble, gravel and/or sand with some streams exhibiting silt and organic substrates. Streams providing fisheries habitat were present throughout the delineated areas.

3.3 WETLAND DELINEATION AND VERNAL POOL SURVEY RESULTS

Wetland delineation and vernal pool survey results for each component of the Project are provided below. The location of each resource is shown on the Natural Resource Maps in Appendix B. Additional details for these resources are provided in the resources tables in Appendix C, on the Corps Wetland Determination Data Forms in Appendix D, and on the Maine State Vernal Pool Assessment Forms in Appendix E. The resources shown on the Natural Resource Maps correspond to the identified resources provided in Appendix C.

Separate tables are provided for each component of the Project. Tables C-1a through C-1c detail the wetland resources identified in the delineated areas, including the resource identifier, wetland classifications (i.e., types), and associated streams and vernal pools. Tables C-2a through C-2c provide general characteristics of the delineated streams such as flow type, bankfull width and substrate. Tables C-3a through C-3c detail the vernal pools identified within the delineated areas, including the vernal pool type (VP or SVP), origin, and egg mass counts, if applicable. A subset of vernal pools was submitted to MDIFW during the summer of 2014 for review prior to permit submission. Vernal pool data was submitted for portions of the Turbine Area and the Bridal Path Generator Lead Line. For those pools where forms were previously submitted and reviewed by MDIFW, the MDIFW vernal pool identification number is provided in tables C-3a and C-3c. Corps Wetland Delineation Data Forms are presented in Appendix D of this report. Maine State Vernal Pool Assessment Forms are provided in Appendix E of this report.

3.3.1 Turbine Area

The following is a summary of the wetland delineation and vernal pool survey results for the Turbine Area of the Project.

- 1,486 wetland resources regulated by the Corps, MDEP or LUPC.
- 249 wetland resources are considered WSS. The resources are considered WSS based on their location within 25 feet of a stream or because they include Significant Wildlife Habitat (primarily SVPs or Inland Waterfowl and Wading Bird Habitat [IWWH]), peatlands, or greater than 20,000 square feet of emergent vegetation or open water.
- 230 streams were identified, 84 of which are perennial or have a perennial component (e.g. transition from intermittent to perennial).
- 226 vernal pools were identified, 52 of which were natural and of those 30 were SVPs. 60 were not natural yet were considered to be highly functional, containing the prerequisite number of egg masses, containing other significant flora or fauna, or were part of a cluster of vernal pools whose collective egg mass totals exceeded SVP thresholds. 103 of the identified vernal pools were submitted to MDIFW in August 2014 prior to permit submission.

3.3.2 North Generator Lead Line

The following is a summary of the wetland delineation and vernal pool survey results for the North Generator Lead Line component of the Project.

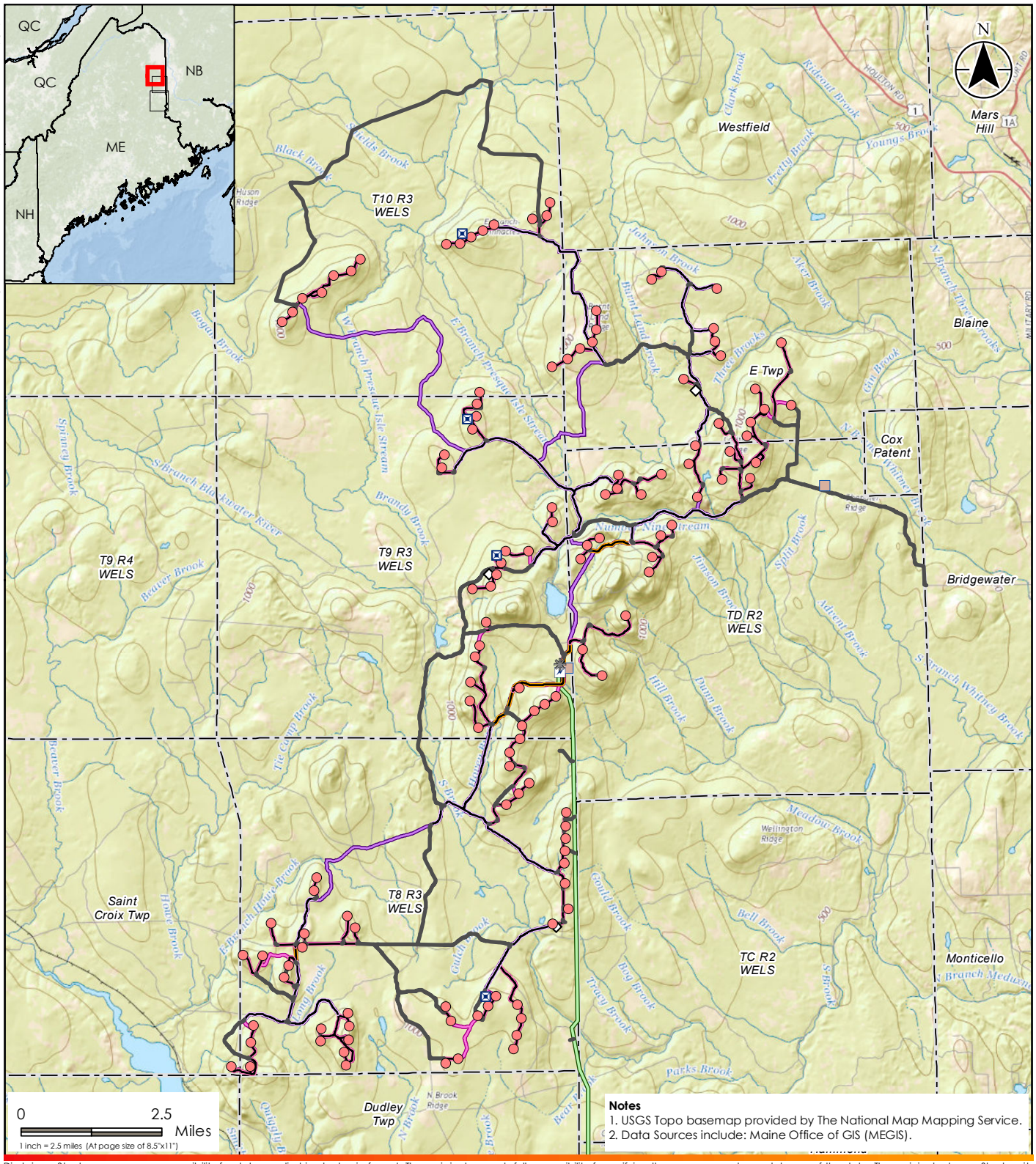
- 302 wetland resources regulated by the Corps, MDEP or LUPC.
- 76 wetland resources are considered WSS. The resources are considered WSS based on their location within 25 feet of a stream; because they include Significant Wildlife Habitat (primarily SVPs or IWWH), peatlands, or greater than 20,000 square feet of emergent vegetation or open water; or are located within a floodplain.
- 81 streams were identified, 48 of which are perennial or have a perennial component (e.g. transition from intermittent to perennial).
- 54 vernal pools were identified, 10 of which were natural and of those 5 were SVPs 10 were not natural yet were highly functional, containing the prerequisite number of egg masses, containing other significant flora or fauna, or were part of a cluster of vernal pools whose collective egg mass totals exceeded SVP thresholds.

3.3.3 Bridal Path Generator Lead Line

The following is a summary of the wetland and waterbody resources identified within the Bridal Path Generator Lead Line component of the Project area.

- 129 wetland resources regulated by the Corps, MDEP or LUPC.
- 44 wetland resources are considered WSS. The resources are considered WSS based on their location within 25 feet of a stream; because they include Significant Wildlife Habitat (primarily SVPs or IWWH), peatlands, or greater than 20,000 square feet of emergent vegetation or open water; or are within a floodplain.
- 19 streams were identified, 17 of which are perennial. 9 of the perennial streams are located within mapped Designated Critical Habitat for Atlantic salmon (*Salmo salar*).
- 51 vernal pools were identified, 14 of which were natural and of those 4 are SVPs. 10 were not natural yet were highly functional, containing the prerequisite number of egg masses, containing other significant flora or fauna, or were part of a cluster of vernal pools whose collective egg mass totals exceeded SVP thresholds. 23 of the identified vernal pools were submitted to MDIFW in August 2014 prior to permit submission.

Appendix A PROJECT LOCATION MAPS



Notes
1. USGS Topo basemap provided by The National Map Mapping Service.
2. Data Sources include: Maine Office of GIS (MEGIS).

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195600919

Stantec

30 Park Drive
Topsham, ME USA 04086
Phone (207) 729-1199

Prepared by GAC on 2015-03-01
Reviewed by JYP on 2015-03-26

00919_1-1_PrjLocation.mxd

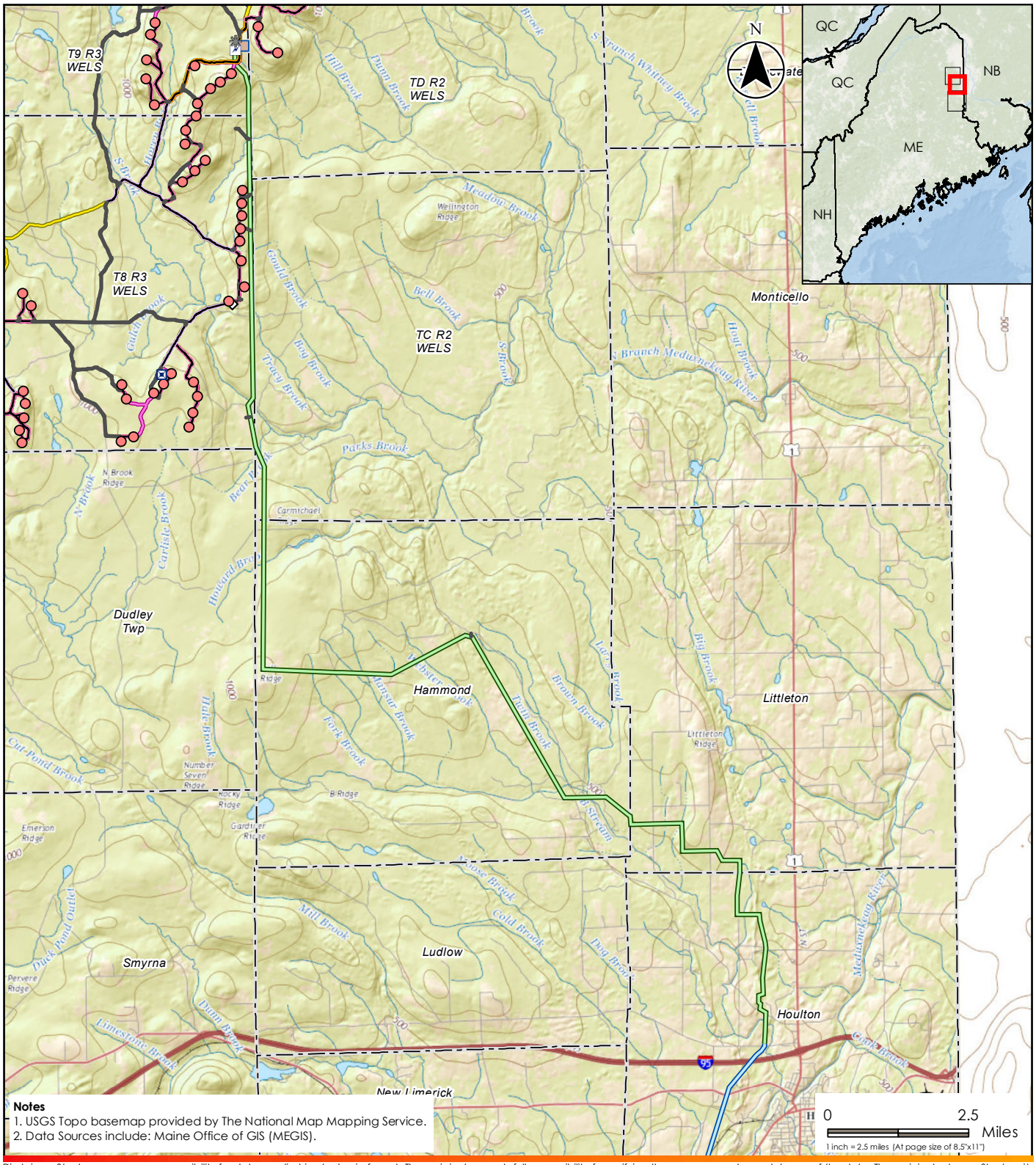
Legend

- Turbines
- Permanent MET Tower
- Substation
- O&M Building
- Laydown Yard
- Batch Plant
- Overhead Collector
- Underground Collector
- Access Road
- Access Road with Overhead Collector
- Access Road with Underground Collector
- Access Road with Overhead and Underground Collector
- North Generator Lead

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm
Aroostook County, Maine

Figure No.
1-1

Title
Turbine Area
7/13/2015



Notes
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195600919

Stantec

30 Park Drive
Topsham, ME USA 04086
Phone (207) 729-1199

Prepared by GAC on 2015-03-01
Reviewed by JYP on 2015-03-26

00919_1-2_PrjLocation.mxd

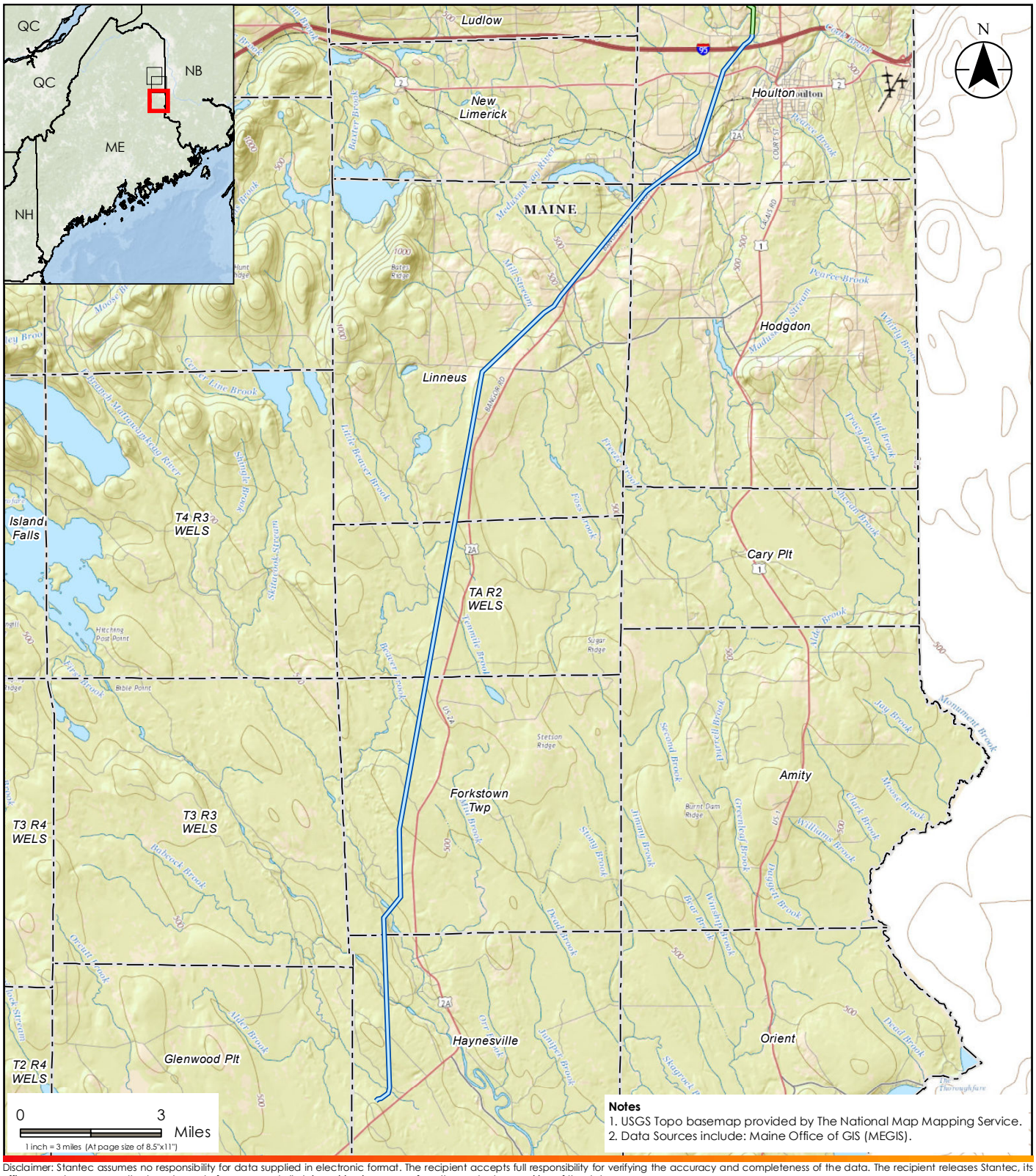
Legend

- Turbines
- Permanent MET Tower
- Substation
- O&M Building
- Laydown Yard
- Batch Plant
- North Generator Lead
- Bridal Path Generator Lead
- Overhead Collector
- Underground Collector
- Access Road
- Access Road with Overhead Collector
- Access Road with Underground Collector
- Access Road with Overhead and Underground Collector

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm
Aroostook County, Maine

Figure No.
1-2

Title
North Generator Lead
7/13/2015



Notes
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30 Park Drive
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Phone (207) 729-1199

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Reviewed by JYP on 2015-03-26

00919_1-3_PrjLocation.mxd

Legend

- North Generator Lead
- Bridal Path Generator Lead

Client/Project

EDP Renewables North America LLC
Number Nine Wind Farm
Aroostook County, Maine

Figure No.

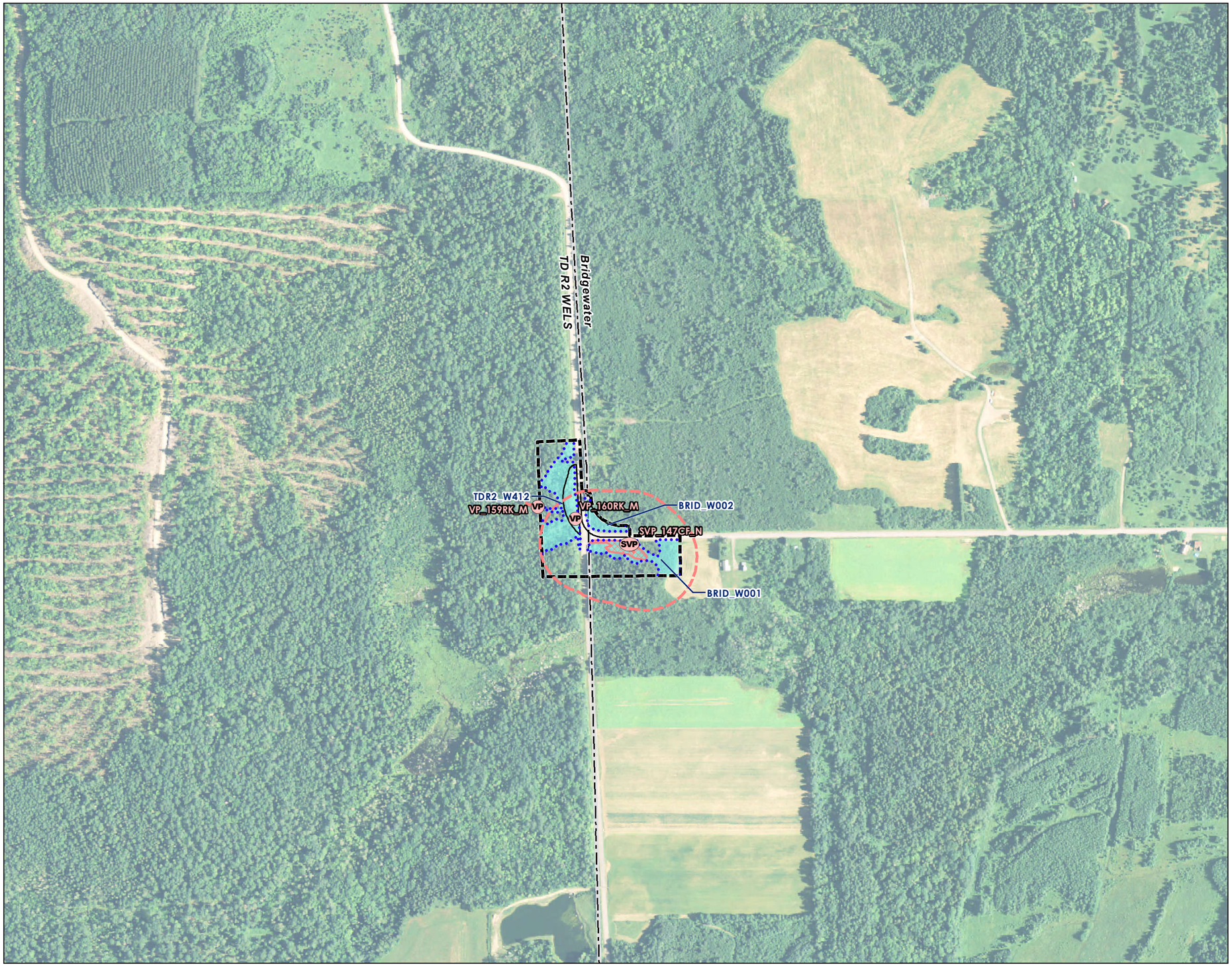
1-3

Title

Bridal Path Generator Lead

7/13/2015

Appendix B NATURAL RESOURCE MAPS



Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

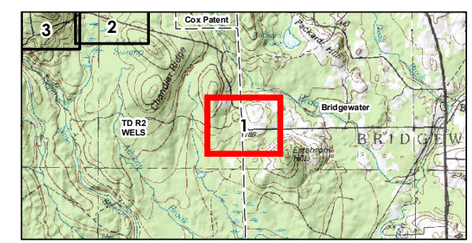
N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

1. Wetland boundaries delineated in accordance with USACE 1987 Wetland Delineation Manual or subsequent versions. Vernal pool surveys in 2014 and 2015 were conducted according to the Maine Association of Wetland Scientist Vernal Pool Technical Committee Vernal Pool Survey Protocols (April 2014). Vernal pool surveys conducted prior to 2014 followed other protocols that were accepted by the Maine Department of Inland Fisheries and Wildlife.
2. Wetland and vernal pool boundaries were located utilizing Trimble Geo-XH GeoExplorer 6000 Series Receivers. Expected accuracy of GPS data is within 1 meter of actual position.
3. Data sources: Maine Office of GIS, Maine Department of Inland Fisheries and Wildlife, Maine Land Use Planning Commission
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
1

Title
Turbine Area Delineated Natural Resource Map

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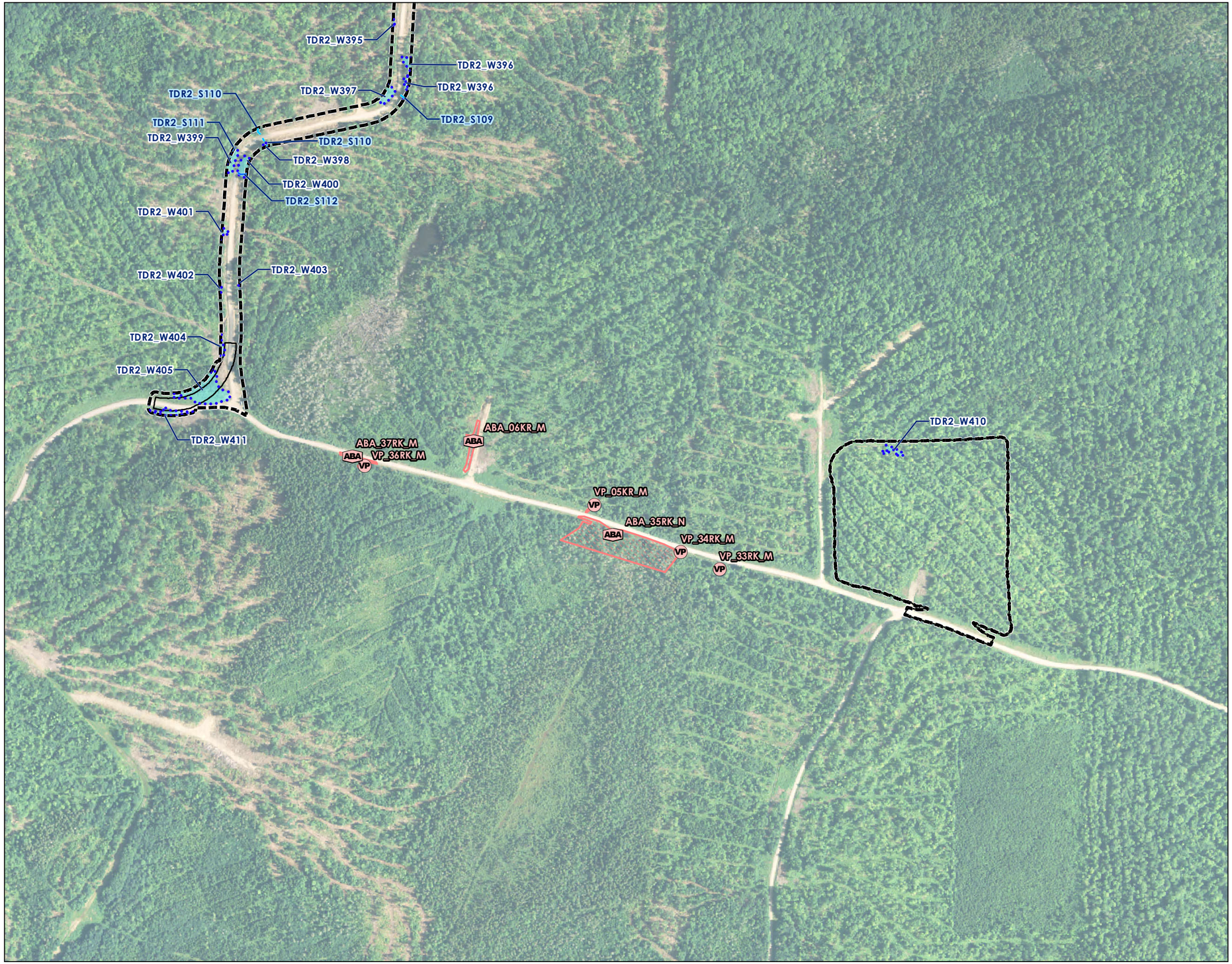

Stantec

Legend

- Vernal Pool
- Amphibian Breeding Area
- Vernal Pool Boundary
- Amphibian Breeding Area
- Perennial Stream
- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

1. Wetland boundaries delineated in accordance with USACE 1987 Wetland Delineation Manual or subsequent versions. Vernal pool surveys in 2014 and 2015 were conducted according to the Maine Association of Wetland Scientist Vernal Pool Technical Committee Vernal Pool Survey Protocols (April 2014). Vernal pool surveys conducted prior to 2014 followed other protocols that were accepted by the Maine Department of Inland Fisheries and Wildlife.
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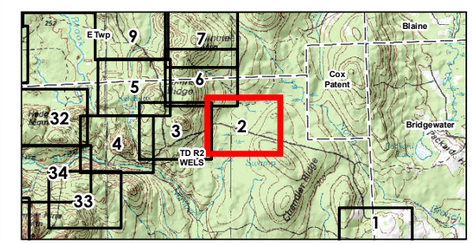
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
2

Title
Turbine Area Delineated Natural Resource Map

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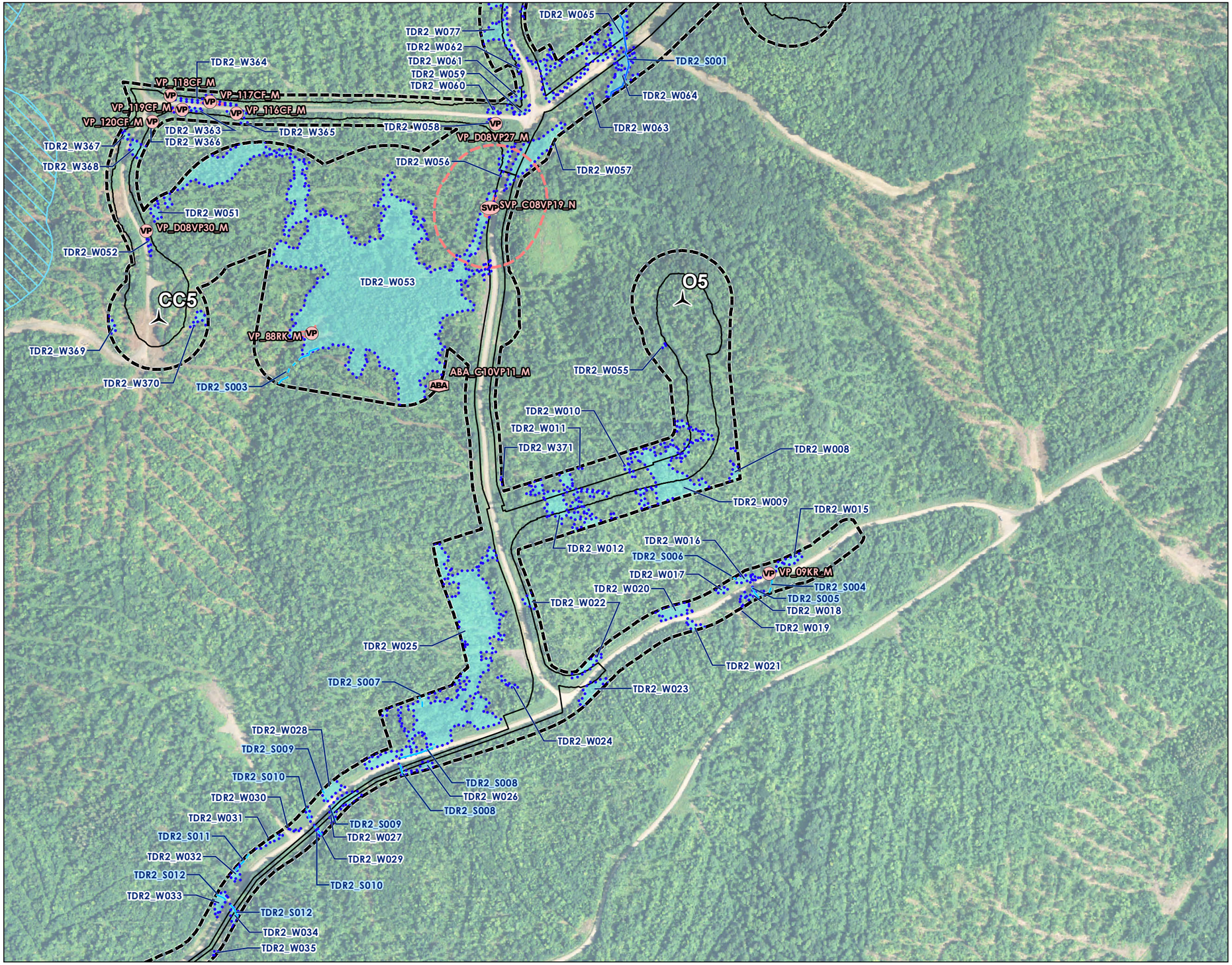

Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Amphibian Breeding Area
- Vernal Pool Boundary
- Amphibian Breeding Area
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Perennial Stream
- Intermittent Stream
- Ephemeral Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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Notes

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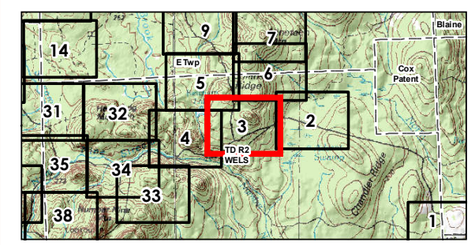
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
3

Title
Turbine Area Delineated Natural Resource Map

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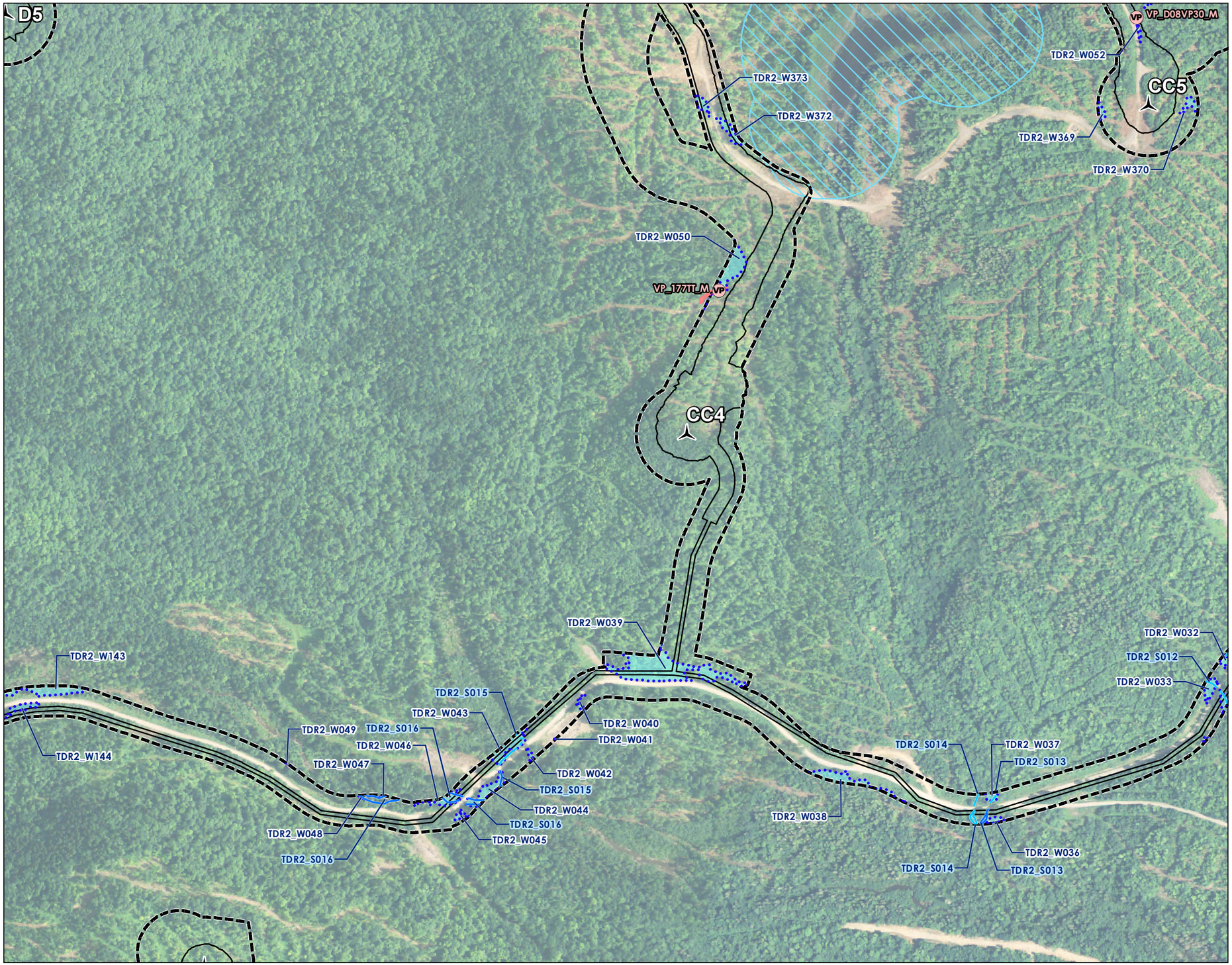

Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Perennial Stream
- Intermittent Stream
- Ephemeral Stream
- Intermittent/Perennial Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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Notes

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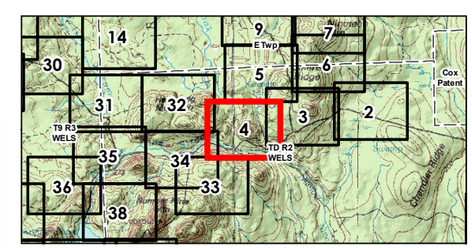
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
4

Title
Turbine Area Delineated Natural Resource Map

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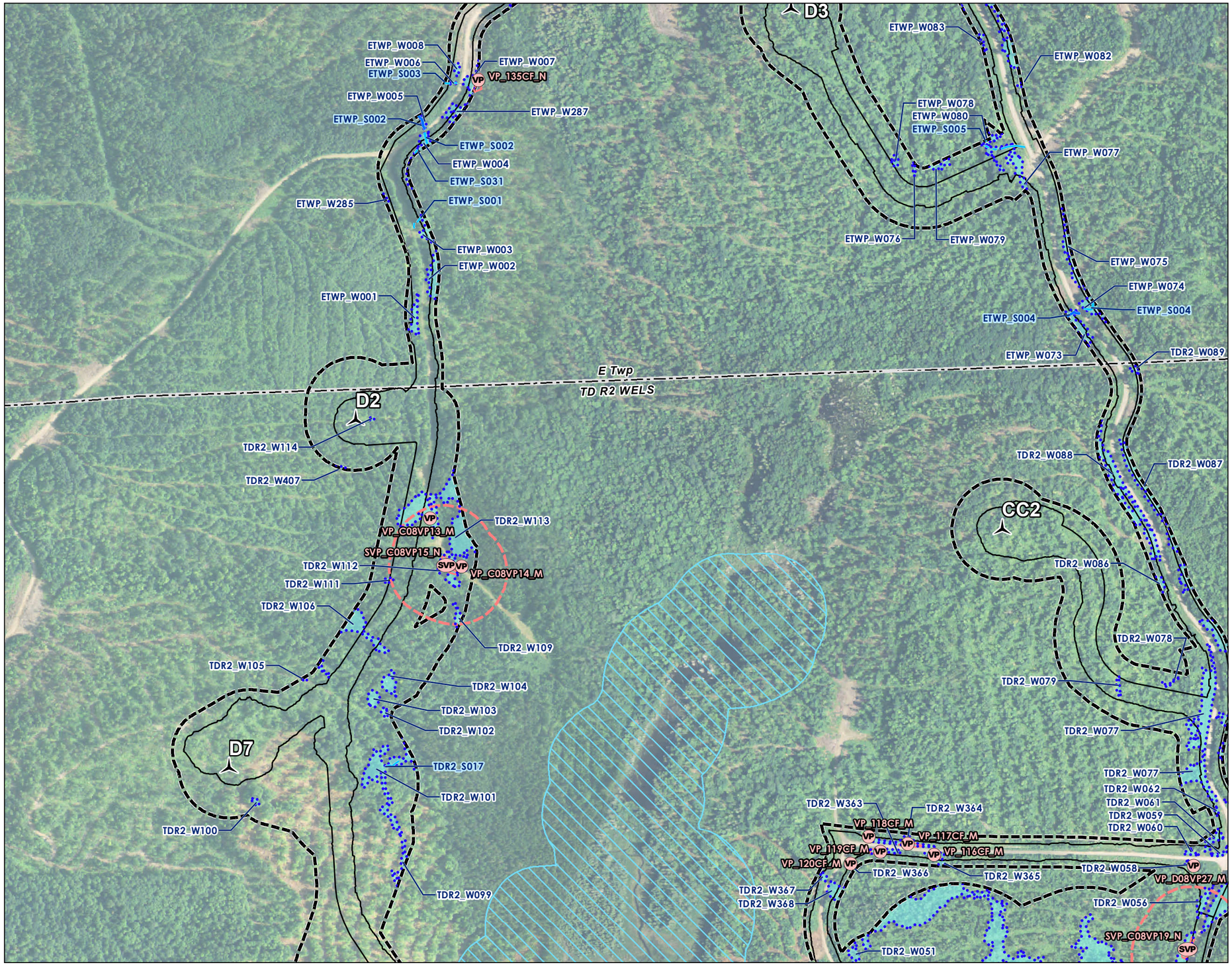

Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Perennial Stream
- Intermittent Stream
- Ephemeral Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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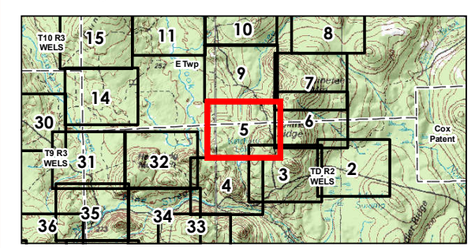
3. Data sources: Maine Office of GIS, Maine Department of Inland Fisheries and Wildlife, Maine Land Use Planning Commission
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
5

Title
Turbine Area Delineated Natural Resource Map

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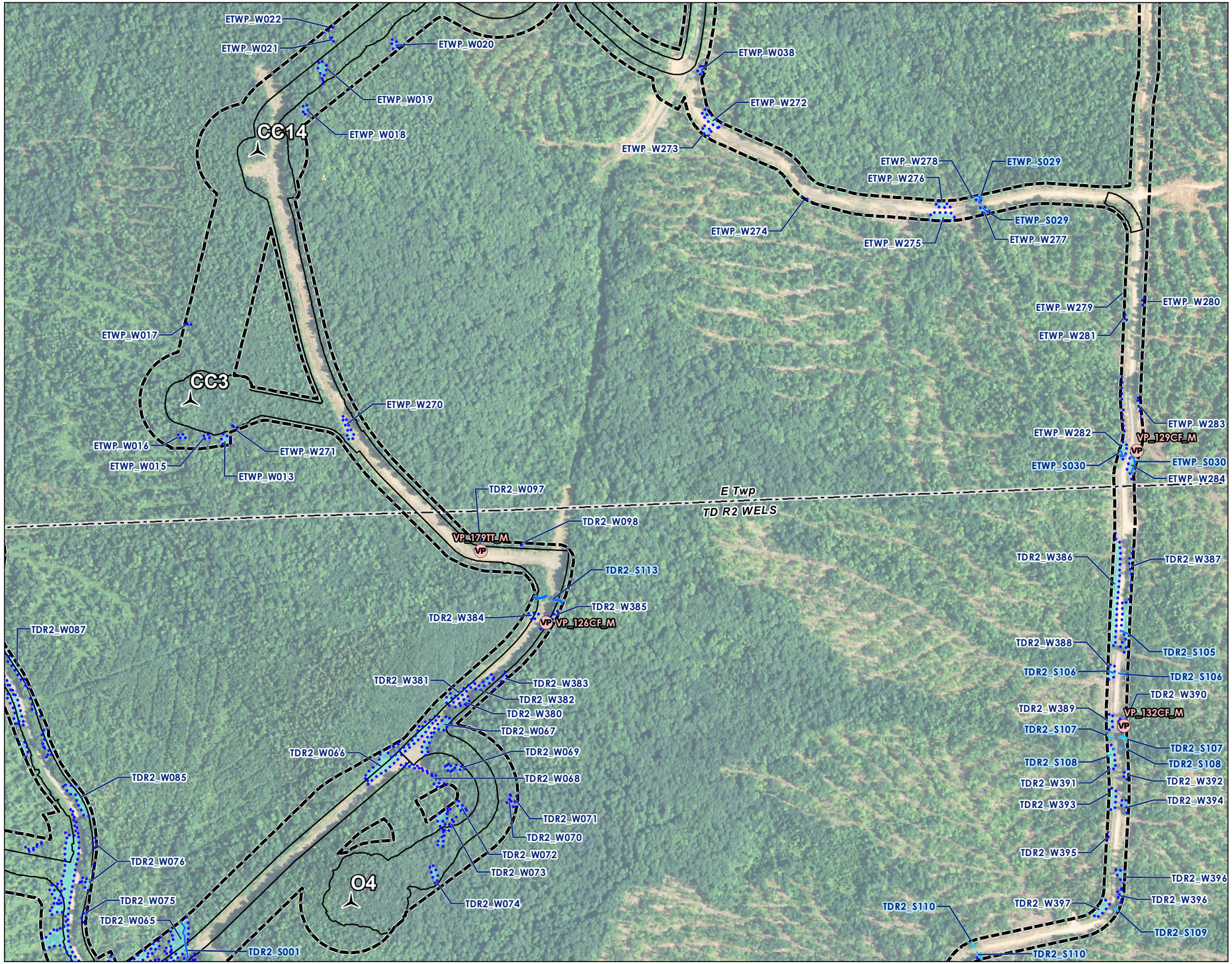

Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Perennial Stream
- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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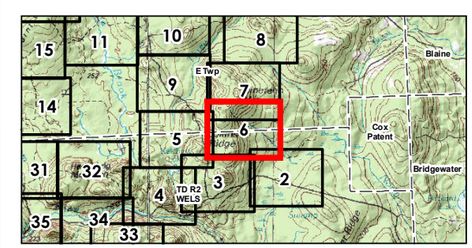
3. Data sources: Maine Office of GIS, Maine Department of Inland Fisheries and Wildlife, Maine Land Use Planning Commission
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
6

Title
Turbine Area Delineated Natural Resource Map

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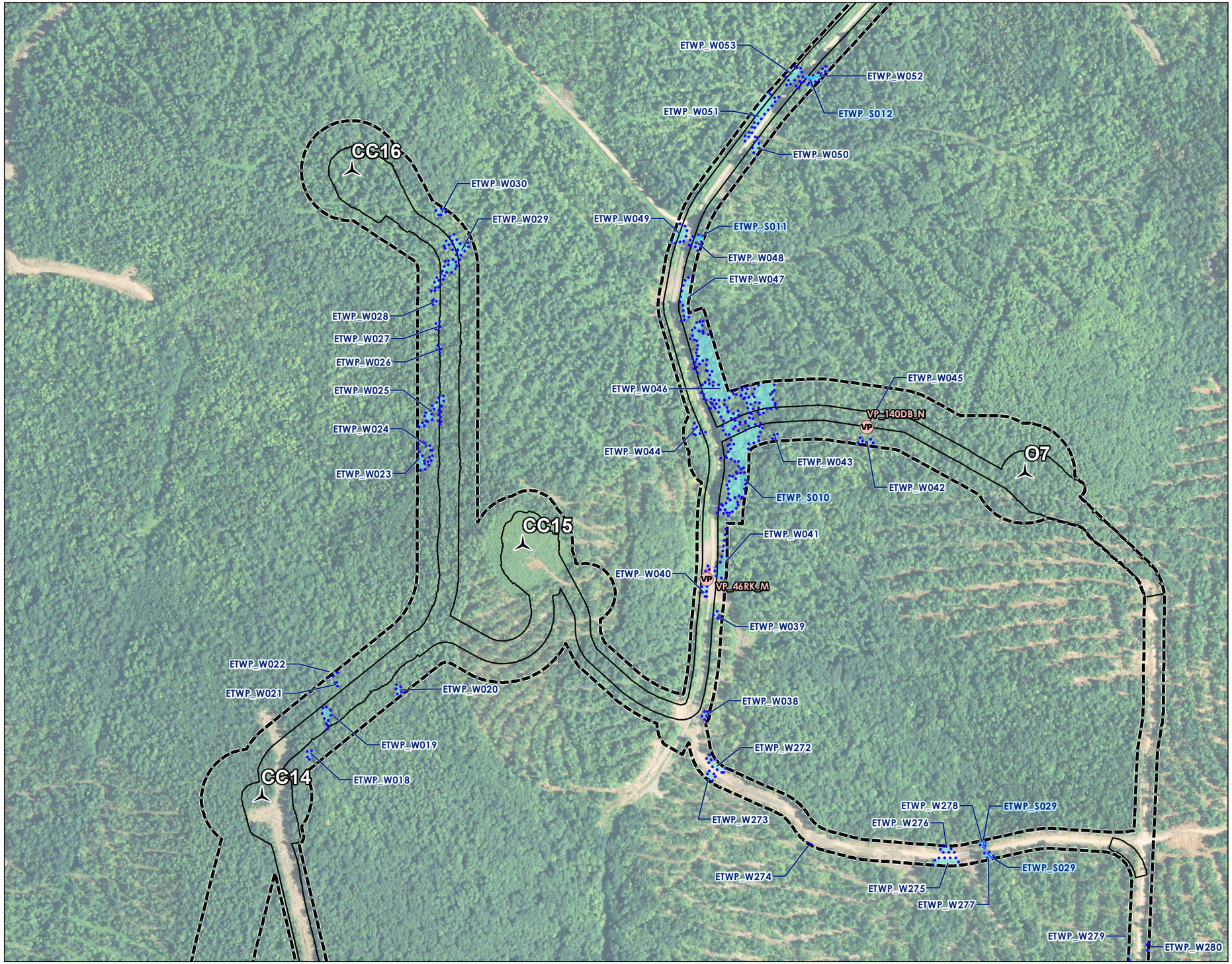

Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Perennial Stream
- Intermittent Stream
- Ephemeral/Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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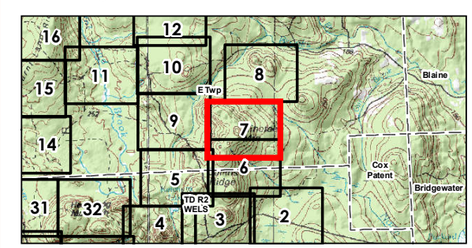
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
7

Title
Turbine Area Delineated Natural Resource Map

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Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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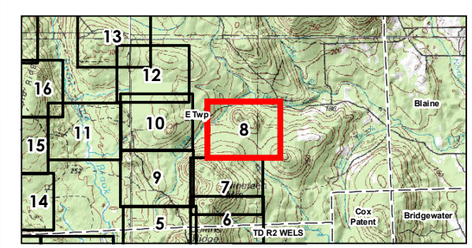

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
8

Title
Turbine Area Delineated Natural Resource Map

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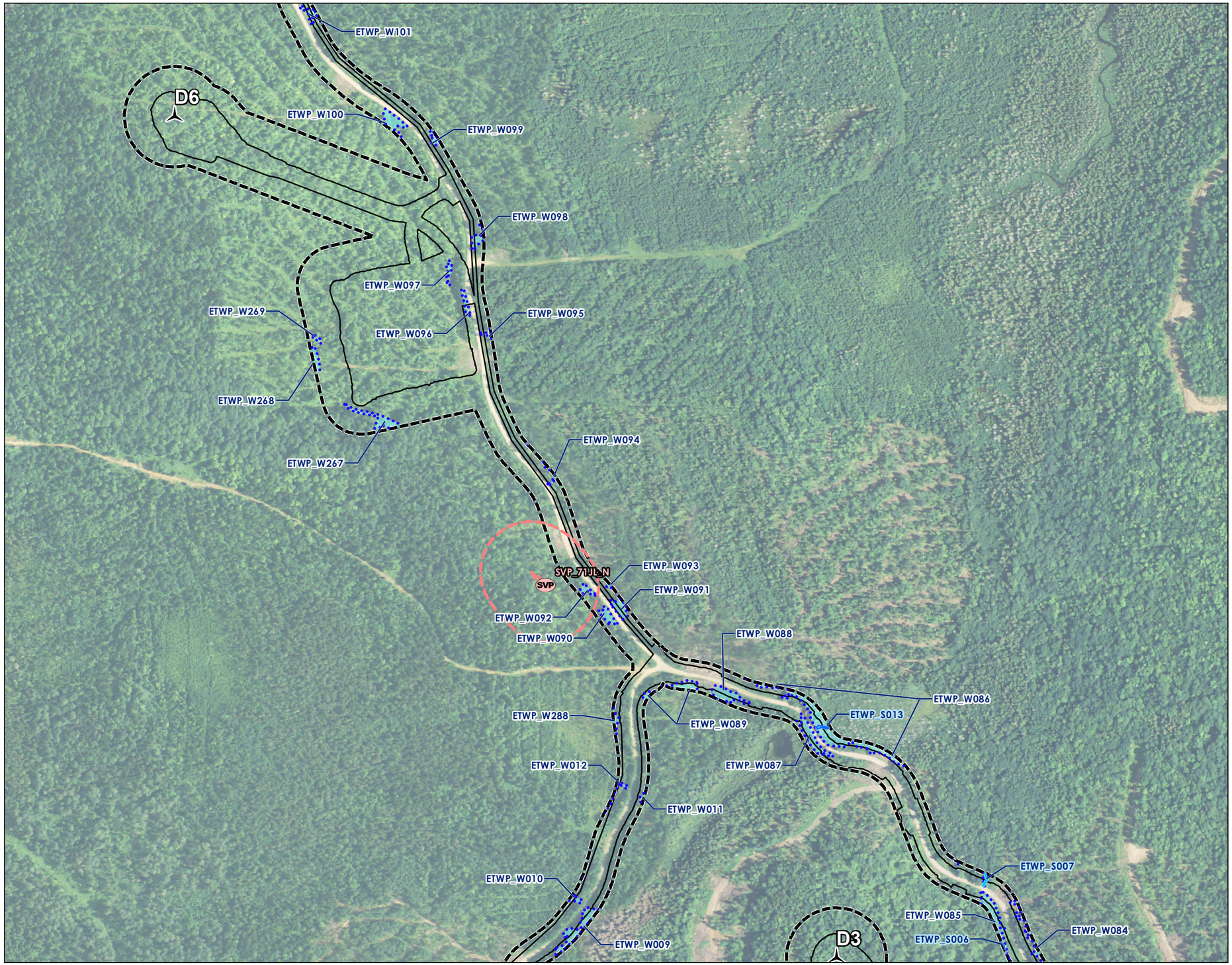

Stantec

Legend

- Significant Vernal Pool
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Perennial Stream
- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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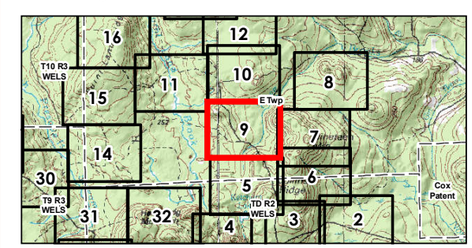

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
9

Title
Turbine Area Delineated Natural Resource Map

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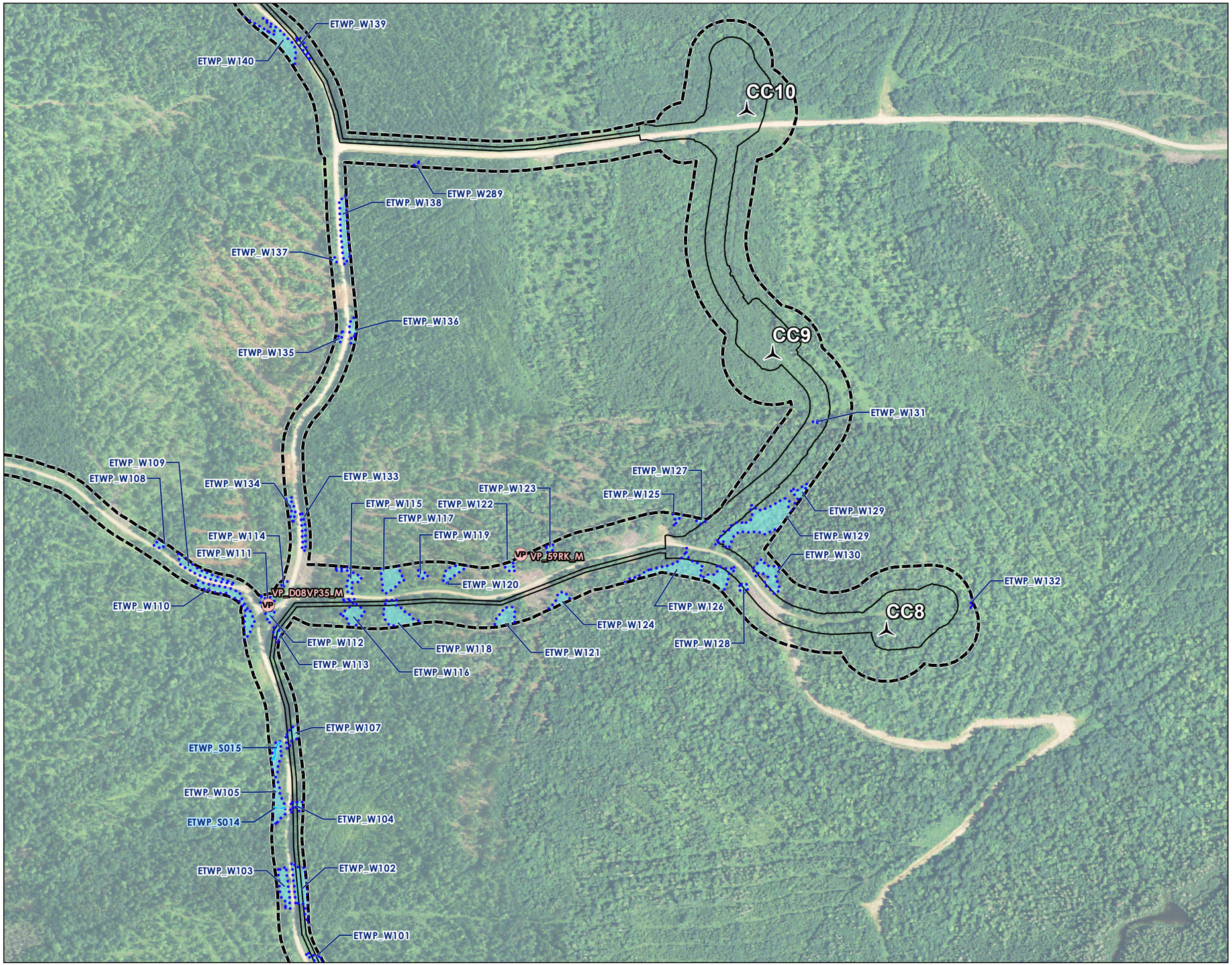

Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Intermittent Stream
- Ephemeral Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

1. Wetland boundaries delineated in accordance with USACE 1987 Wetland Delineation Manual or subsequent versions. Vernal pool surveys in 2014 and 2015 were conducted according to the Maine Association of Wetland Scientist Vernal Pool Technical Committee Vernal Pool Survey Protocols (April 2014). Vernal pool surveys conducted prior to 2014 followed other protocols that were accepted by the Maine Department of Inland Fisheries and Wildlife.
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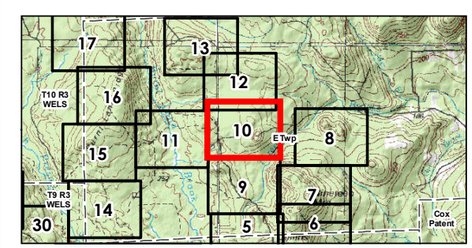
3. Data sources: Maine Office of GIS, Maine Department of Inland Fisheries and Wildlife, Maine Land Use Planning Commission
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
10

Title
Turbine Area Delineated Natural Resource Map

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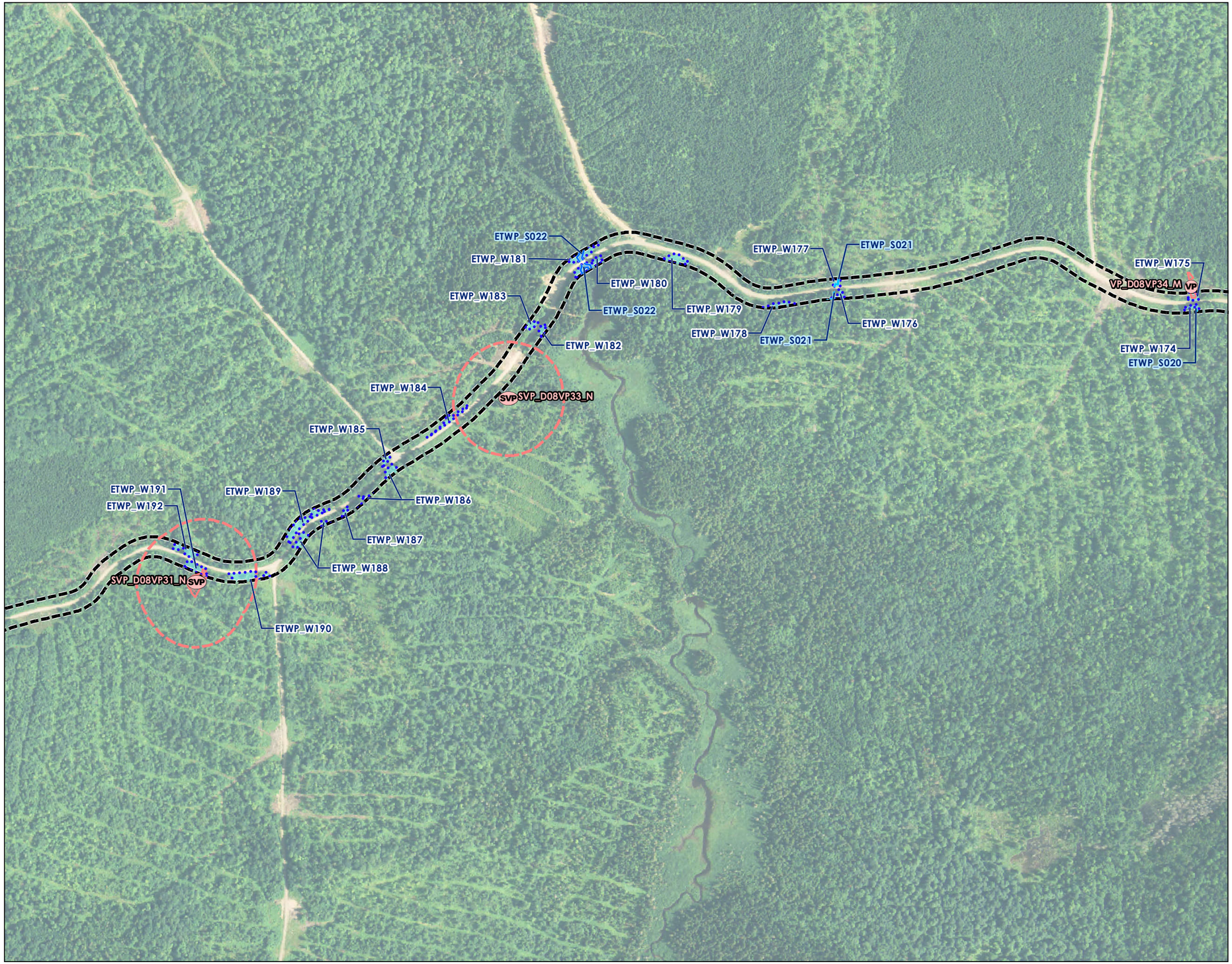

Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Perennial Stream
- Intermittent Stream
- Delineated Wetland
- Reporting Limits

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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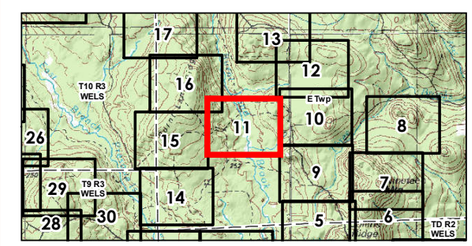
3. Data sources: Maine Office of GIS, Maine Department of Inland Fisheries and Wildlife, Maine Land Use Planning Commission
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
11

Title
Turbine Area Delineated Natural Resource Map

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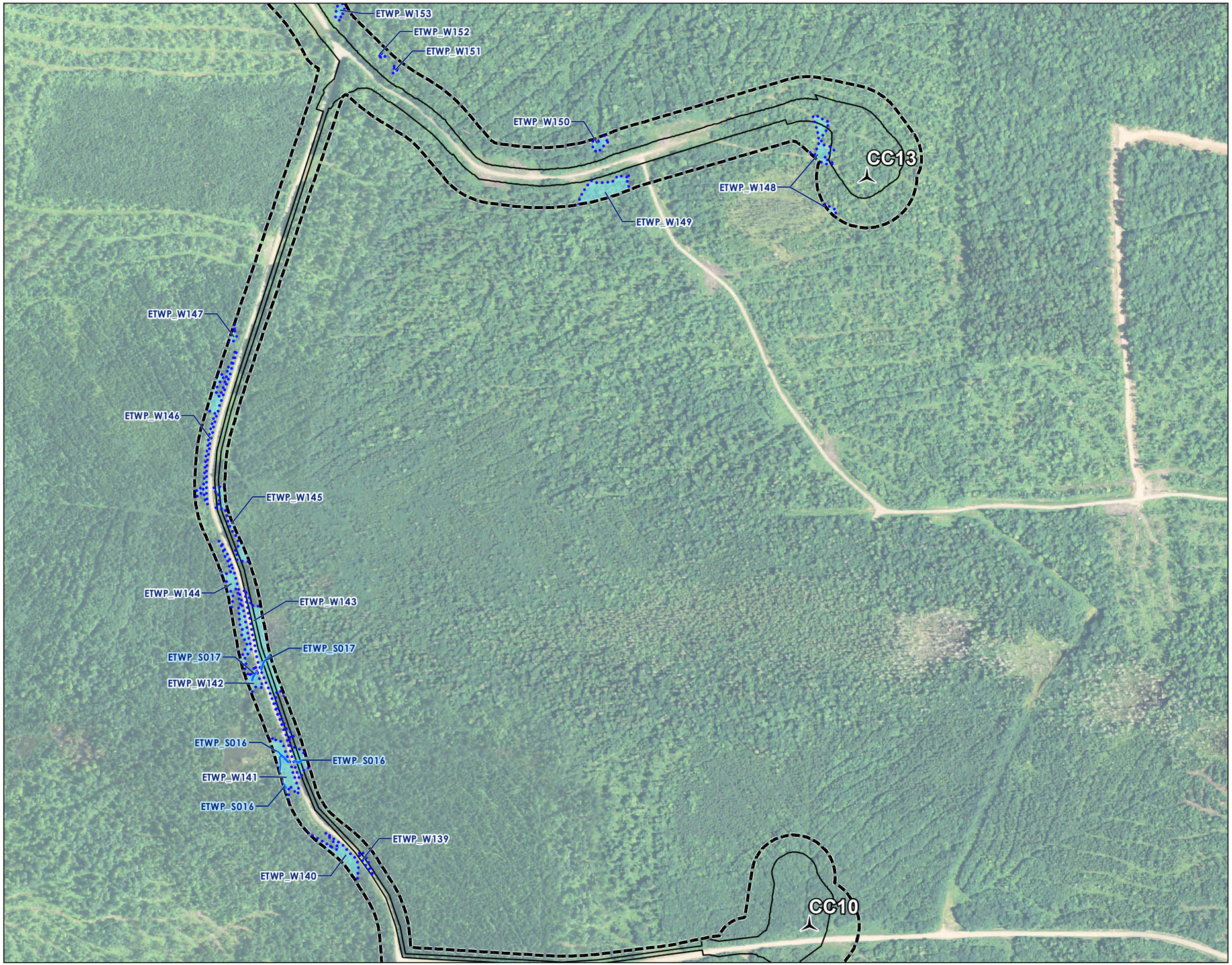

Stantec

Legend

- Perennial Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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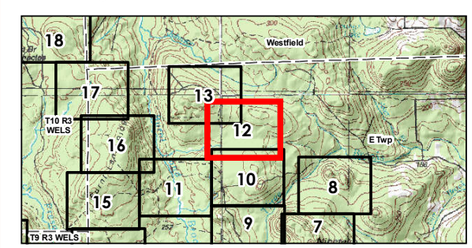
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
12

Title
Turbine Area Delineated Natural Resource Map

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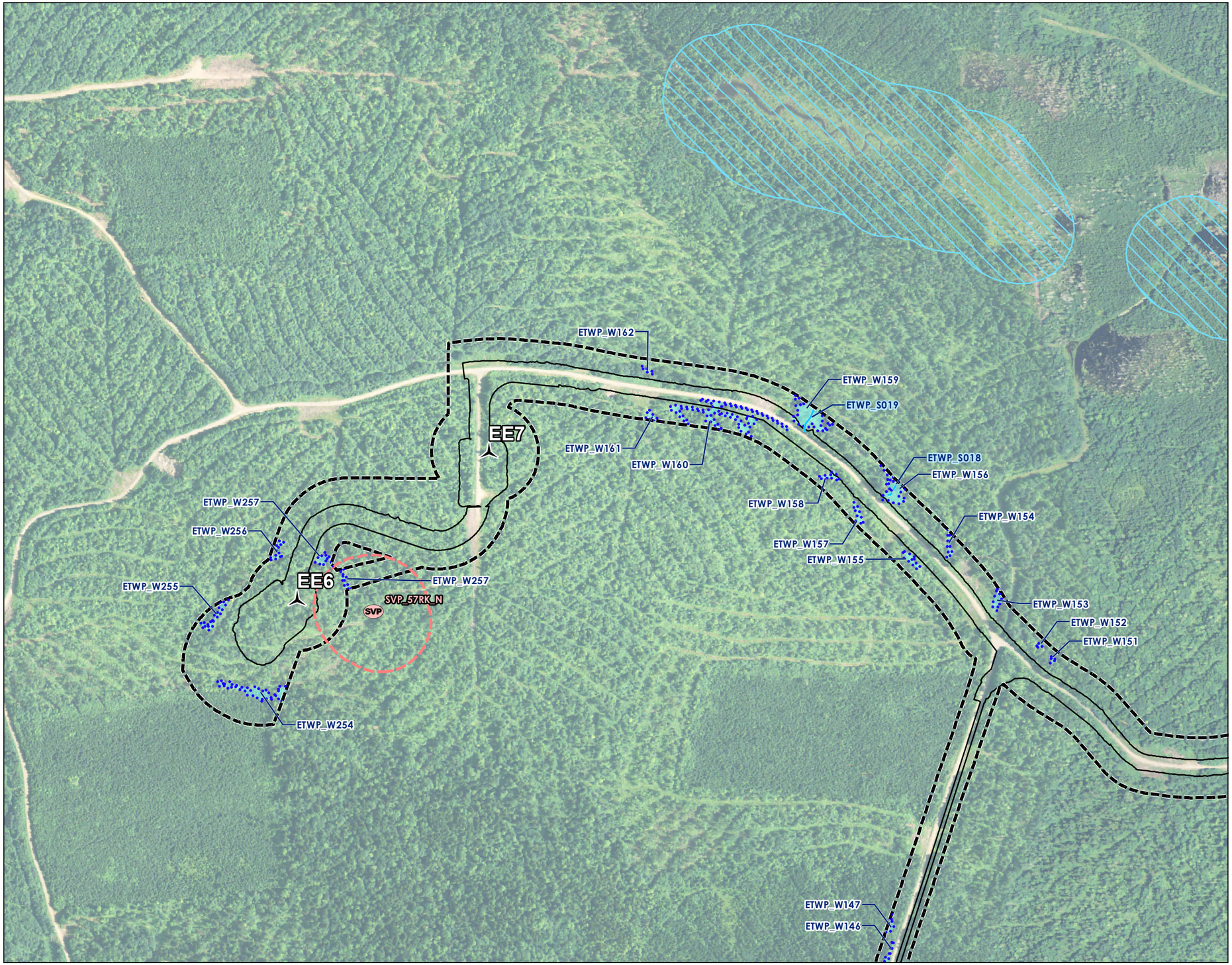

Stantec

Legend

- Significant Vernal Pool
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Intermittent Stream
- Ephemeral Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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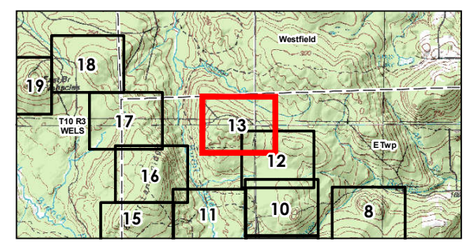
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
13

Title
Turbine Area Delineated Natural Resource Map

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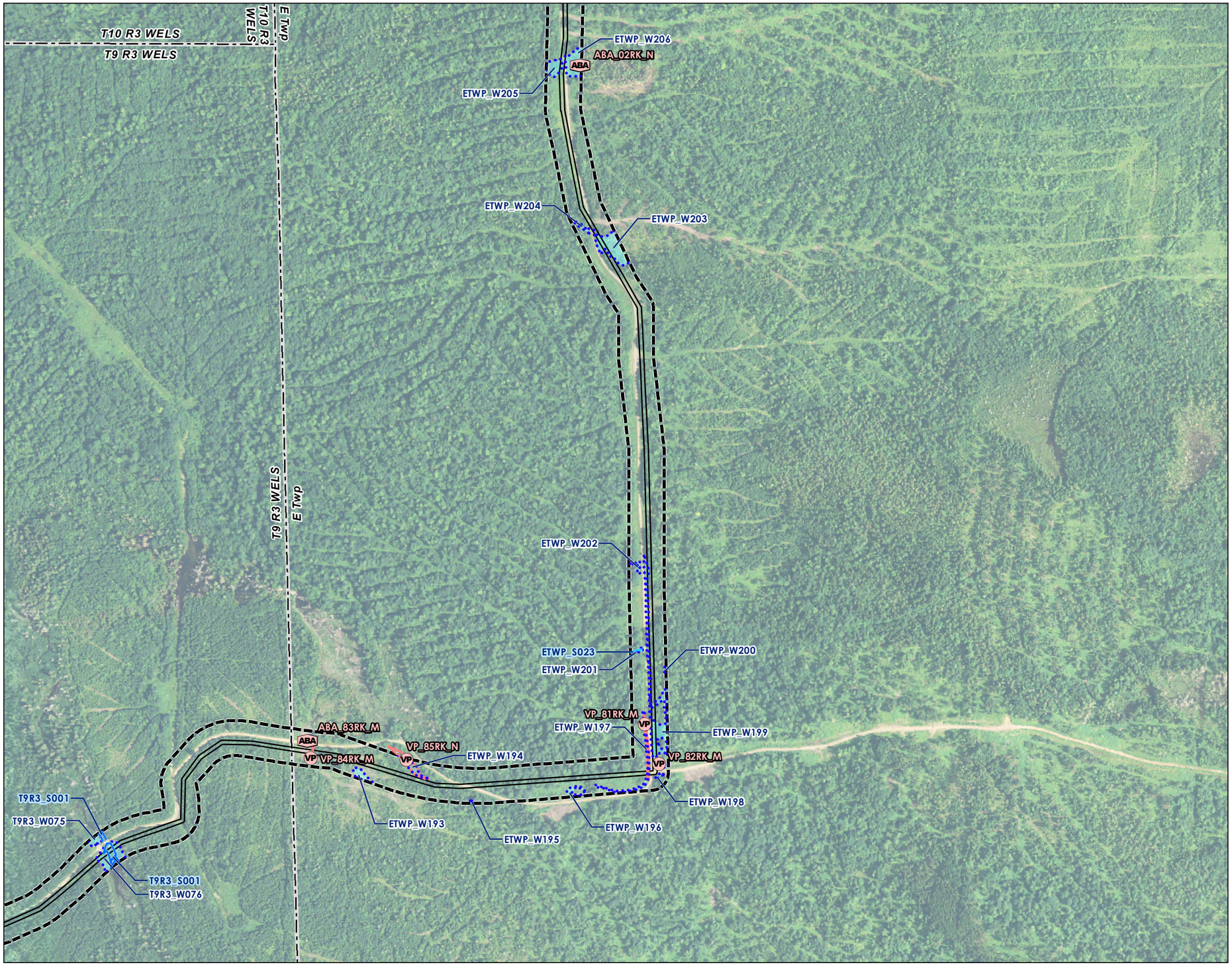

Stantec

Legend

- Vernal Pool
- Amphibian Breeding Area
- Vernal Pool Boundary
- Amphibian Breeding Area
- Perennial Stream
- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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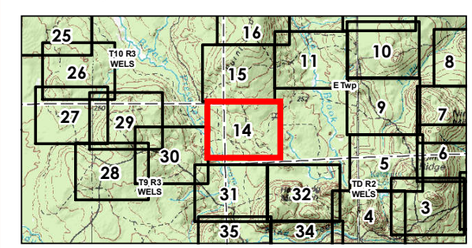
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
14

Title
Turbine Area Delineated Natural Resource Map

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Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Ephemeral Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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Notes

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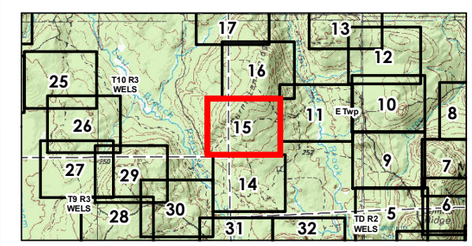

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
15

Title
Turbine Area Delineated Natural Resource Map

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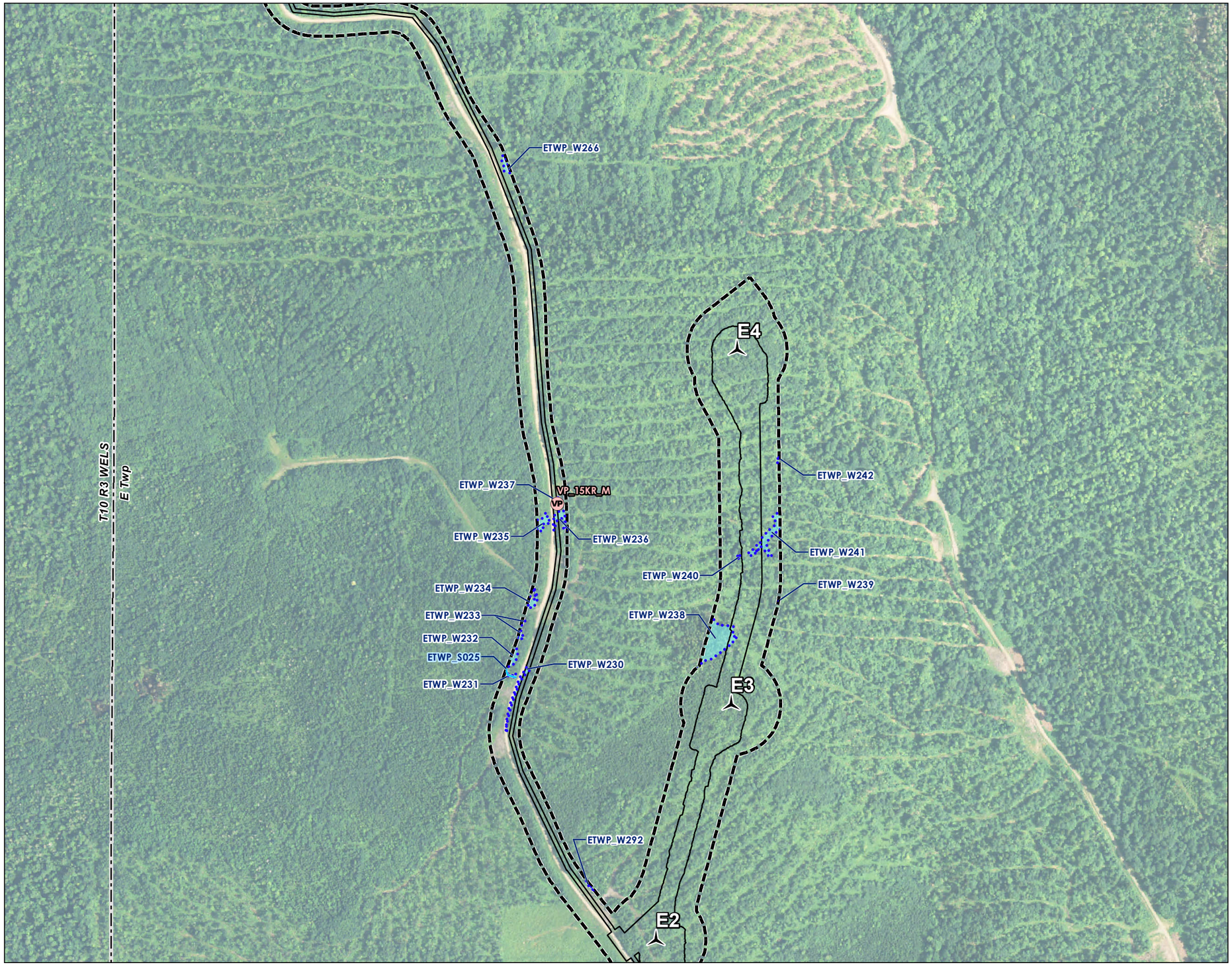

Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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Notes

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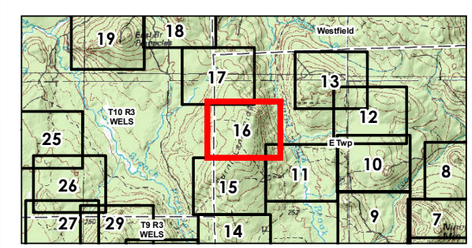

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
16

Title
Turbine Area Delineated Natural Resource Map

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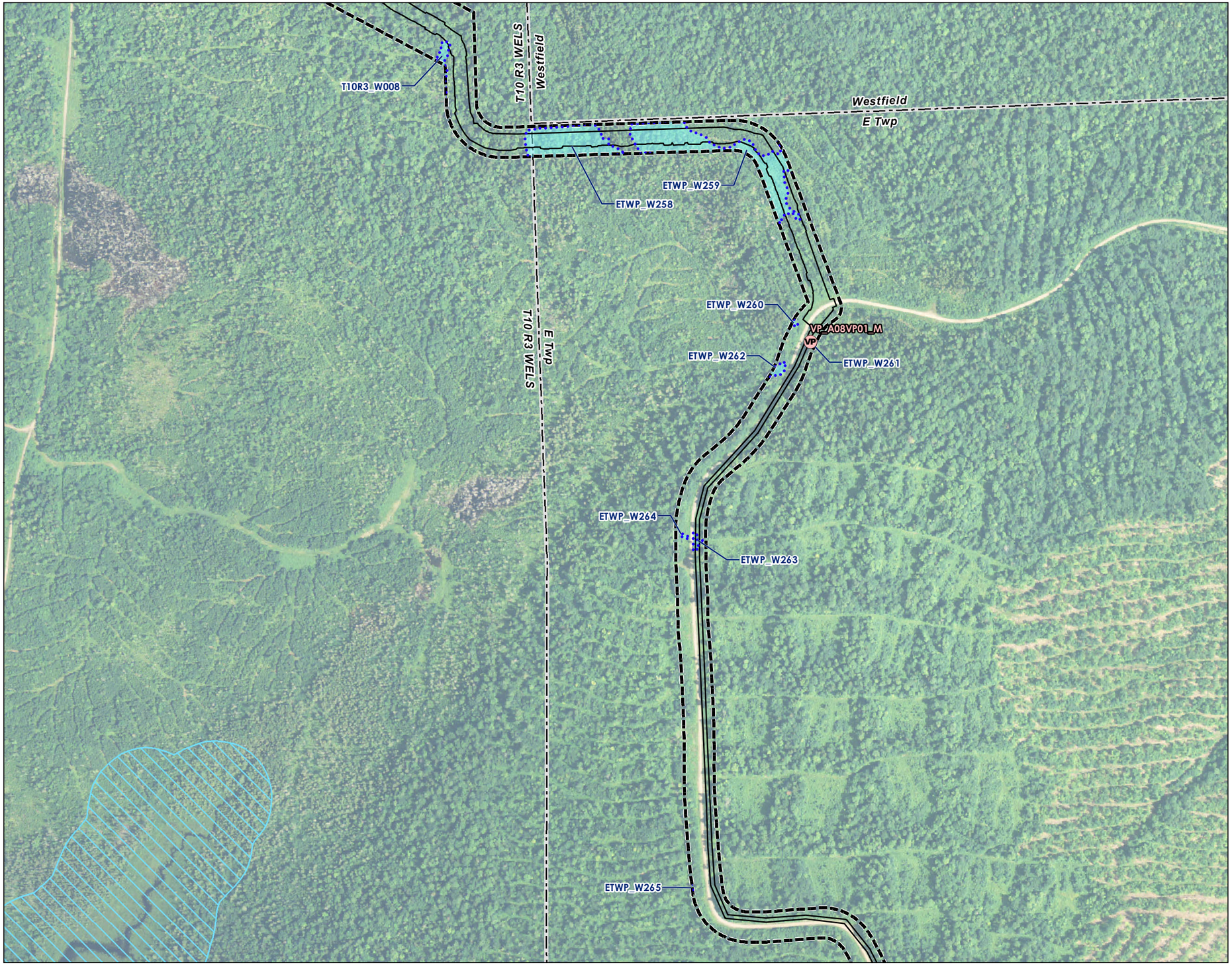

Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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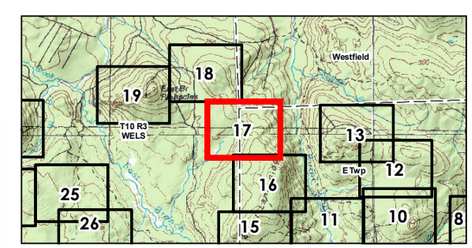

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
17

Title
Turbine Area Delineated Natural Resource Map

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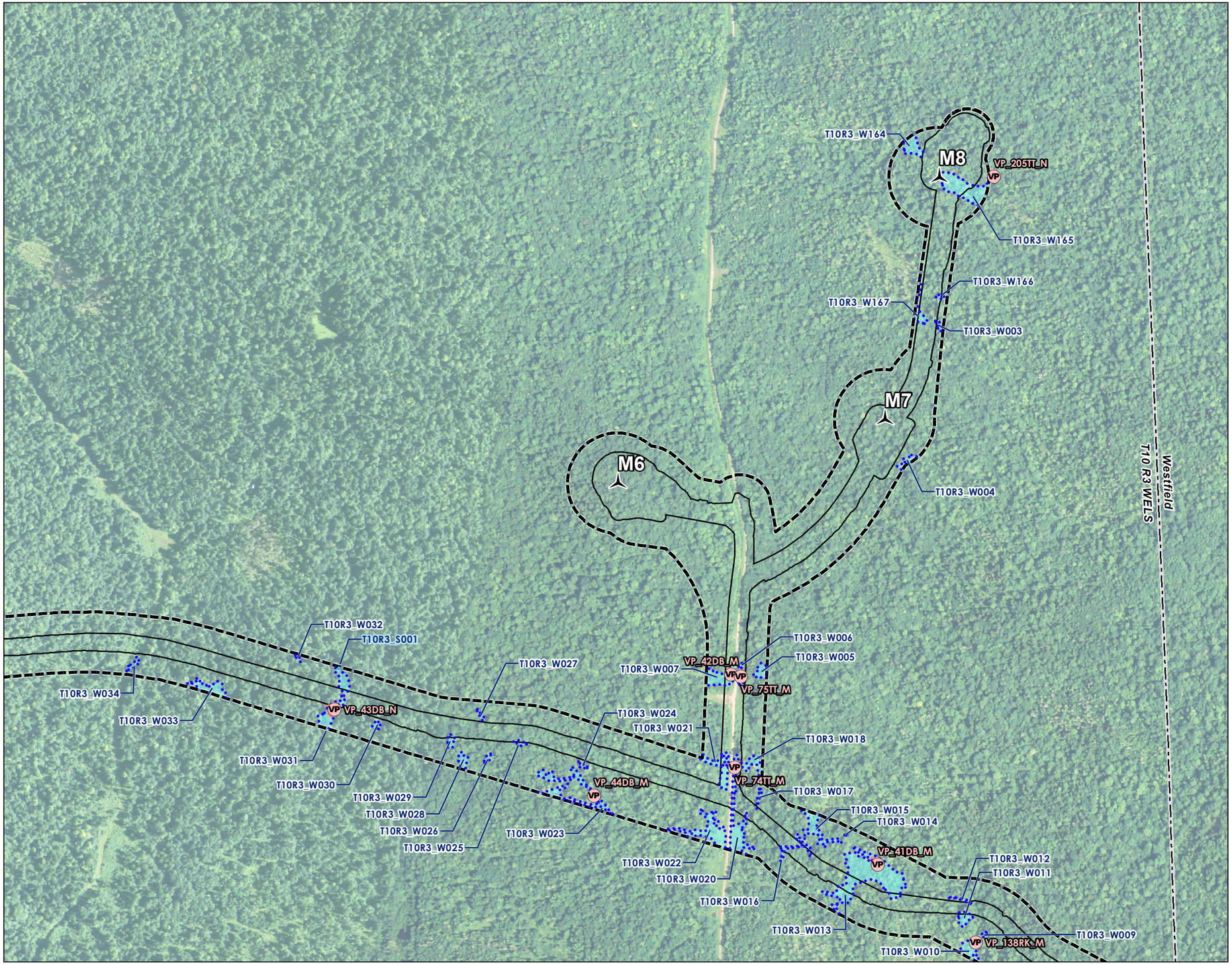

Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Ephemeral Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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Notes

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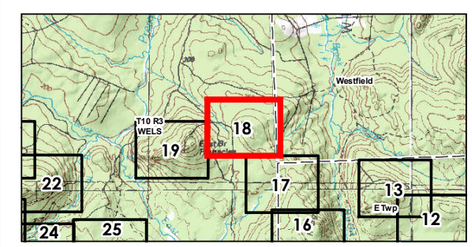

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
18

Title
Turbine Area Delineated Natural Resource Map

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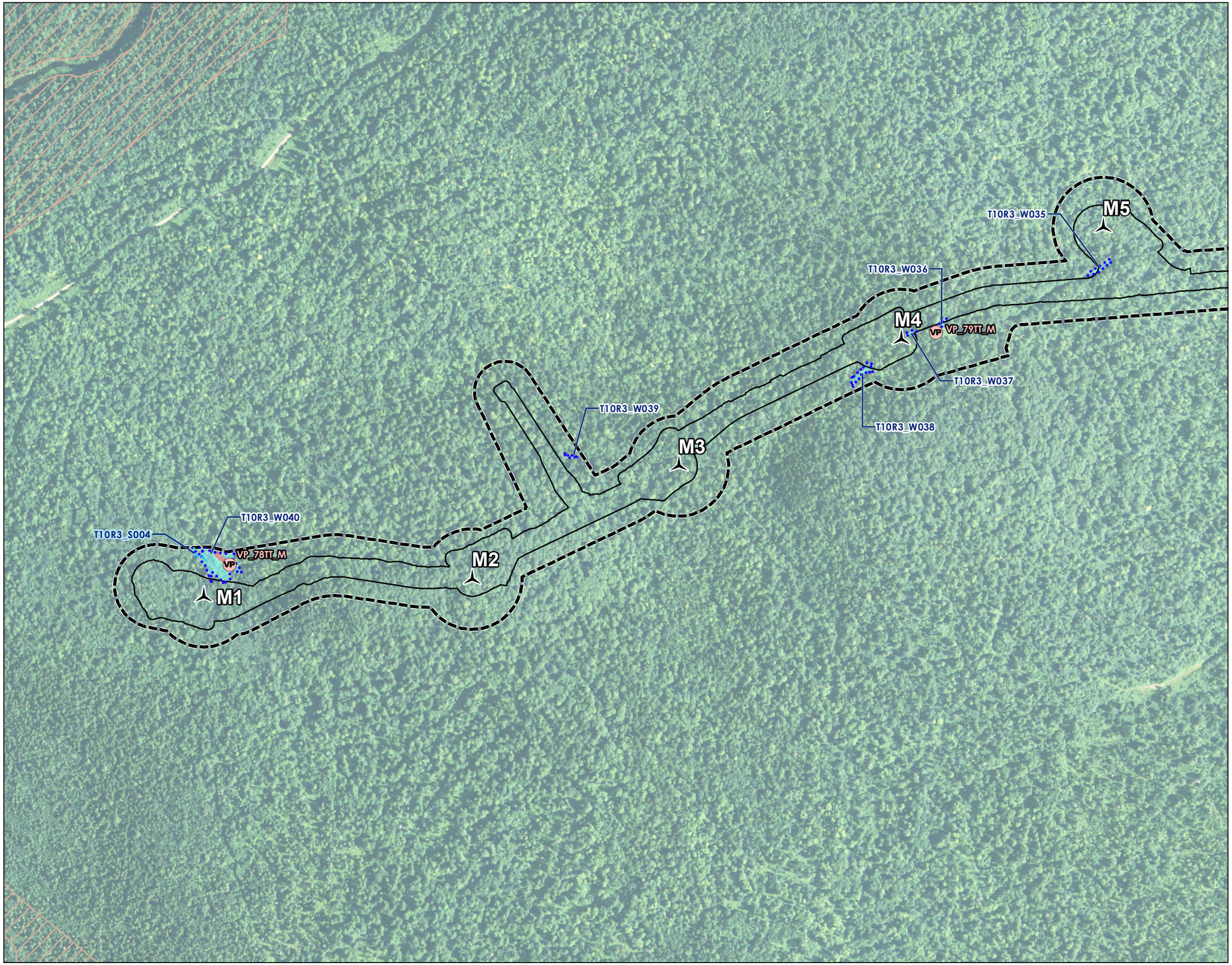

Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Ephemeral Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Deer Wintering Area

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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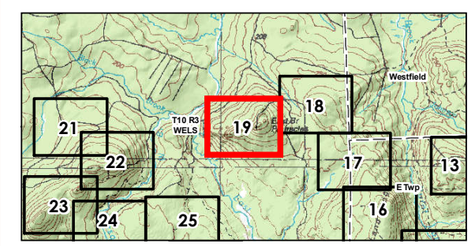

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
19

Title
Turbine Area Delineated Natural Resource Map

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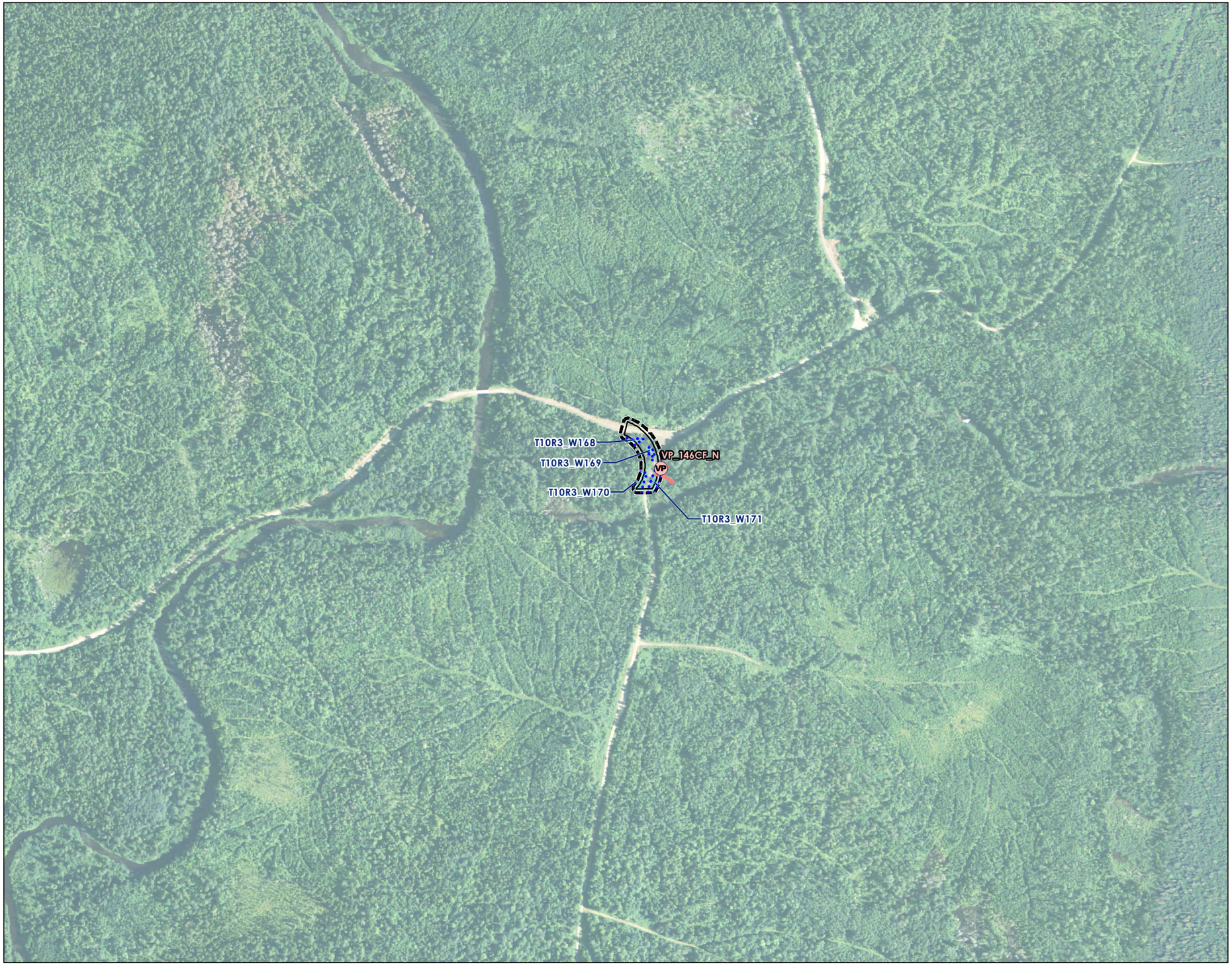

Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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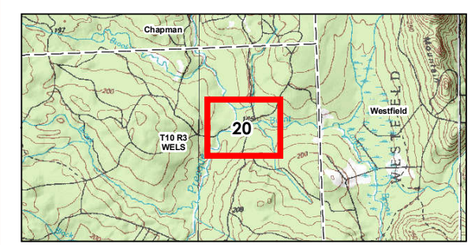

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
20

Title
Turbine Area Delineated Natural Resource Map

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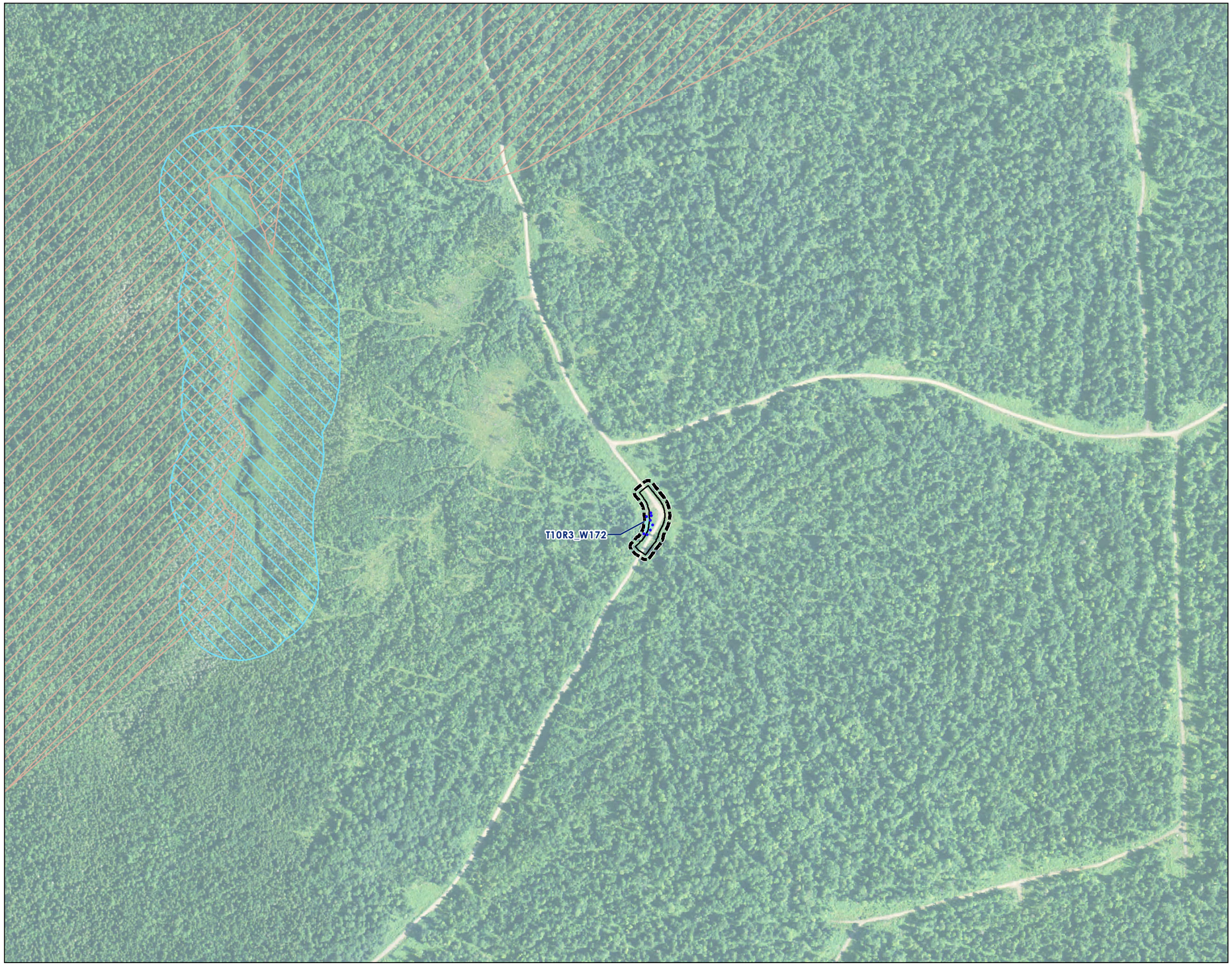

Stantec

Legend

- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Deer Wintering Area
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

1. Wetland boundaries delineated in accordance with USACE 1987 Wetland Delineation Manual or subsequent versions. Vernal pool surveys in 2014 and 2015 were conducted according to the Maine Association of Wetland Scientist Vernal Pool Technical Committee Vernal Pool Survey Protocols (April 2014). Vernal pool surveys conducted prior to 2014 followed other protocols that were accepted by the Maine Department of Inland Fisheries and Wildlife.
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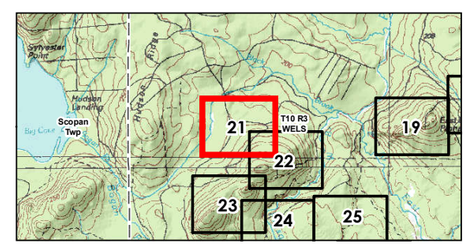
3. Data sources: Maine Office of GIS, Maine Department of Inland Fisheries and Wildlife, Maine Land Use Planning Commission
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
21

Title
Turbine Area Delineated Natural Resource Map

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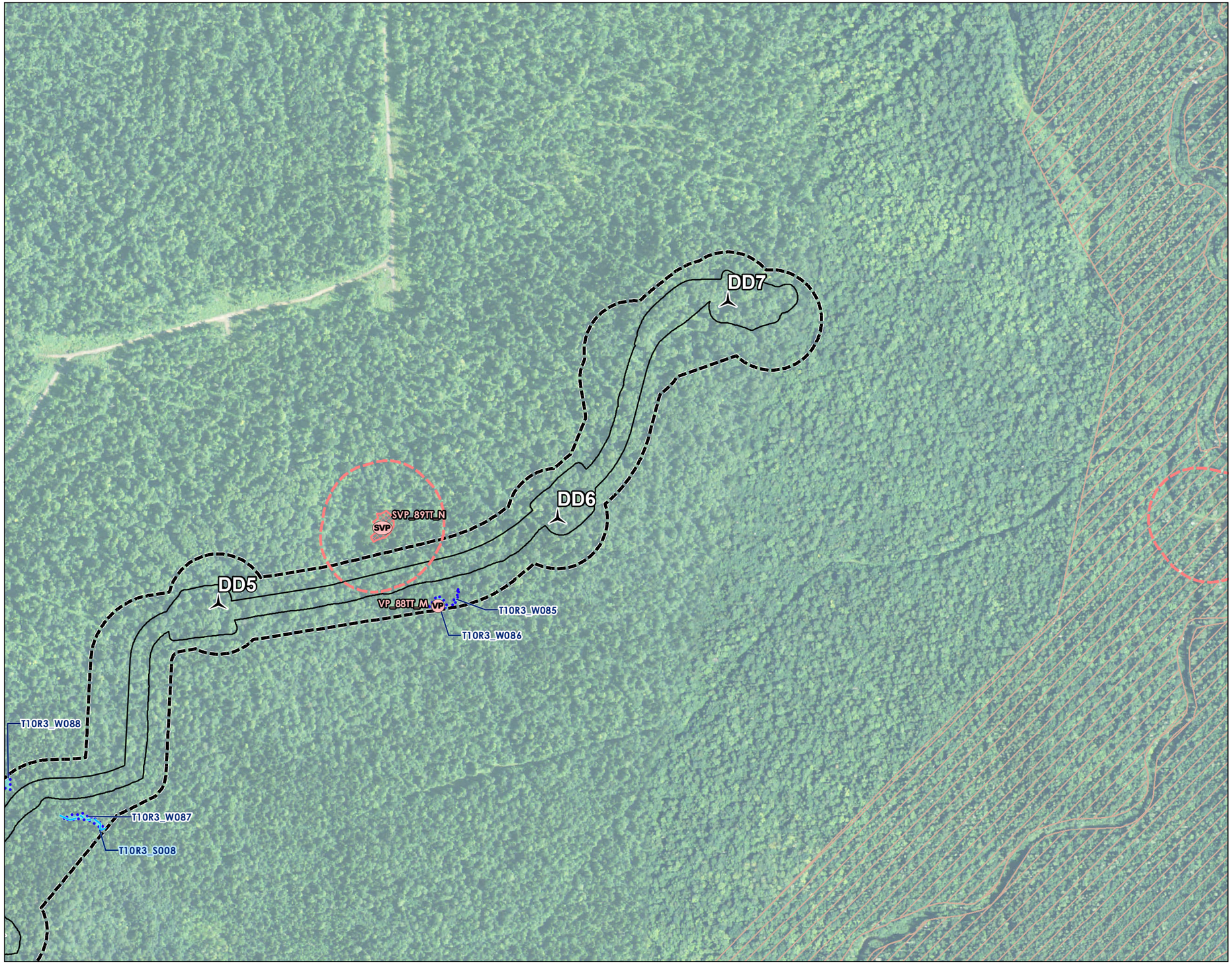

Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Deer Wintering Area

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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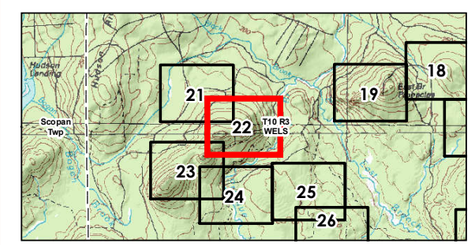

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
22

Title
Turbine Area Delineated Natural Resource Map

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Stantec

Legend

- Vernal Pool
- Amphibian Breeding Area
- Vernal Pool Boundary
- Amphibian Breeding Area
- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Deer Wintering Area

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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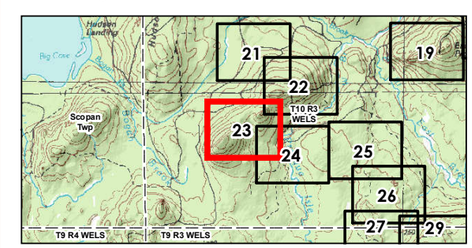

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
23

Title
Turbine Area Delineated Natural Resource Map

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Stantec

Legend

- Perennial Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Deer Wintering Area

N

0 500 1,000 Feet

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Notes

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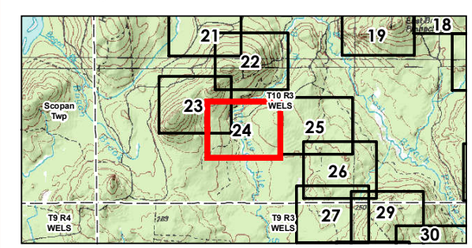

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
24

Title
Turbine Area Delineated Natural Resource Map

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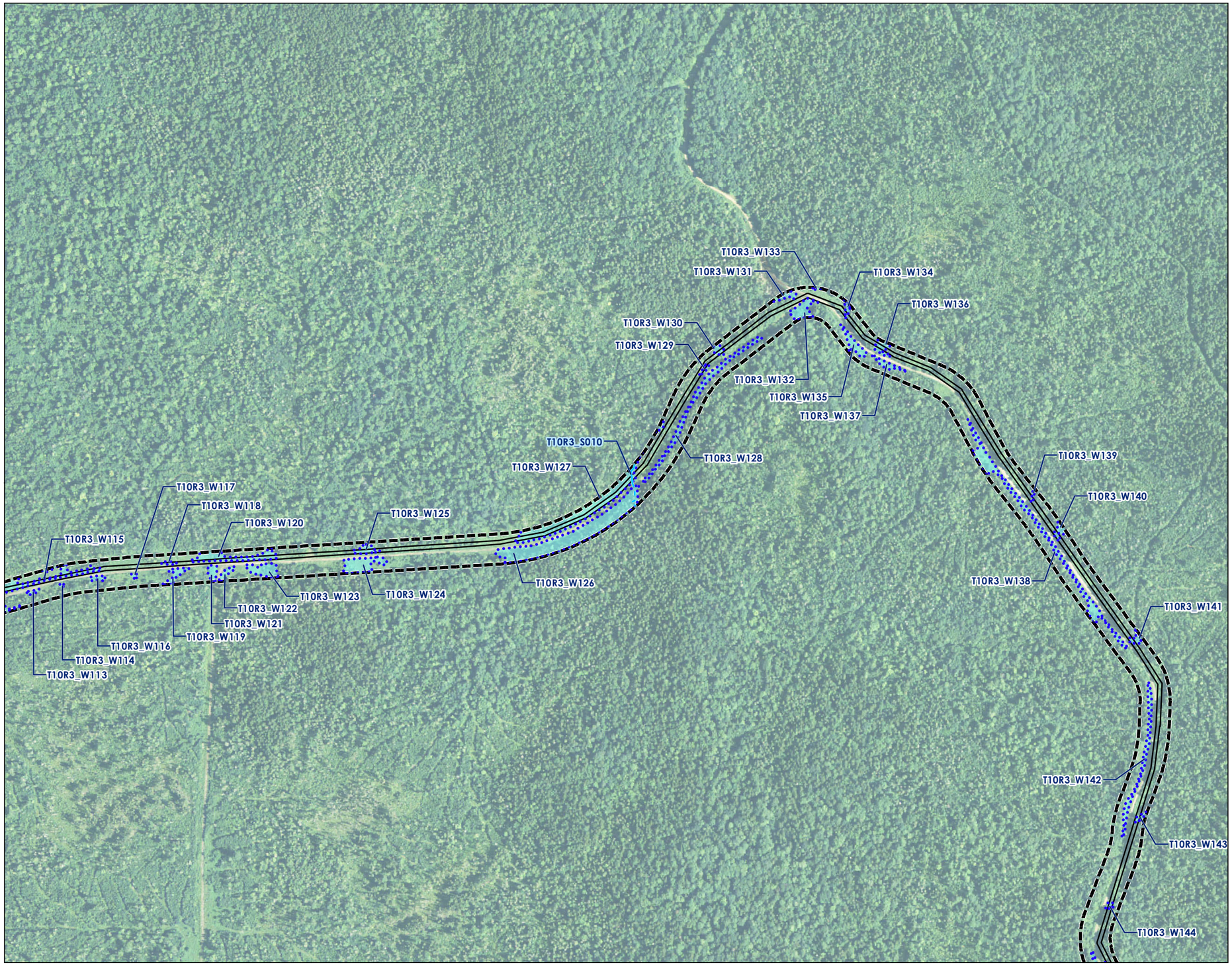

Stantec

Legend

- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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Notes

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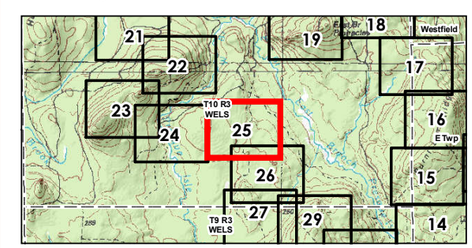

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
25

Title
Turbine Area Delineated Natural Resource Map

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Stantec

Legend

- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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Notes

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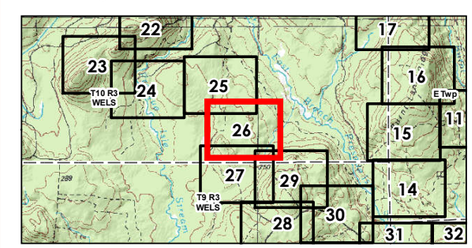

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
26

Title
Turbine Area Delineated Natural Resource Map

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Stantec

Legend

- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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Notes

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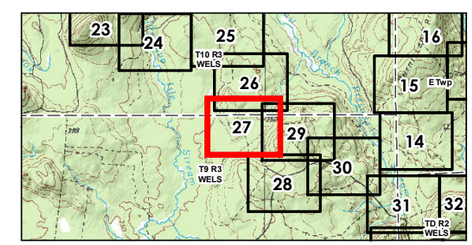

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
27

Title
Turbine Area Delineated Natural Resource Map

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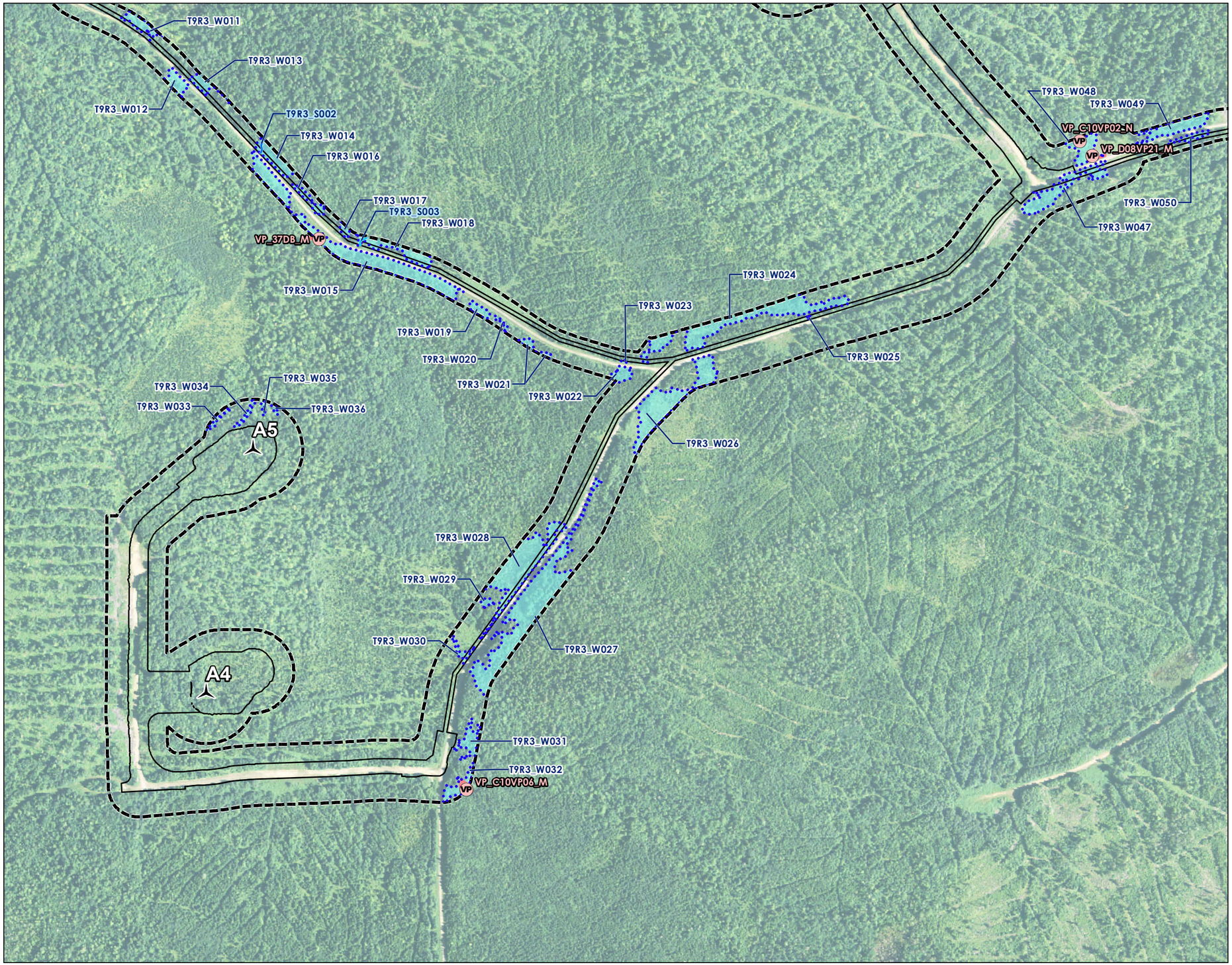

Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Perennial Stream
- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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Notes

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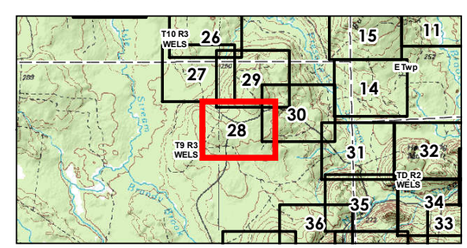

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
28

Title
Turbine Area Delineated Natural Resource Map

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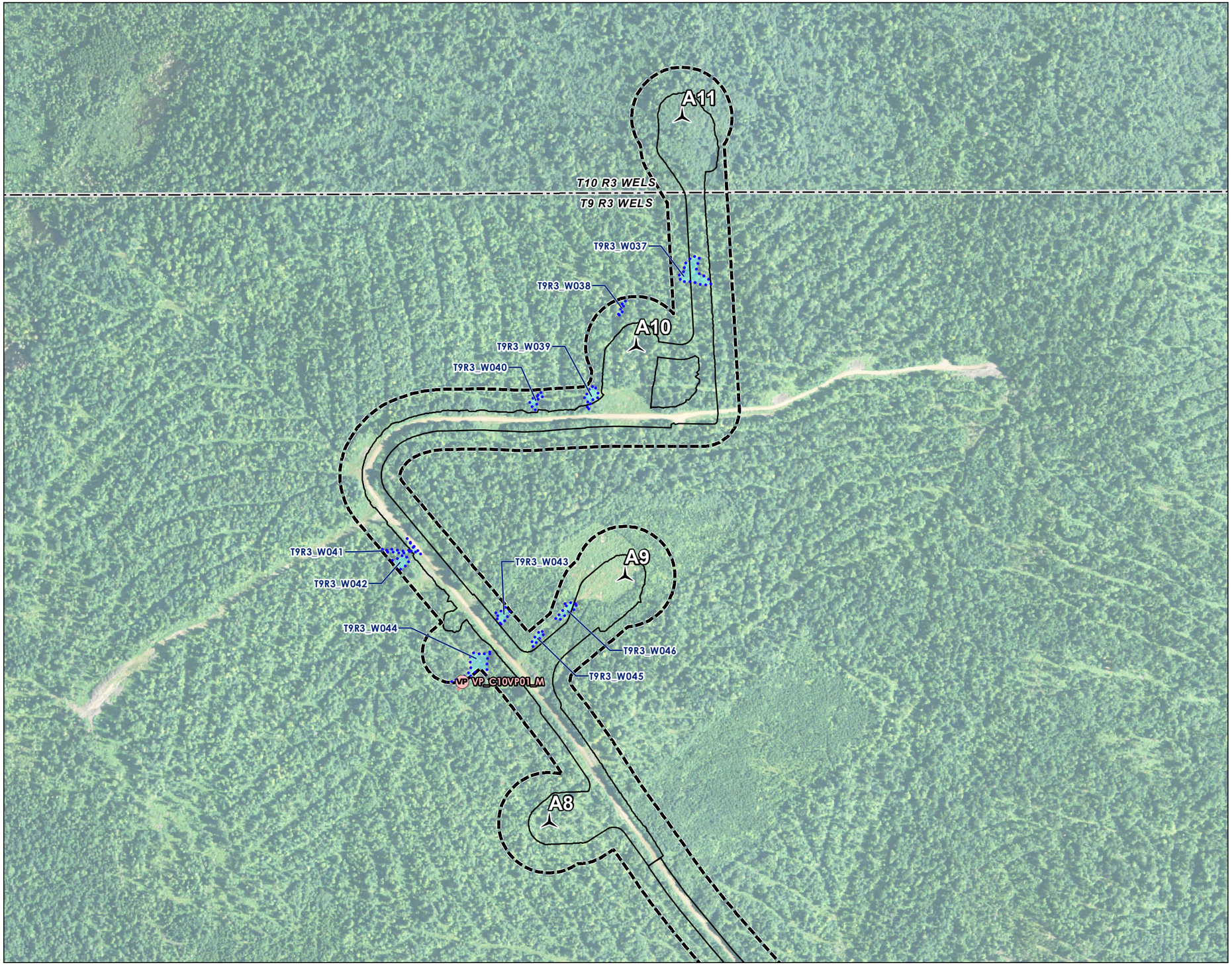

Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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Notes

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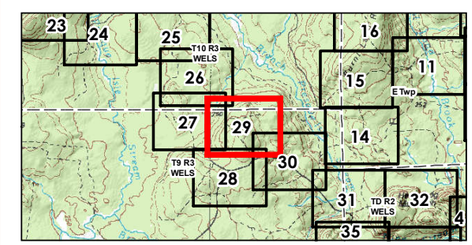

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
29

Title
Turbine Area Delineated Natural Resource Map

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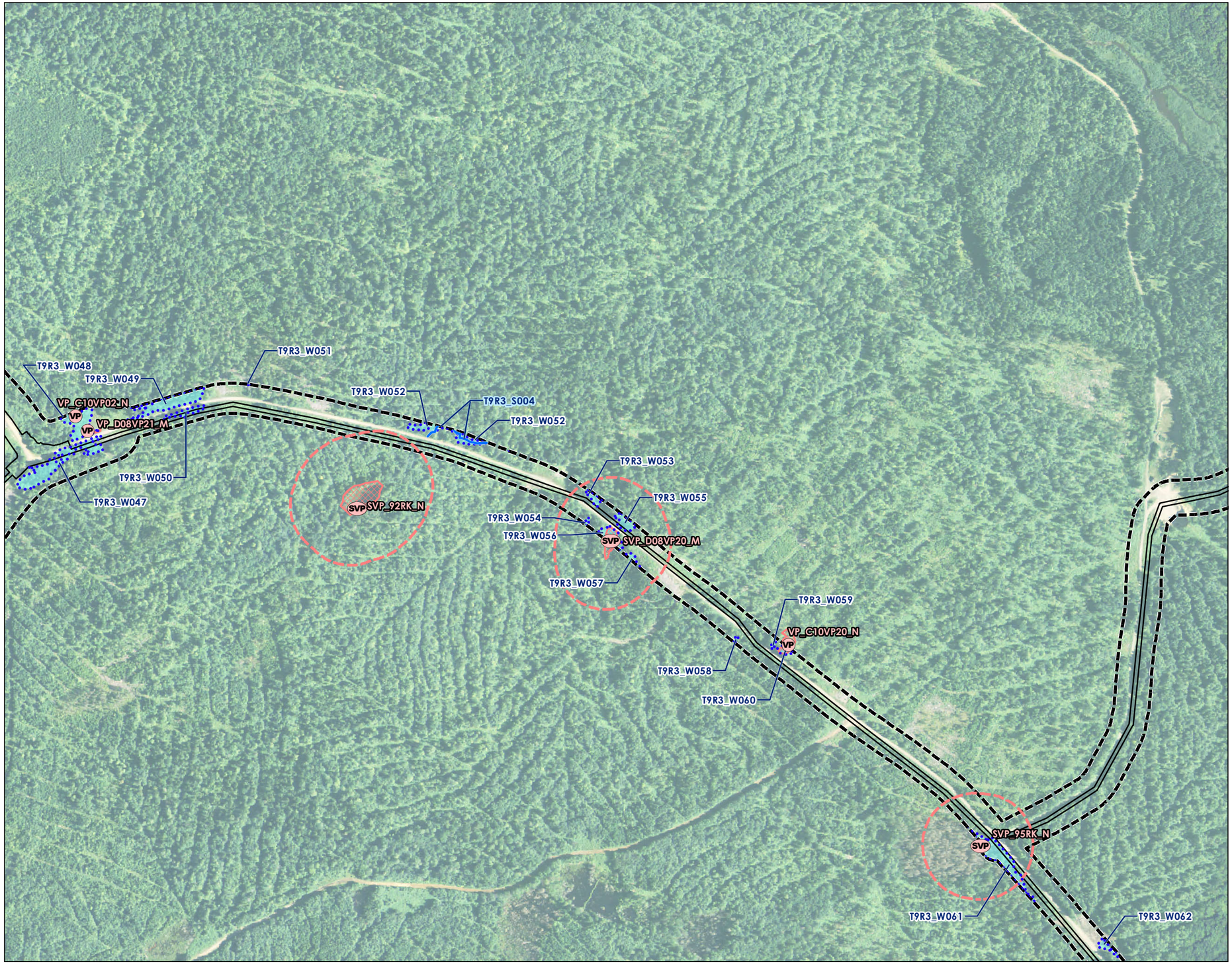

Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Perennial Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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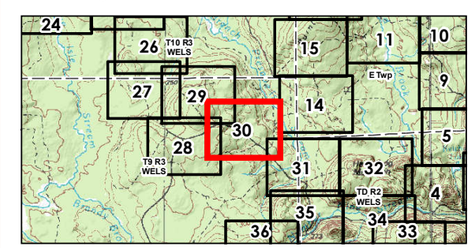

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
30

Title
Turbine Area Delineated Natural Resource Map

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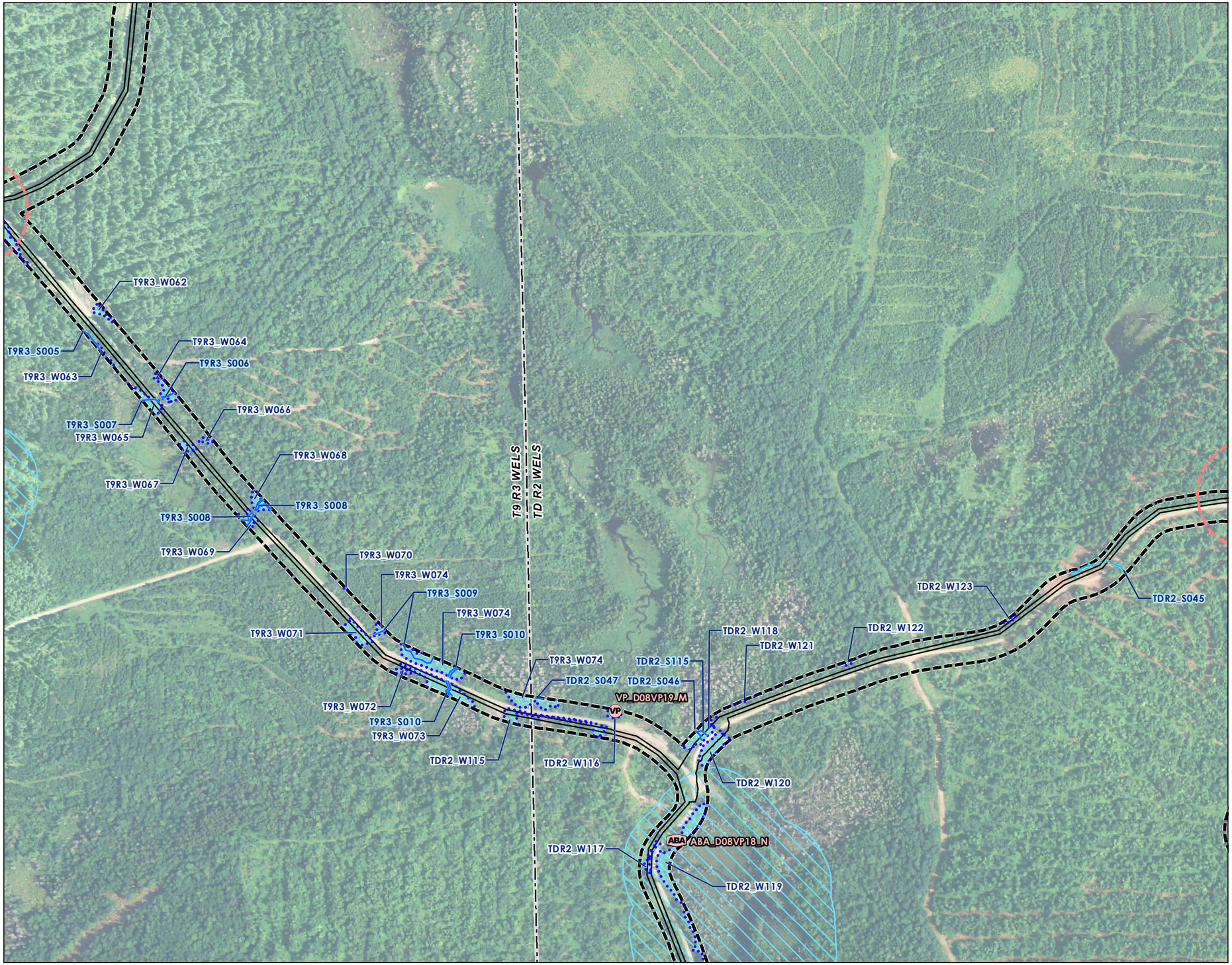

Stantec

Legend

- Vernal Pool
- Amphibian Breeding Area
- Vernal Pool Boundary
- Amphibian Breeding Area
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Perennial Stream
- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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Notes

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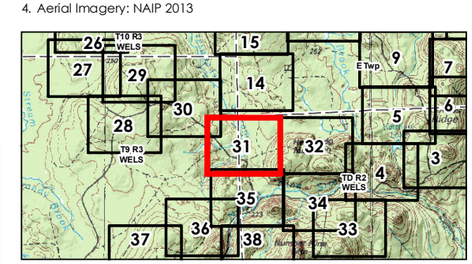

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
31

Title
Turbine Area Delineated Natural Resource Map

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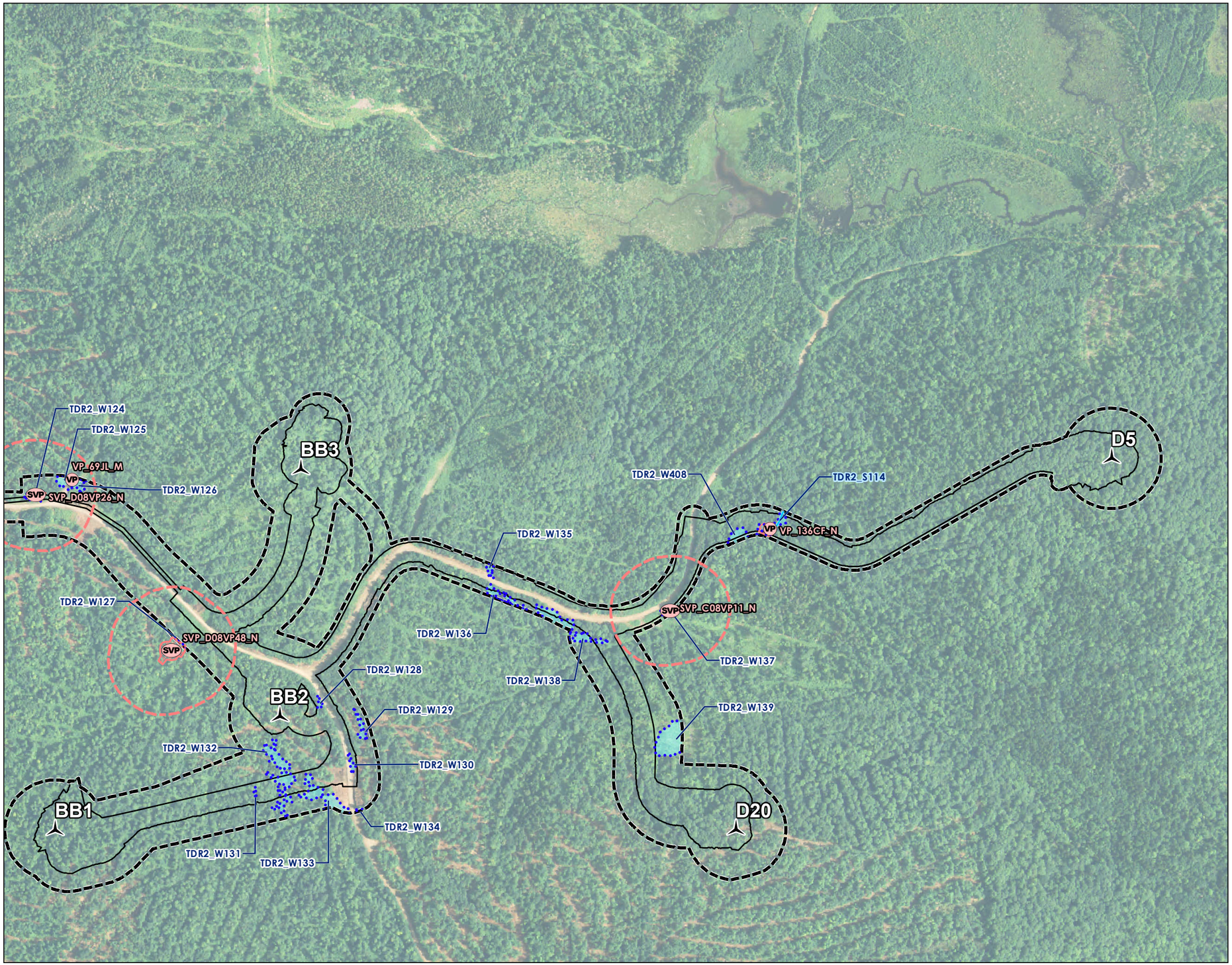

Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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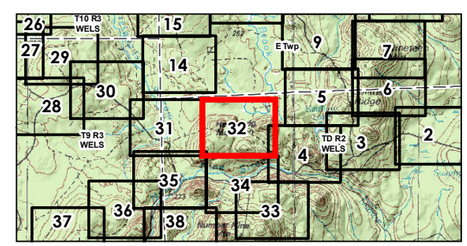
3. Data sources: Maine Office of GIS, Maine Department of Inland Fisheries and Wildlife, Maine Land Use Planning Commission
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
32

Title
Turbine Area Delineated Natural Resource Map

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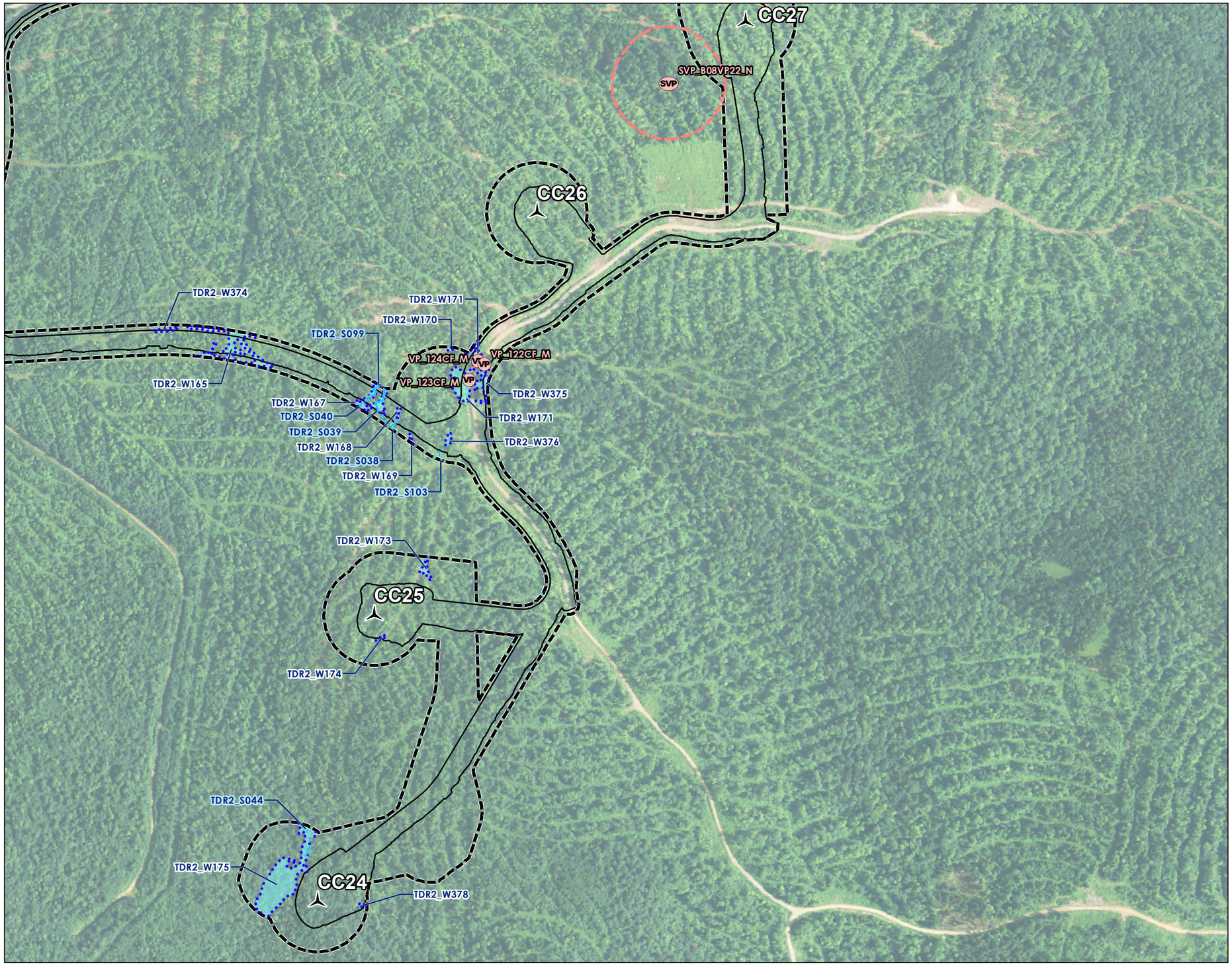

Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Intermittent Stream
- Ephemeral Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

1. Wetland boundaries delineated in accordance with USACE 1987 Wetland Delineation Manual or subsequent versions. Vernal pool surveys in 2014 and 2015 were conducted according to the Maine Association of Wetland Scientist Vernal Pool Technical Committee Vernal Pool Survey Protocols (April 2014). Vernal pool surveys conducted prior to 2014 followed other protocols that were accepted by the Maine Department of Inland Fisheries and Wildlife.
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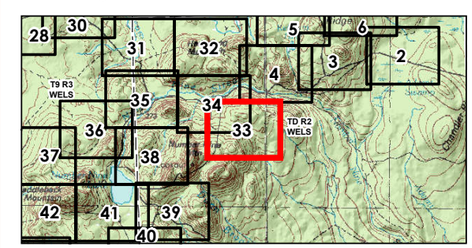

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
33

Title
Turbine Area Delineated Natural Resource Map

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Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Perennial Stream
- Intermittent Stream
- Ephemeral Stream
- Intermittent/Perennial Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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Notes

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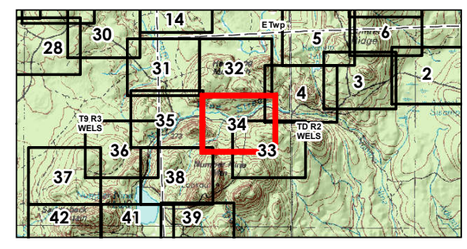
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
34

Title
Turbine Area Delineated Natural Resource Map

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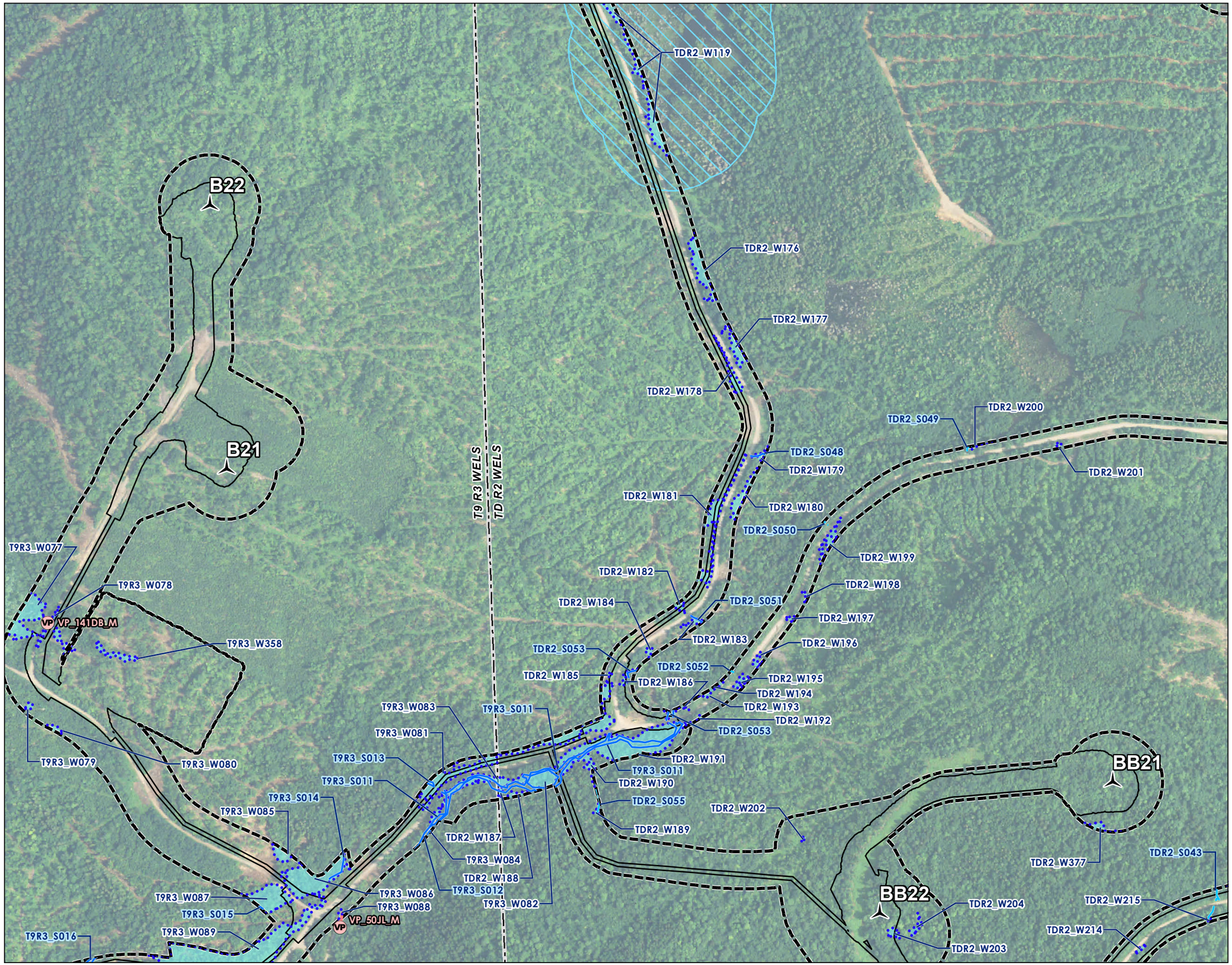

Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Perennial Stream
- Intermittent Stream
- Ephemeral Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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Notes

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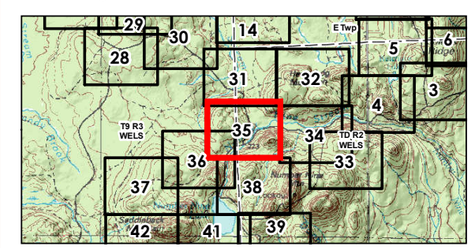

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
35

Title
Turbine Area Delineated Natural Resource Map

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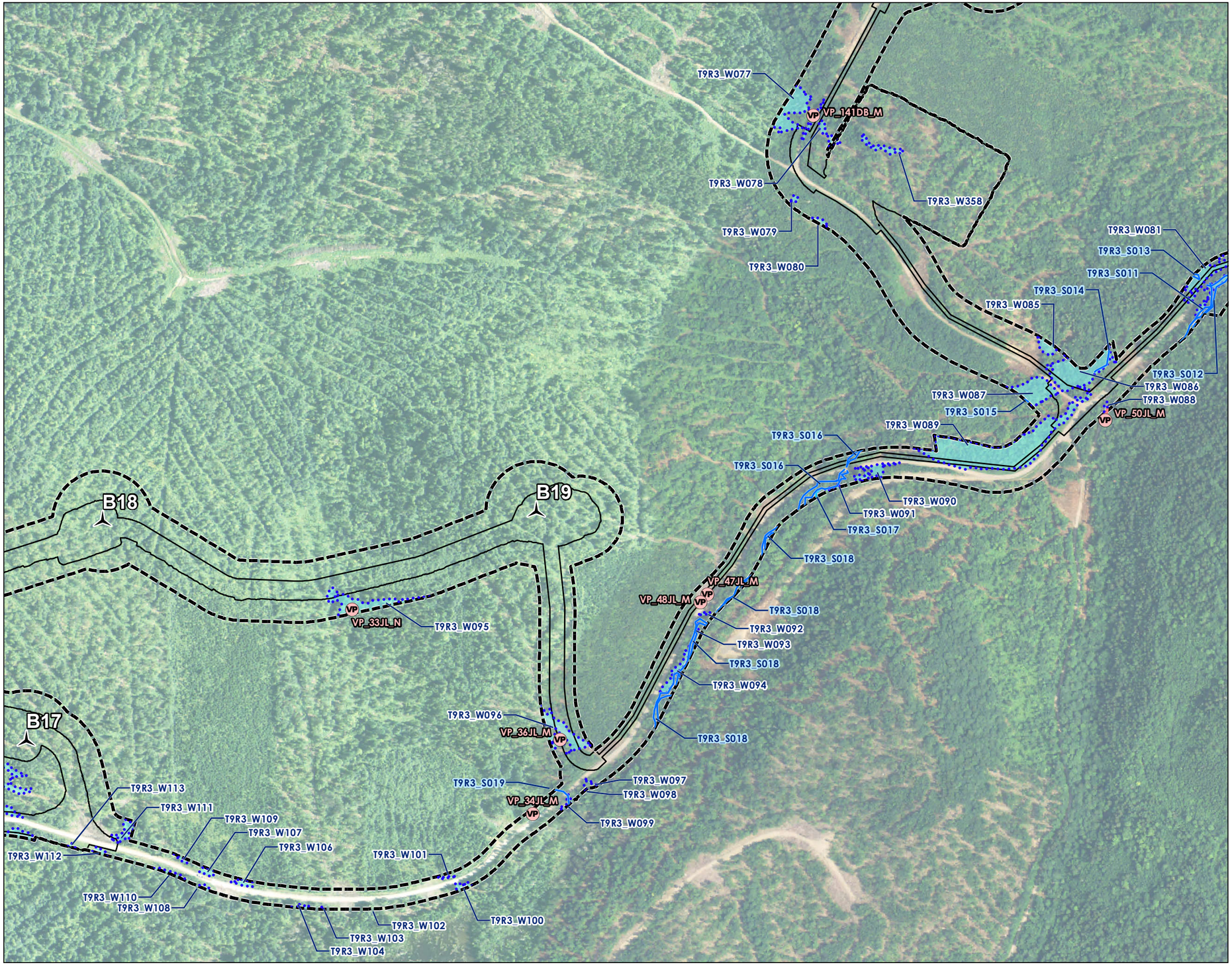

Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Perennial Stream
- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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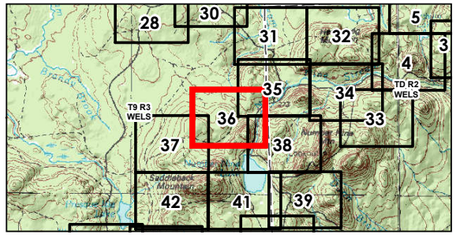

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
36

Title
Turbine Area Delineated Natural Resource Map

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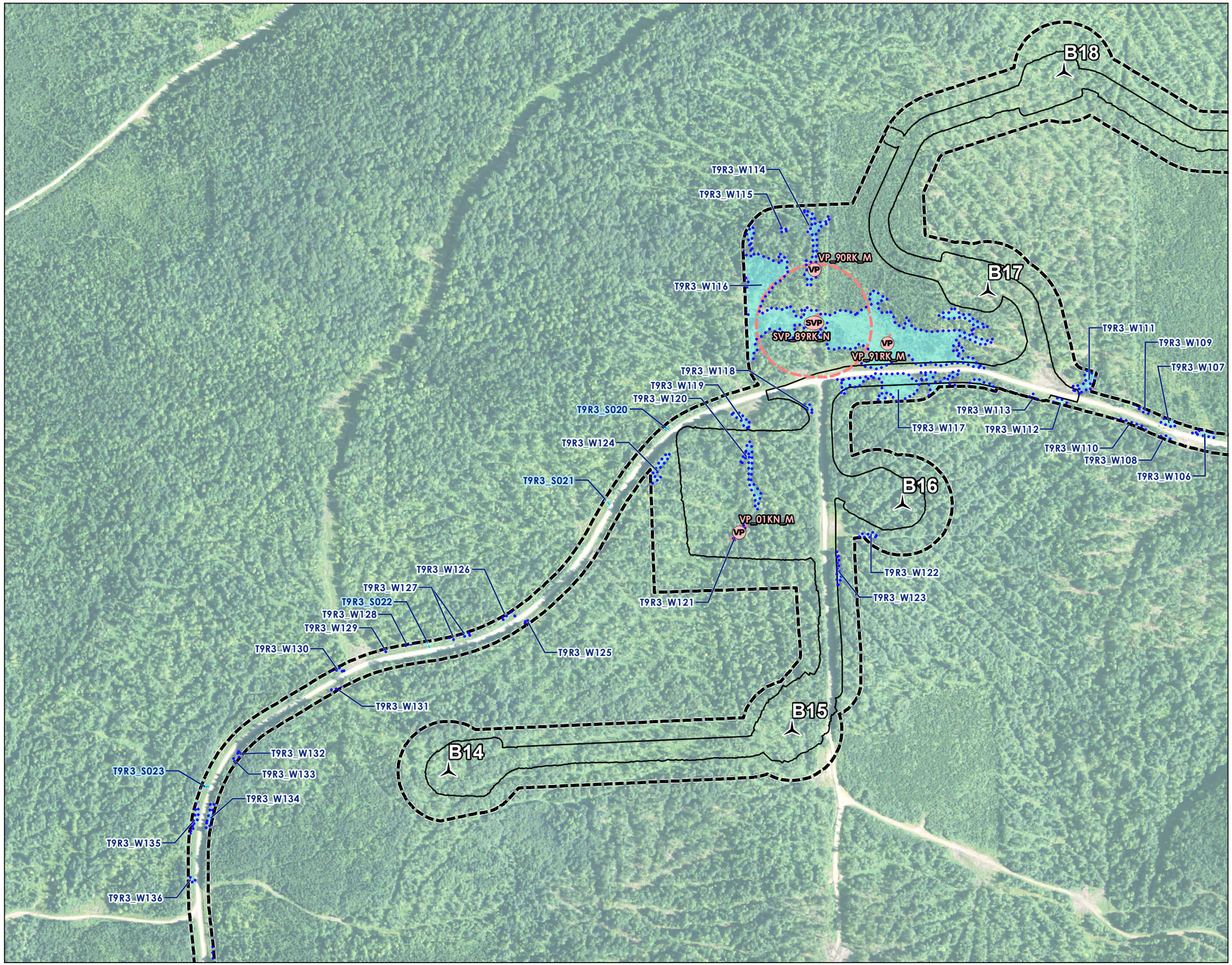

Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Ephemeral Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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Notes

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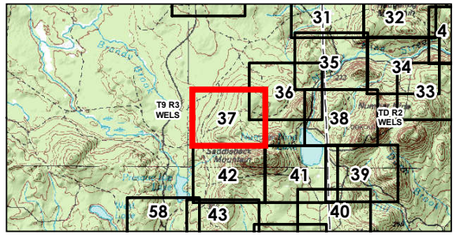

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
37

Title
Turbine Area Delineated Natural Resource Map

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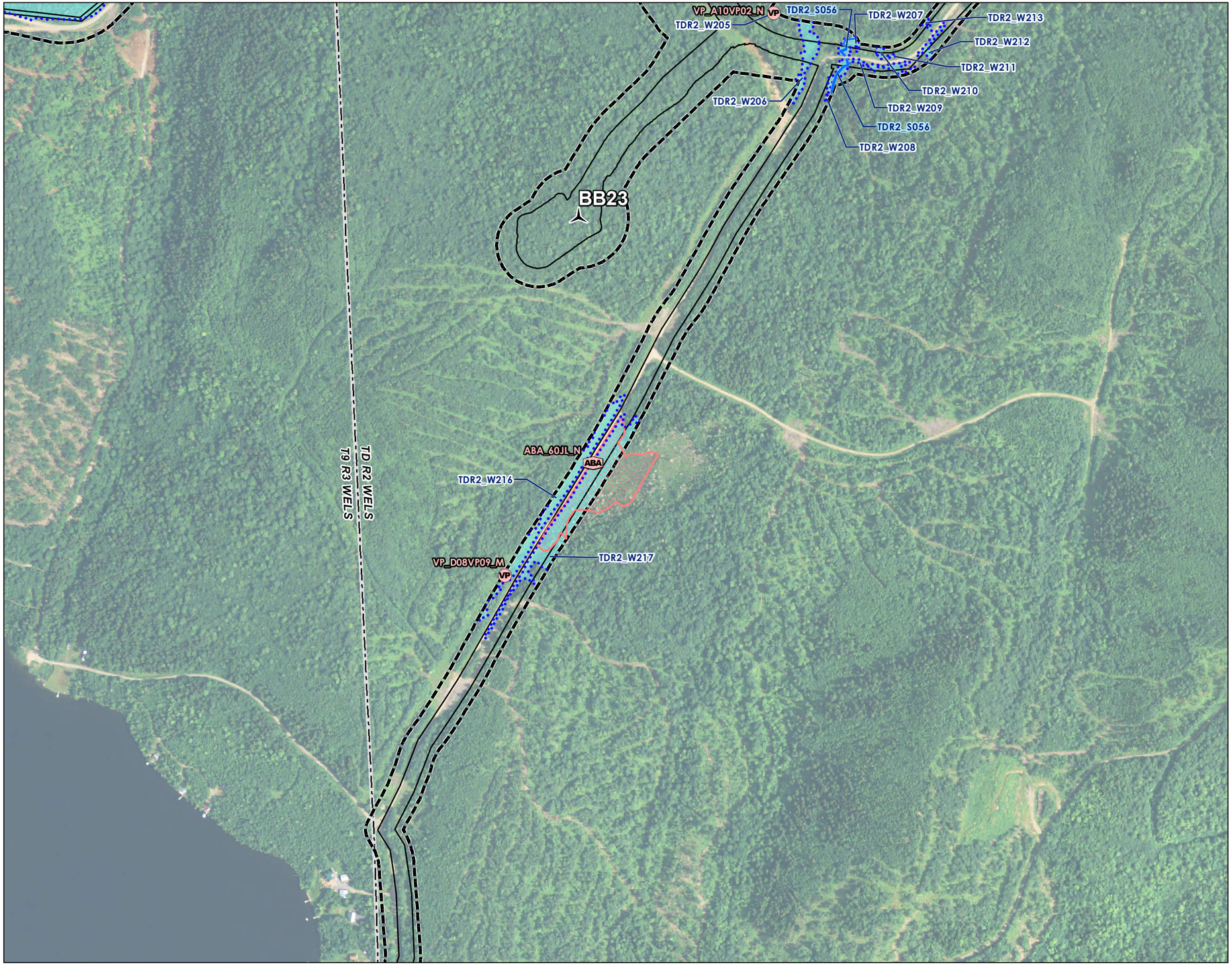

Stantec

Legend

- Vernal Pool
- Amphibian Breeding Area
- Vernal Pool Boundary
- Amphibian Breeding Area
- Perennial Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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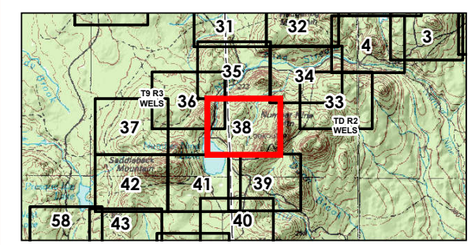

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
38

Title
Turbine Area Delineated Natural Resource Map

V:\195\Active\195600919\drawing\maps\Permit\Section07_NR Maps_Wildlife\NR_Maps\00919 NRMaps_LotPlanAreas.mxd Revised: 2015-07-13 By: jacquemartier

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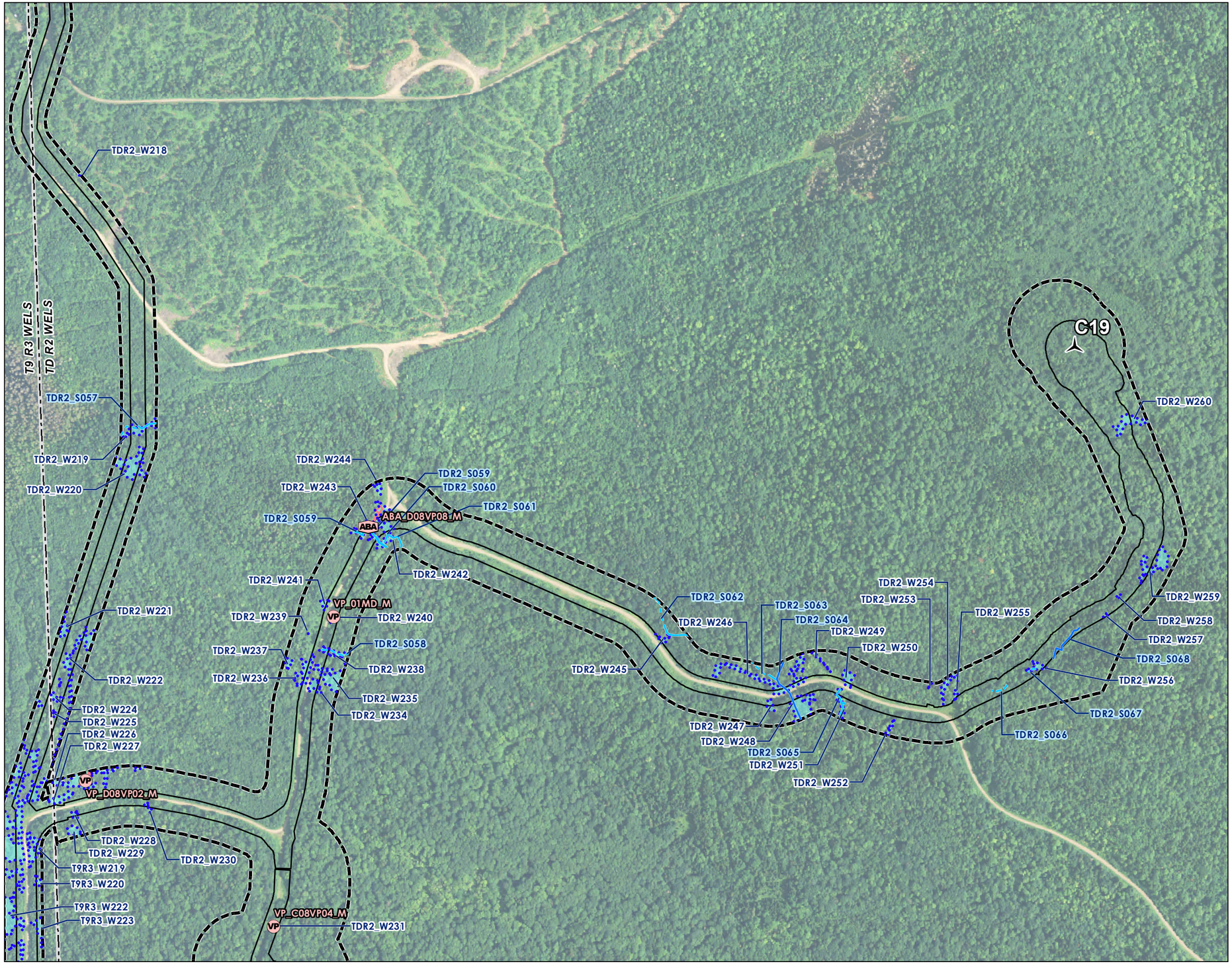

Stantec

Legend

- Vernal Pool
- Amphibian Breeding Area
- Vernal Pool Boundary
- Amphibian Breeding Area
- Perennial Stream
- Intermittent Stream
- Ephemeral Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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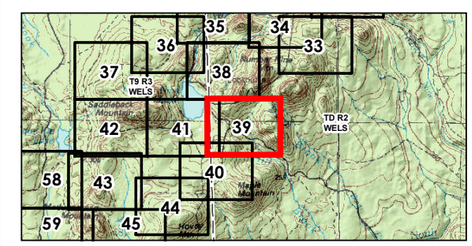

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
39

Title
Turbine Area Delineated Natural Resource Map

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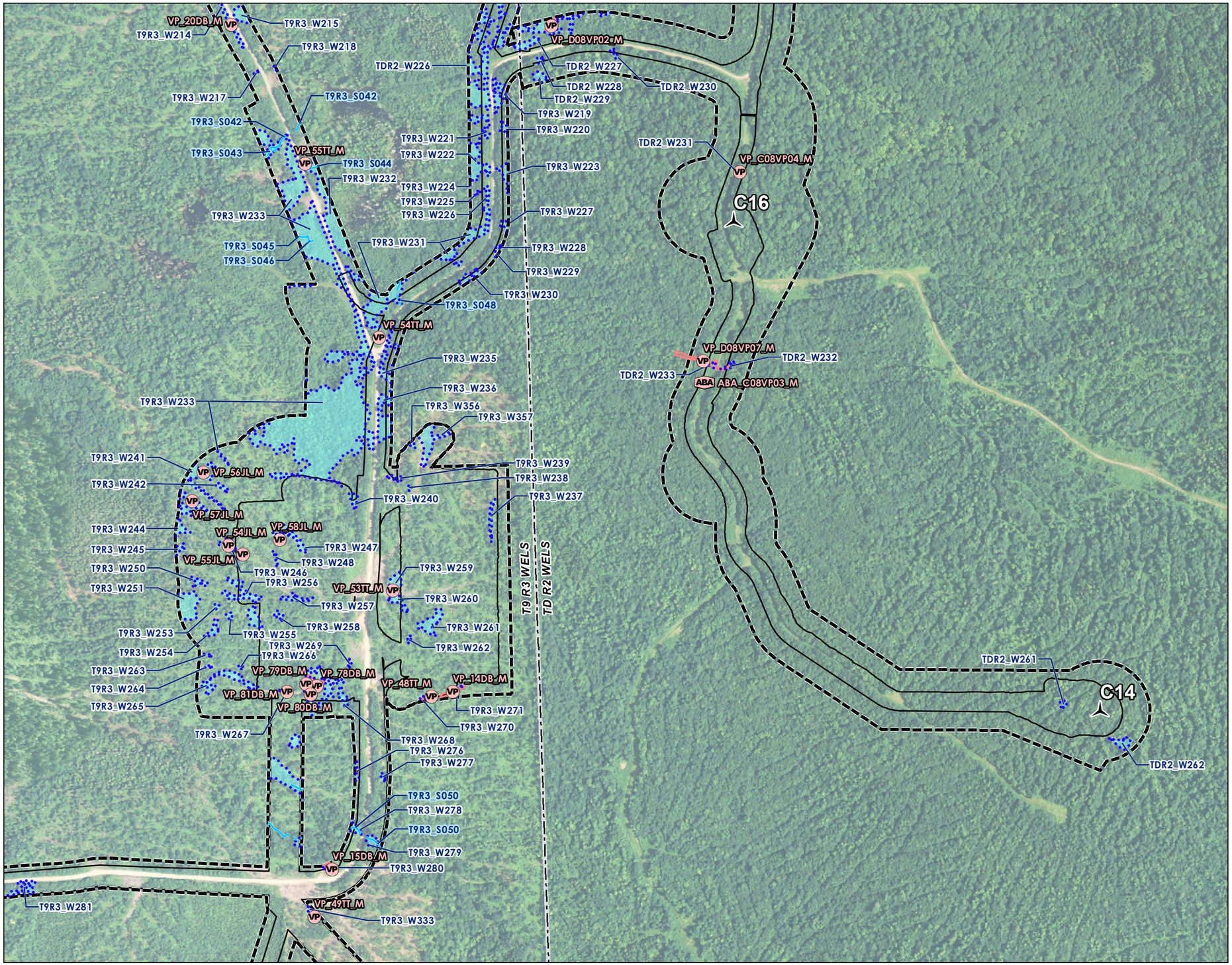

Stantec

Legend

- Vernal Pool
- Amphibian Breeding Area
- Vernal Pool Boundary
- Amphibian Breeding Area
- Perennial Stream
- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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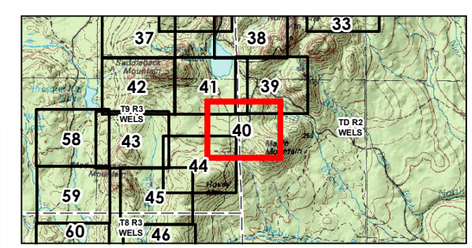

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
40

Title
Turbine Area Delineated Natural Resource Map

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Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Perennial Stream
- Intermittent Stream
- Intermittent/Perennial Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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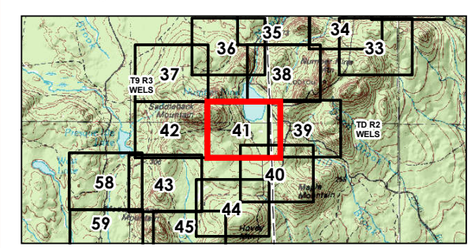

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
41

Title
Turbine Area Delineated Natural Resource Map

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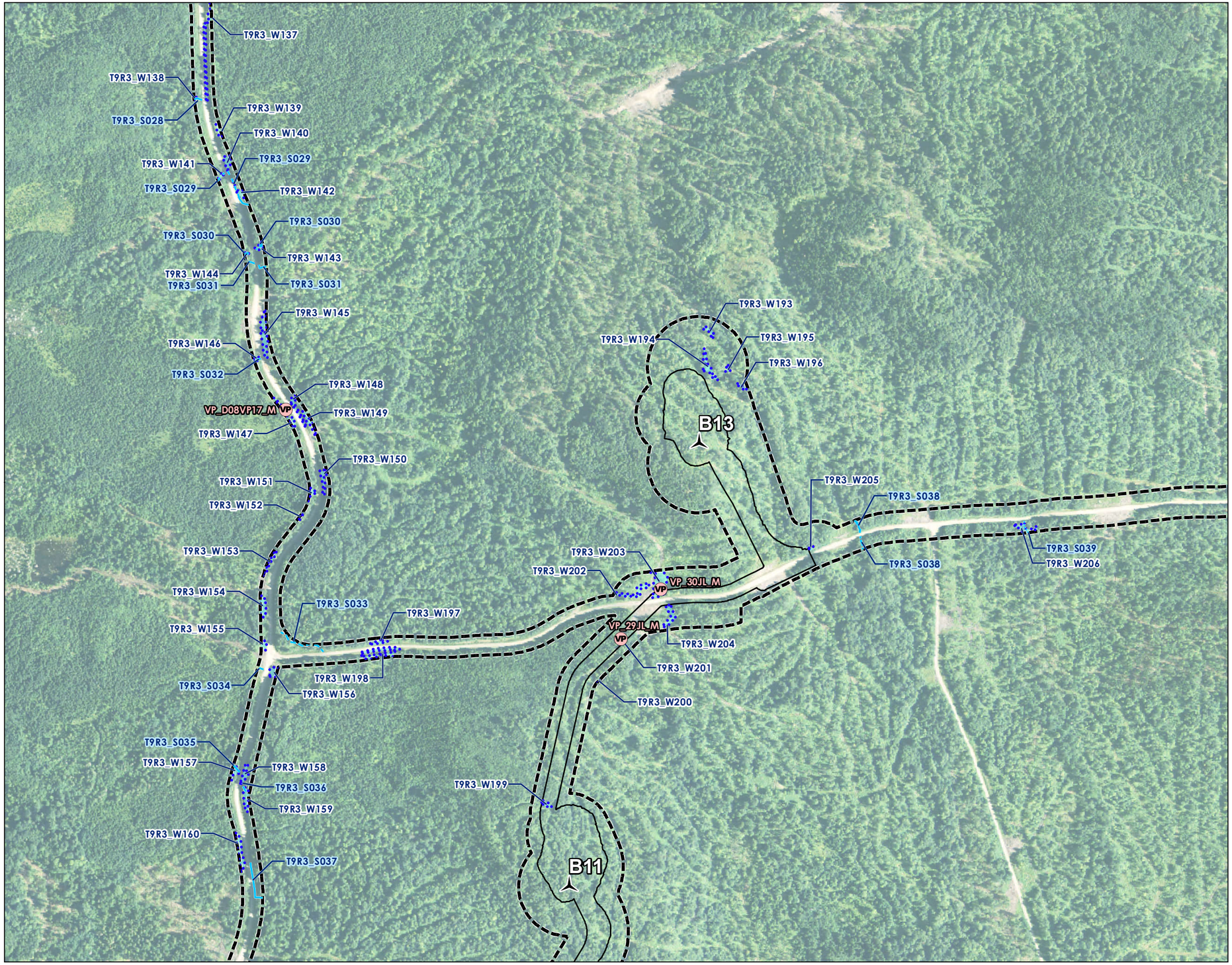

Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Intermittent Stream
- Ephemeral Stream
- Ephemeral/Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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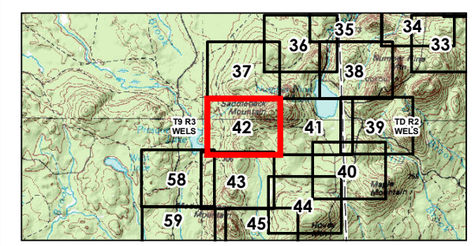

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
42

Title
Turbine Area Delineated Natural Resource Map

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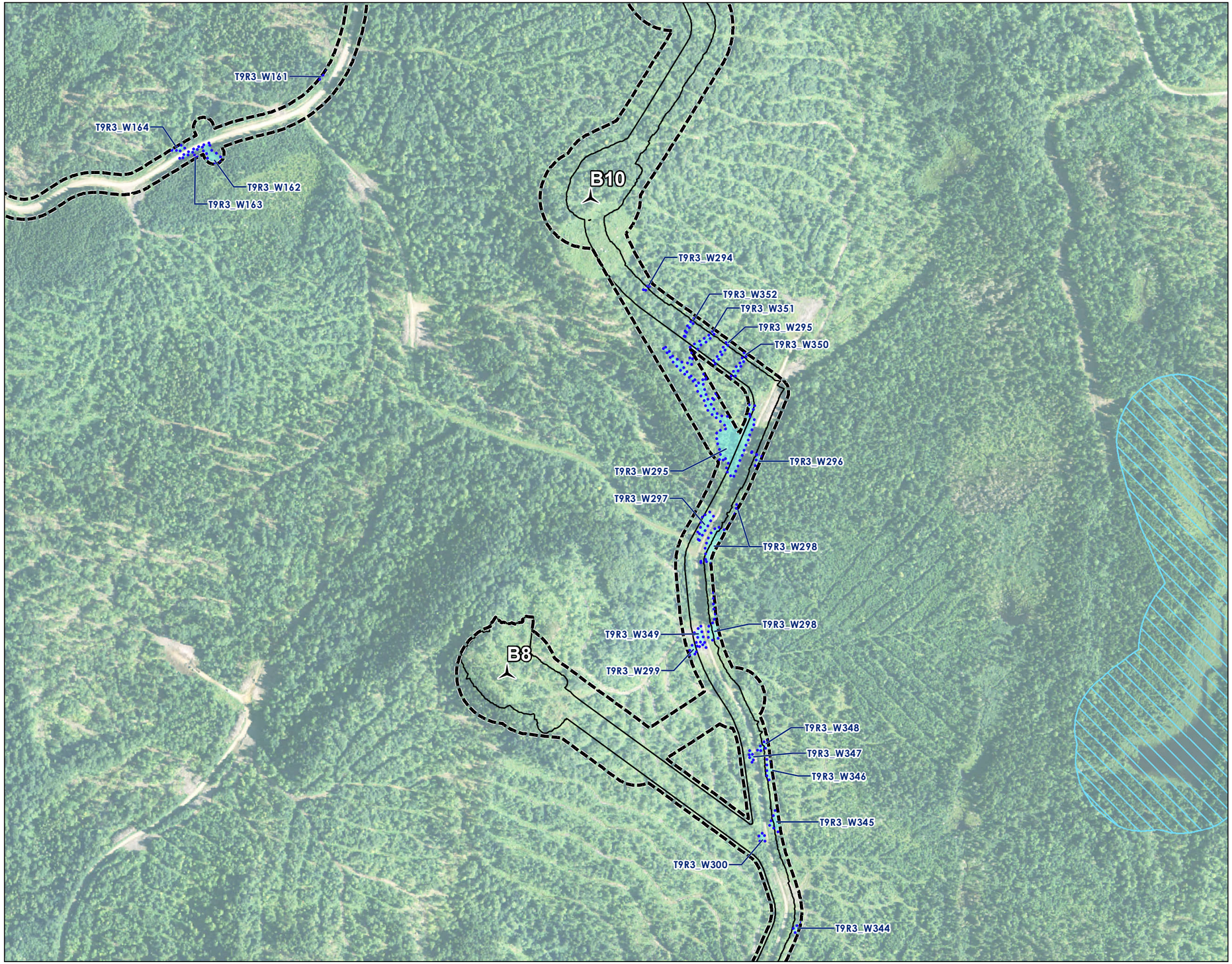

Stantec

Legend

- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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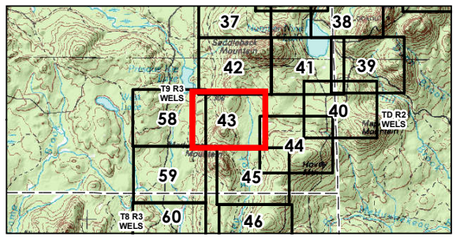

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
43

Title
Turbine Area Delineated Natural Resource Map

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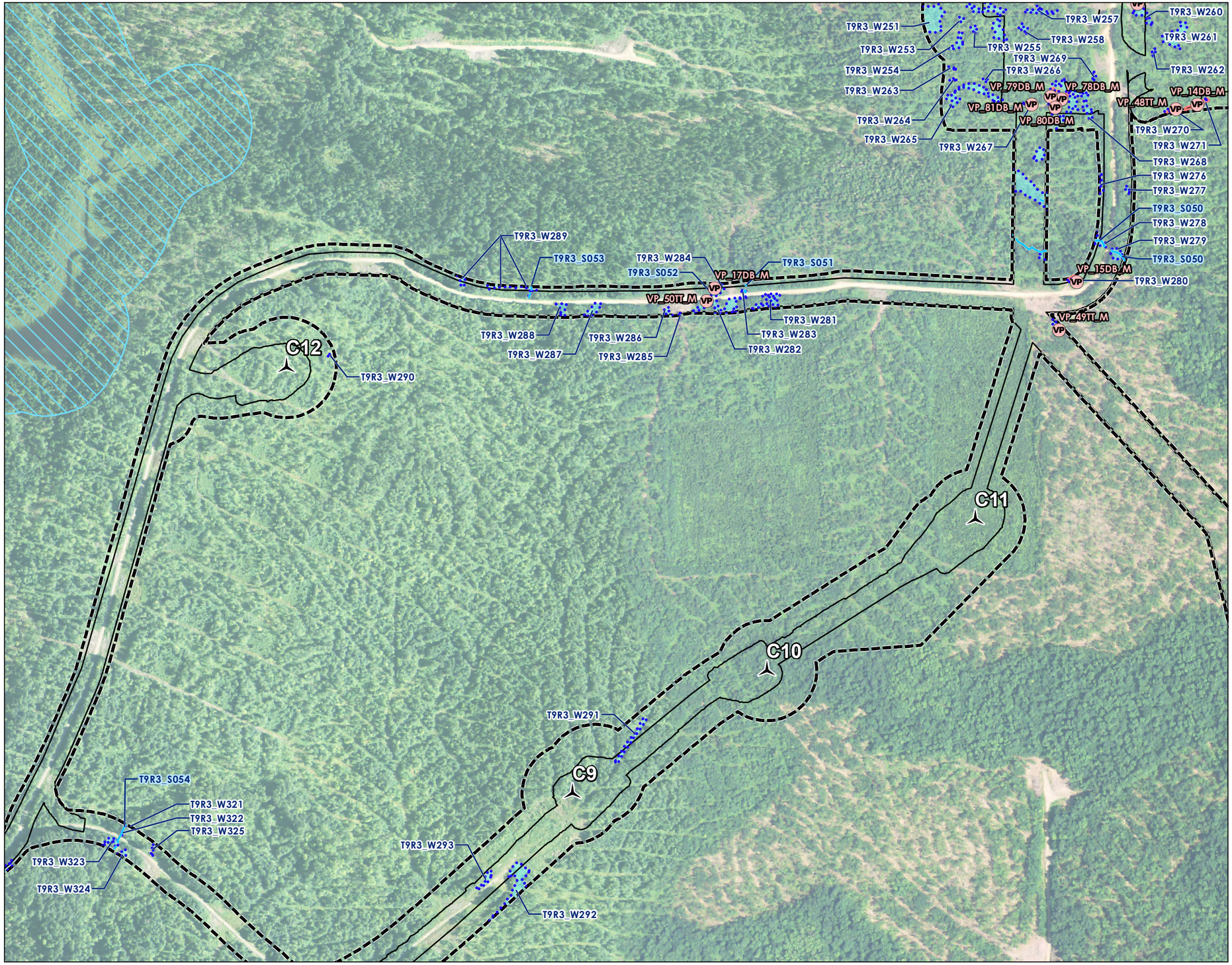
X:\195\active\195600919\drawing\mxd\Permit\Section07_NR_Maps_Wildlife\NR_Maps\V09\19_NRMaps_TurbineAreas.mxd Revised: 2015-07-13 By: jacompanter



Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Intermittent Stream
- Ephemeral Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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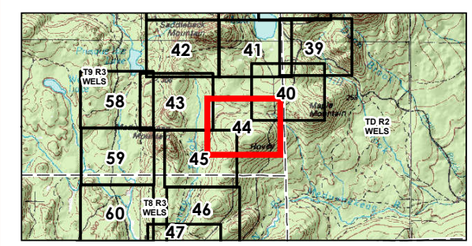
3. Data sources: Maine Office of GIS, Maine Department of Inland Fisheries and Wildlife, Maine Land Use Planning Commission
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
44

Title
Turbine Area Delineated Natural Resource Map

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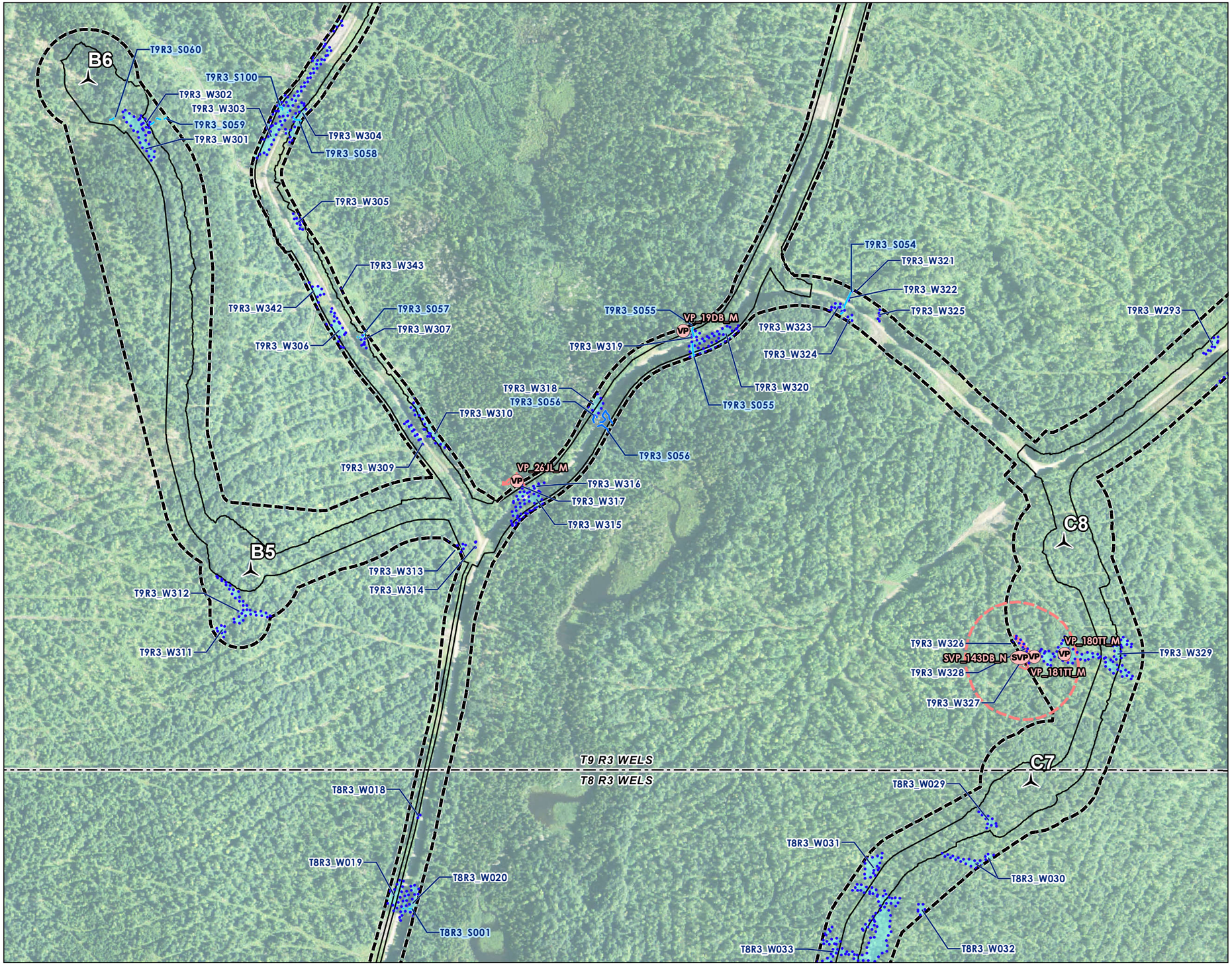

Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Perennial Stream
- Intermittent Stream
- Ephemeral Stream
- Ephemeral/Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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Notes

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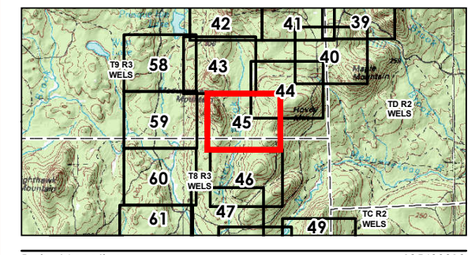
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

1956009919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
45

Title
Turbine Area Delineated Natural Resource Map

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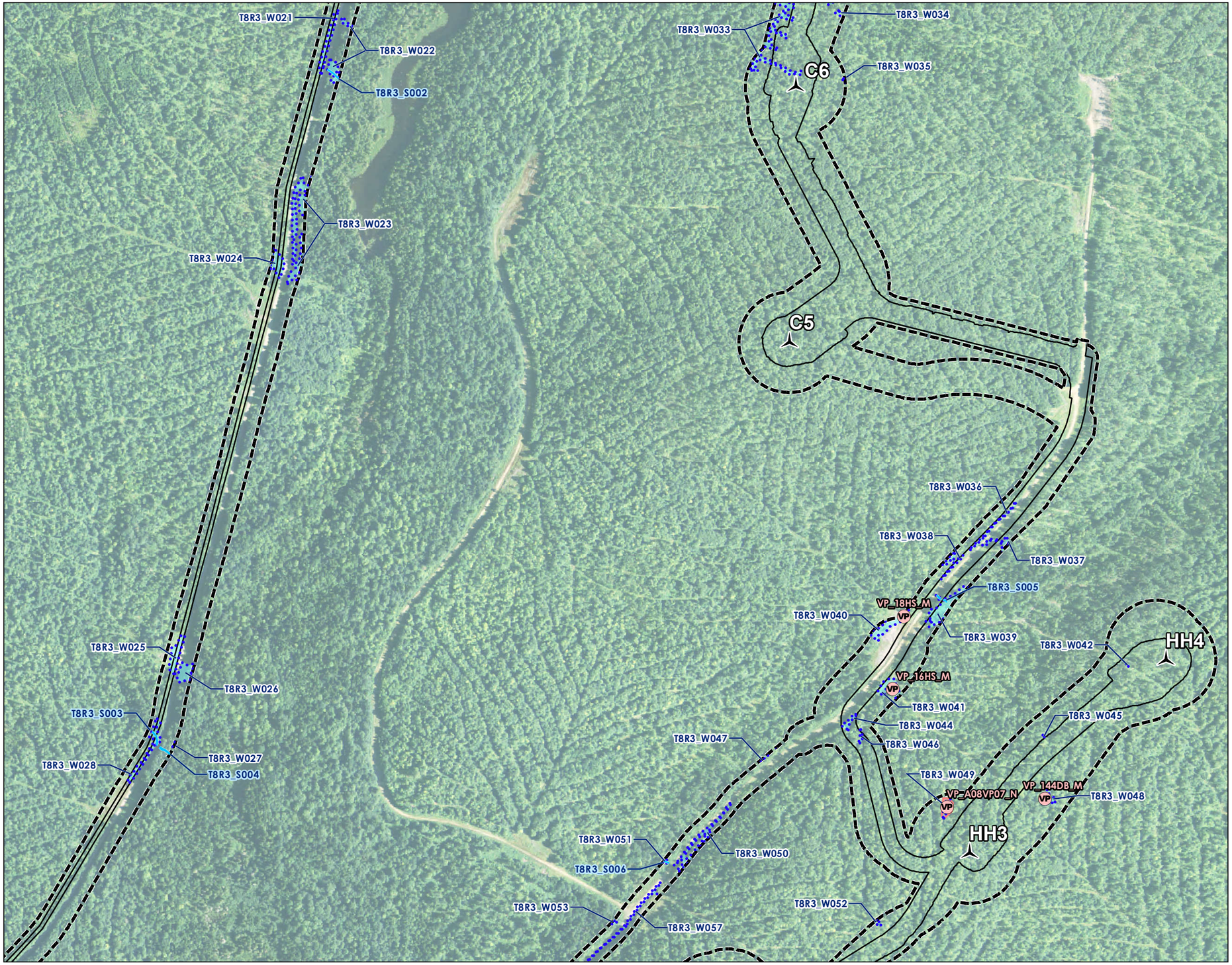

Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Intermittent Stream
- Ephemeral Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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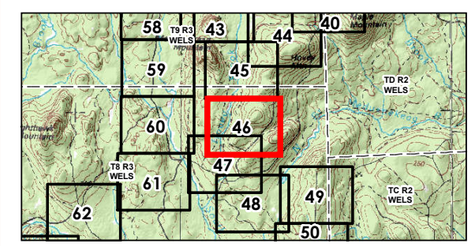

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
46

Title
Turbine Area Delineated Natural Resource Map

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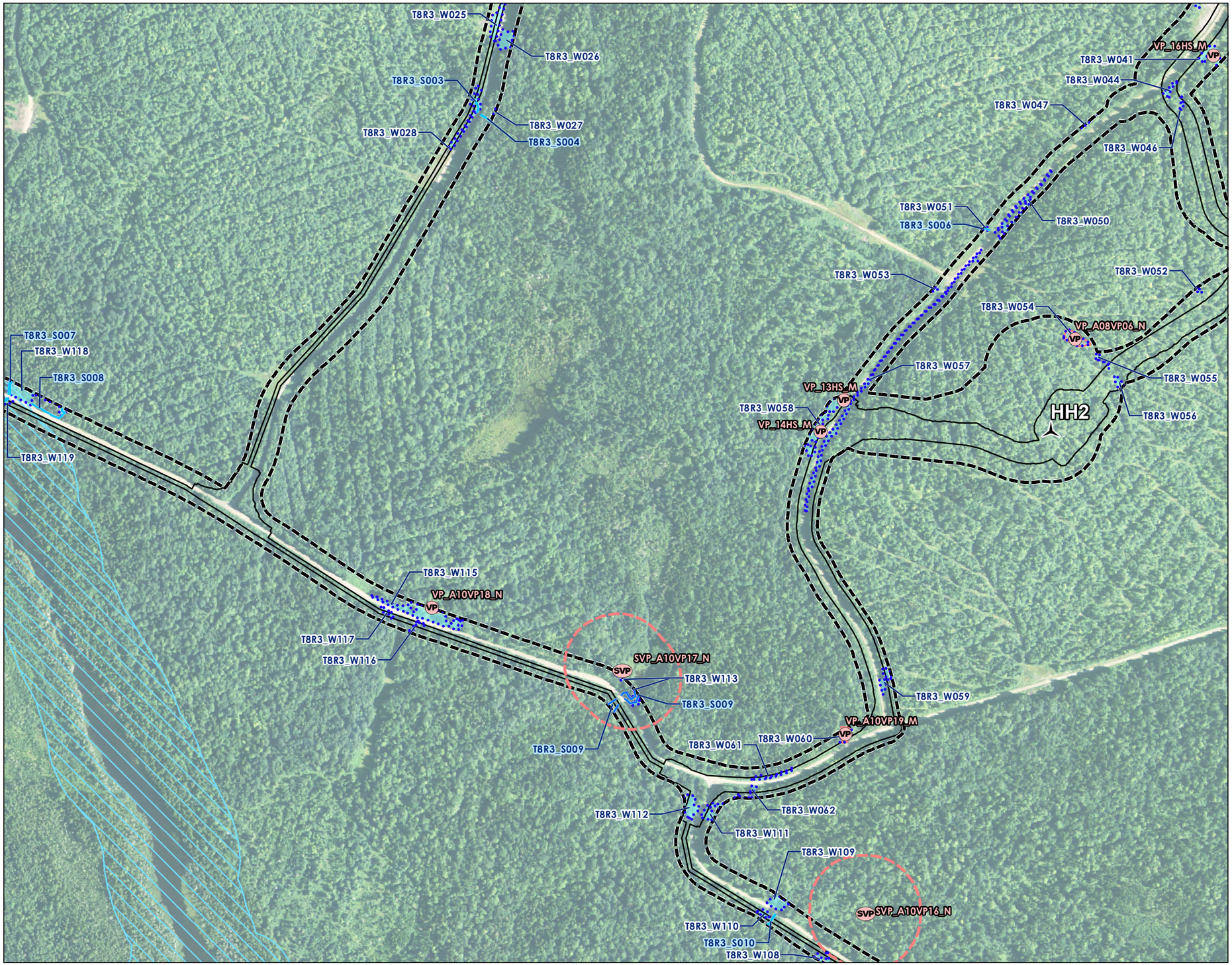

Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Perennial Stream
- Intermittent Stream
- Intermittent/Perennial Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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Notes

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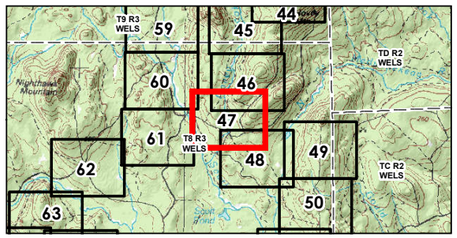

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
47

Title
Turbine Area Delineated Natural Resource Map

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Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Perennial Stream
- Intermittent Stream
- Ephemeral Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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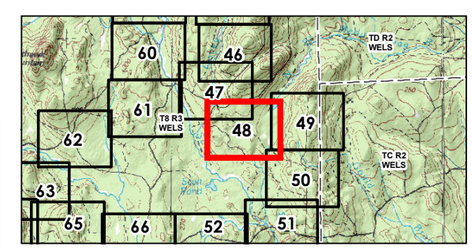

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
48

Title
Turbine Area Delineated Natural Resource Map

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Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Intermittent Stream
- Ephemeral Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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Notes

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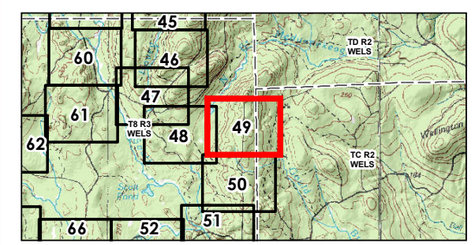

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
49

Title
Turbine Area Delineated Natural Resource Map

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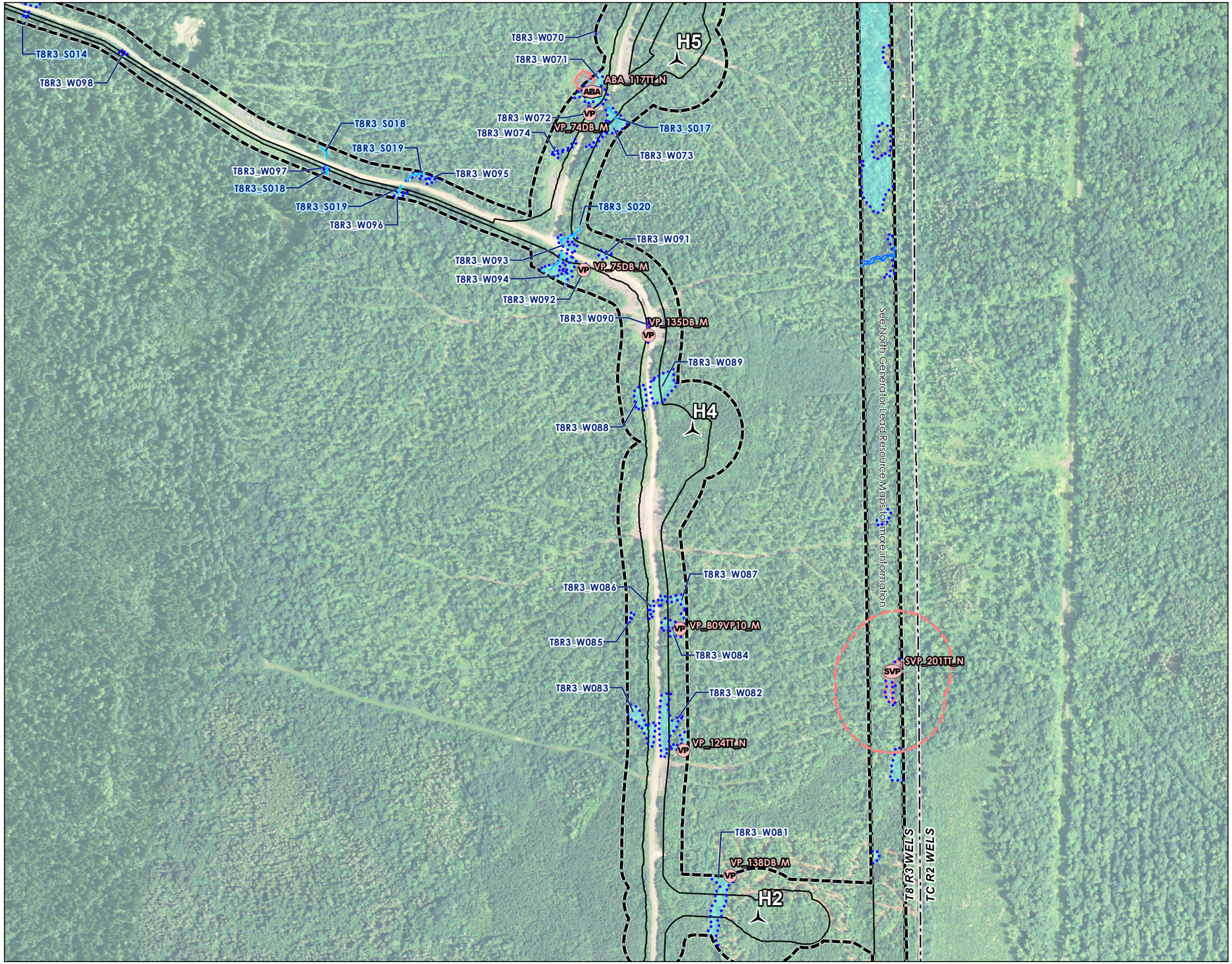

Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Amphibian Breeding Area
- Vernal Pool Boundary
- Amphibian Breeding Area
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Perennial Stream
- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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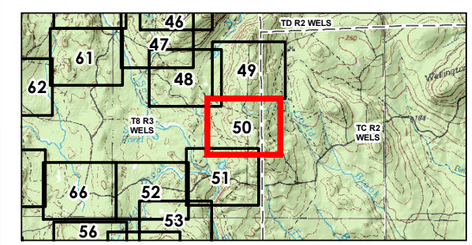

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
50

Title
Turbine Area Delineated Natural Resource Map

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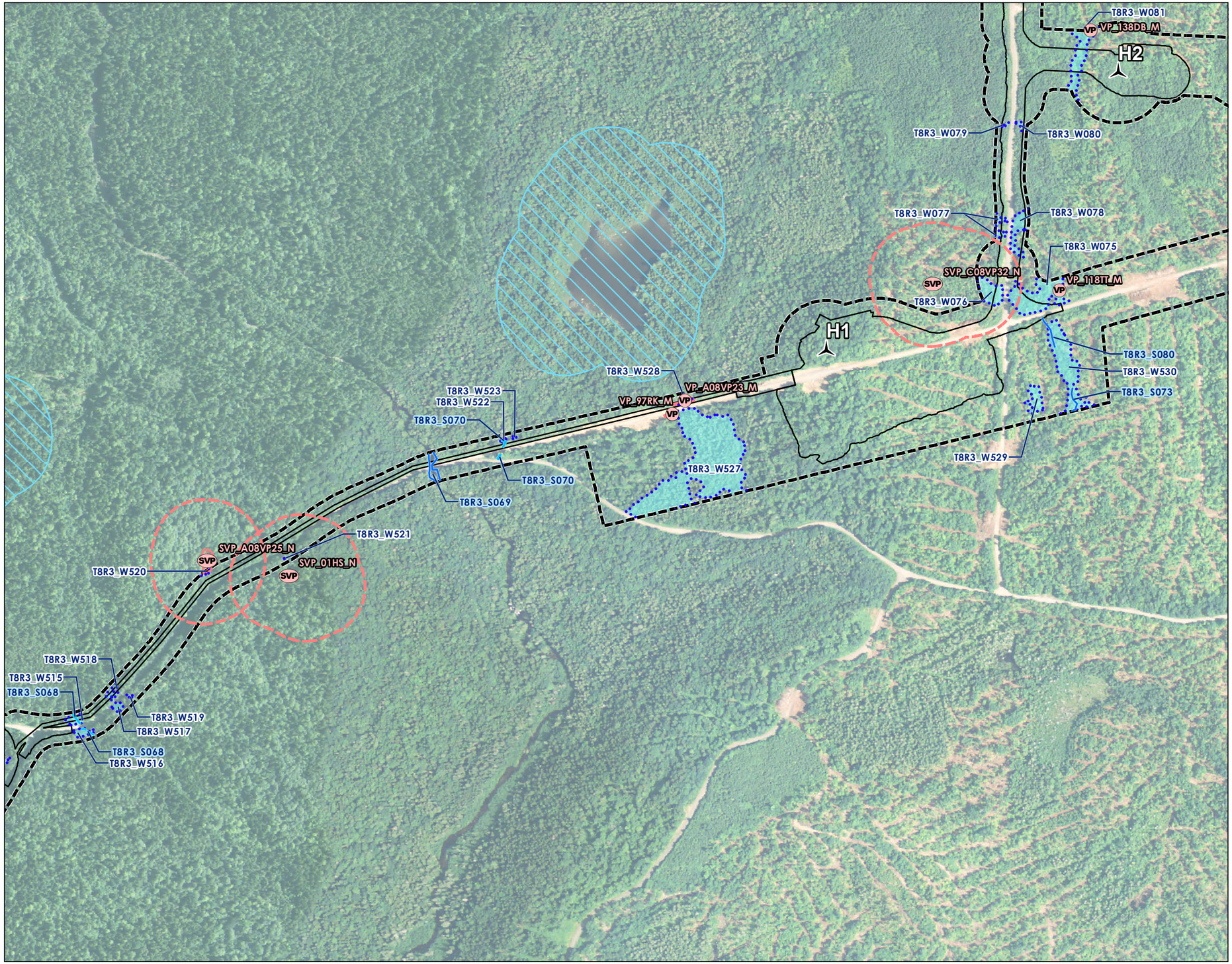

Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Perennial Stream
- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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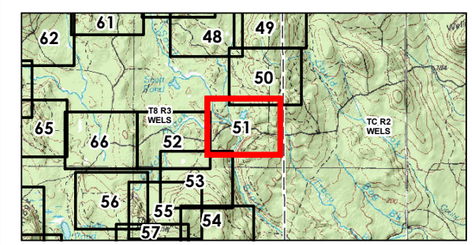

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
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Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
51

Title
Turbine Area Delineated Natural Resource Map

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Stantec

Legend

- Significant Vernal Pool
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Perennial Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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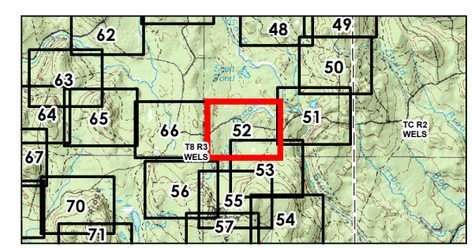

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
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Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
52

Title
Turbine Area Delineated Natural Resource Map

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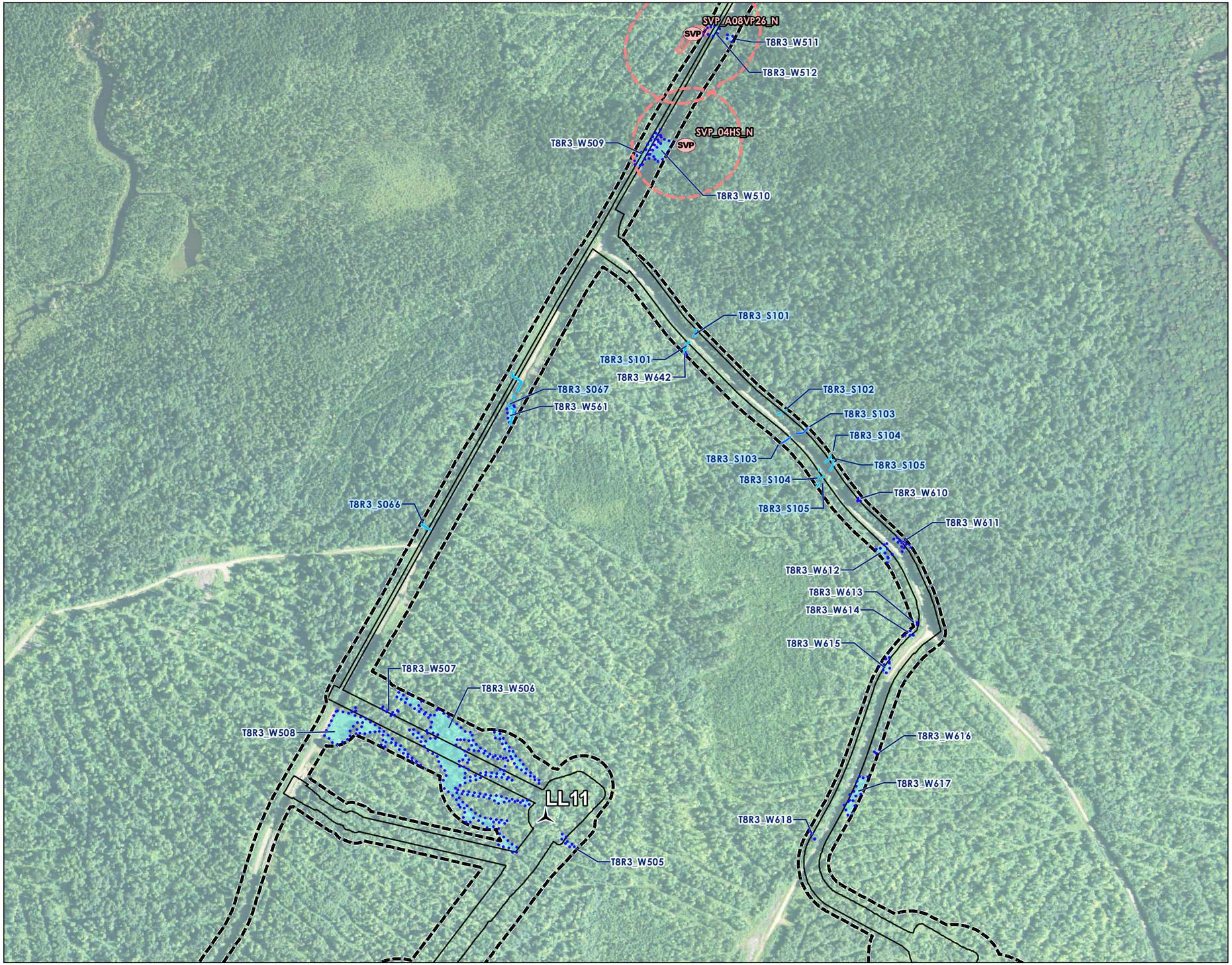

Stantec

Legend

- Significant Vernal Pool
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Perennial Stream
- Intermittent Stream
- Ephemeral Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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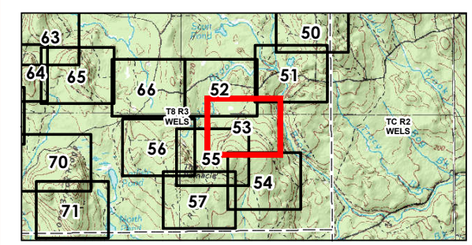

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
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Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
53

Title
Turbine Area Delineated Natural Resource Map

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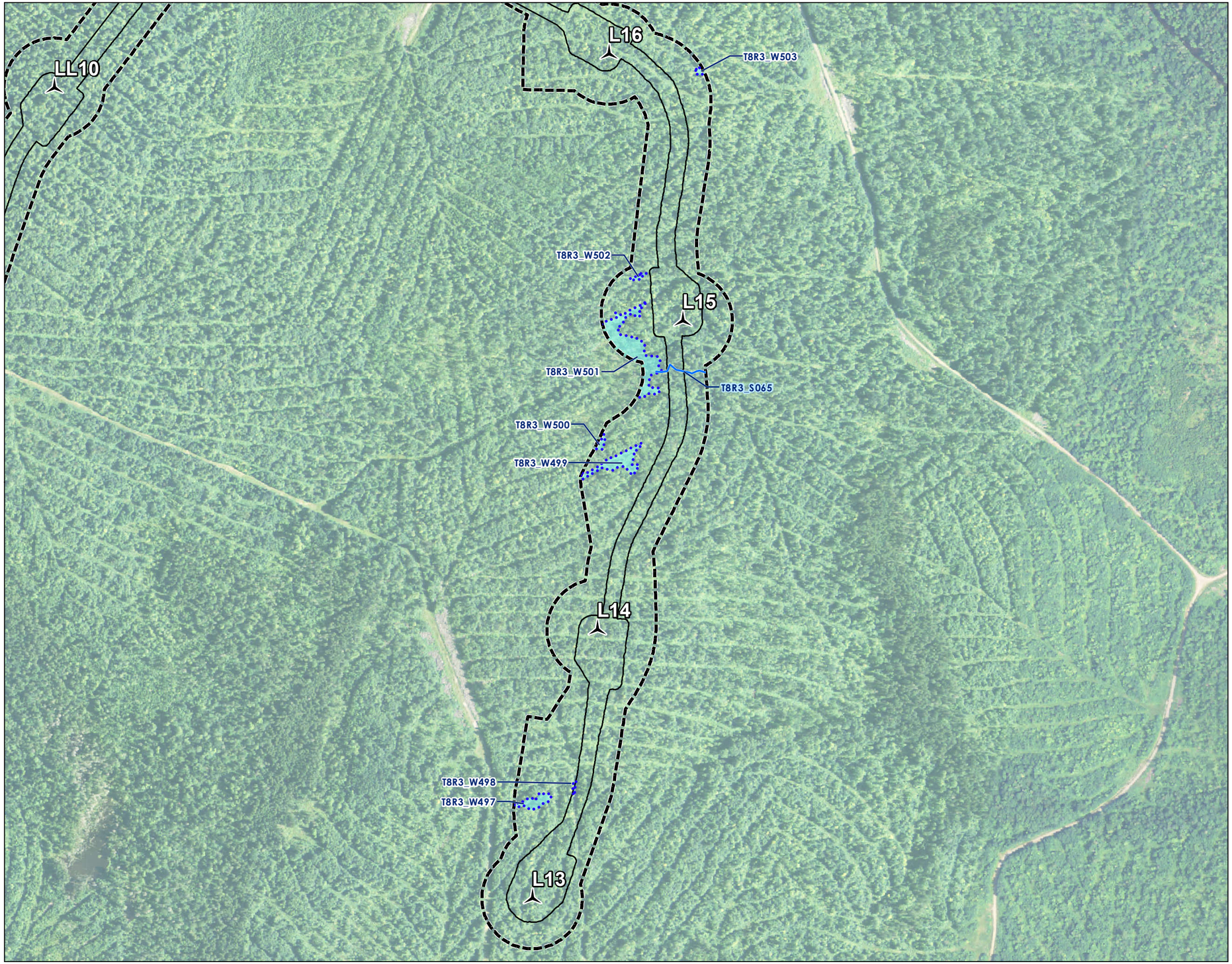

Stantec

Legend

- Perennial Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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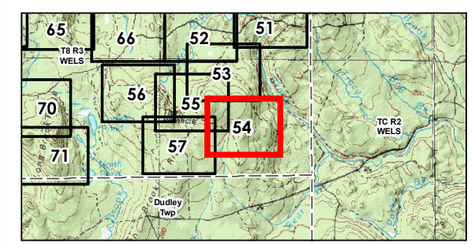

Project Location
Aroostook County, Maine

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Client/Project
EDP Renewables North America LLC
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Figure No.
54

Title
Turbine Area Delineated Natural Resource Map

V:\195\Active\195600919\drawing\mxd\Permit\Section07_NR_Maps_Wildlife\NR_Maps\00919_NRMaps_LocDetailArea.mxd Revised: 2015-07-13 By: jacquemotier

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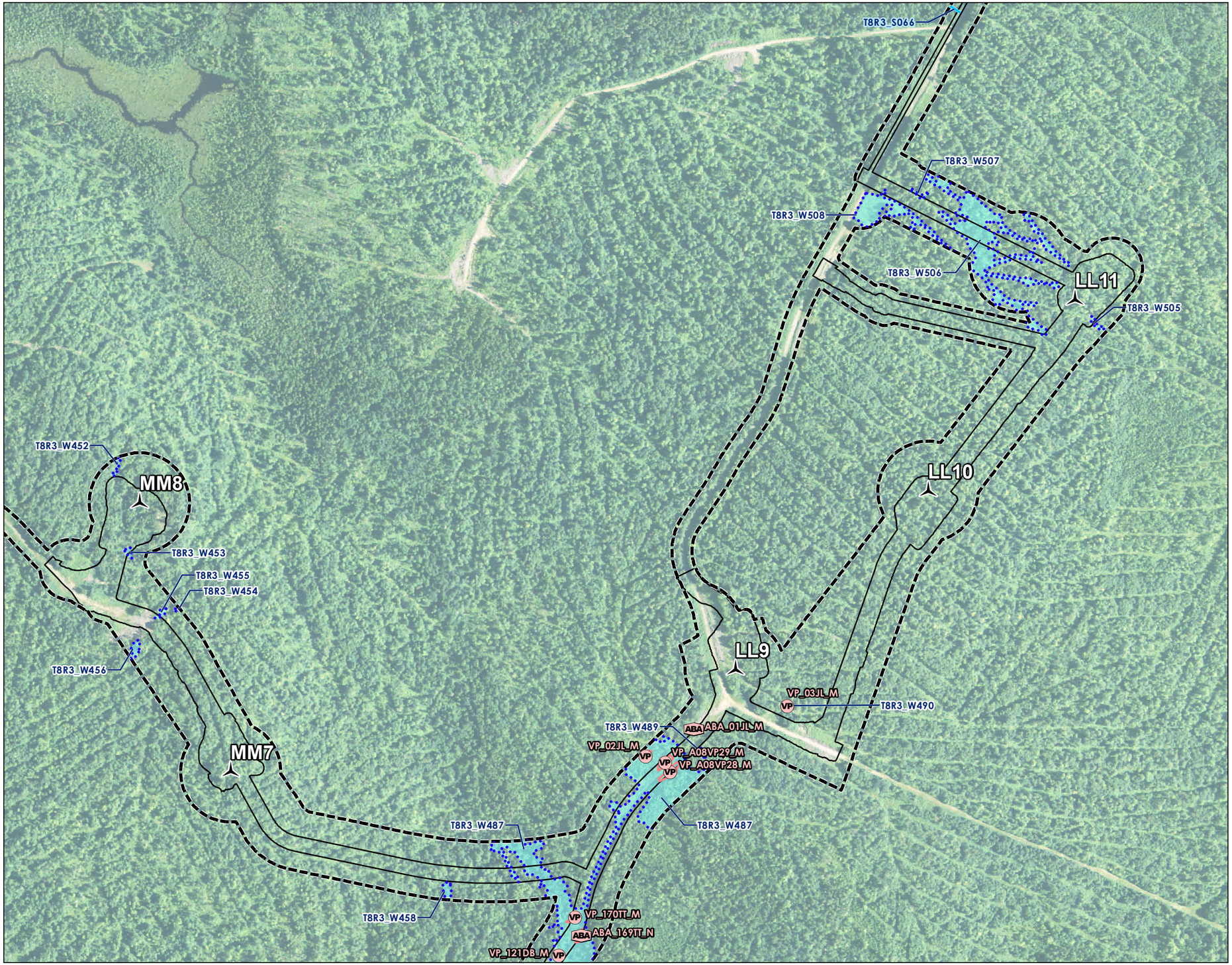

Stantec

Legend

- Vernal Pool
- Amphibian Breeding Area
- Vernal Pool Boundary
- Amphibian Breeding Area
- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

1. Wetland boundaries delineated in accordance with USACE 1987 Wetland Delineation Manual or subsequent versions. Vernal pool surveys in 2014 and 2015 were conducted according to the Maine Association of Wetland Scientist Vernal Pool Technical Committee Vernal Pool Survey Protocols (April 2014). Vernal pool surveys conducted prior to 2014 followed other protocols that were accepted by the Maine Department of Inland Fisheries and Wildlife.
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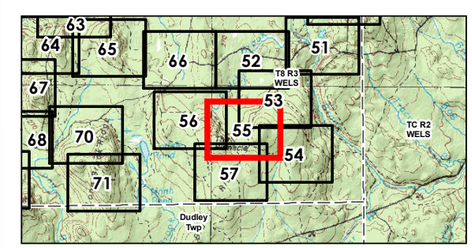
3. Data sources: Maine Office of GIS, Maine Department of Inland Fisheries and Wildlife, Maine Land Use Planning Commission
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
55

Title
Turbine Area Delineated Natural Resource Map

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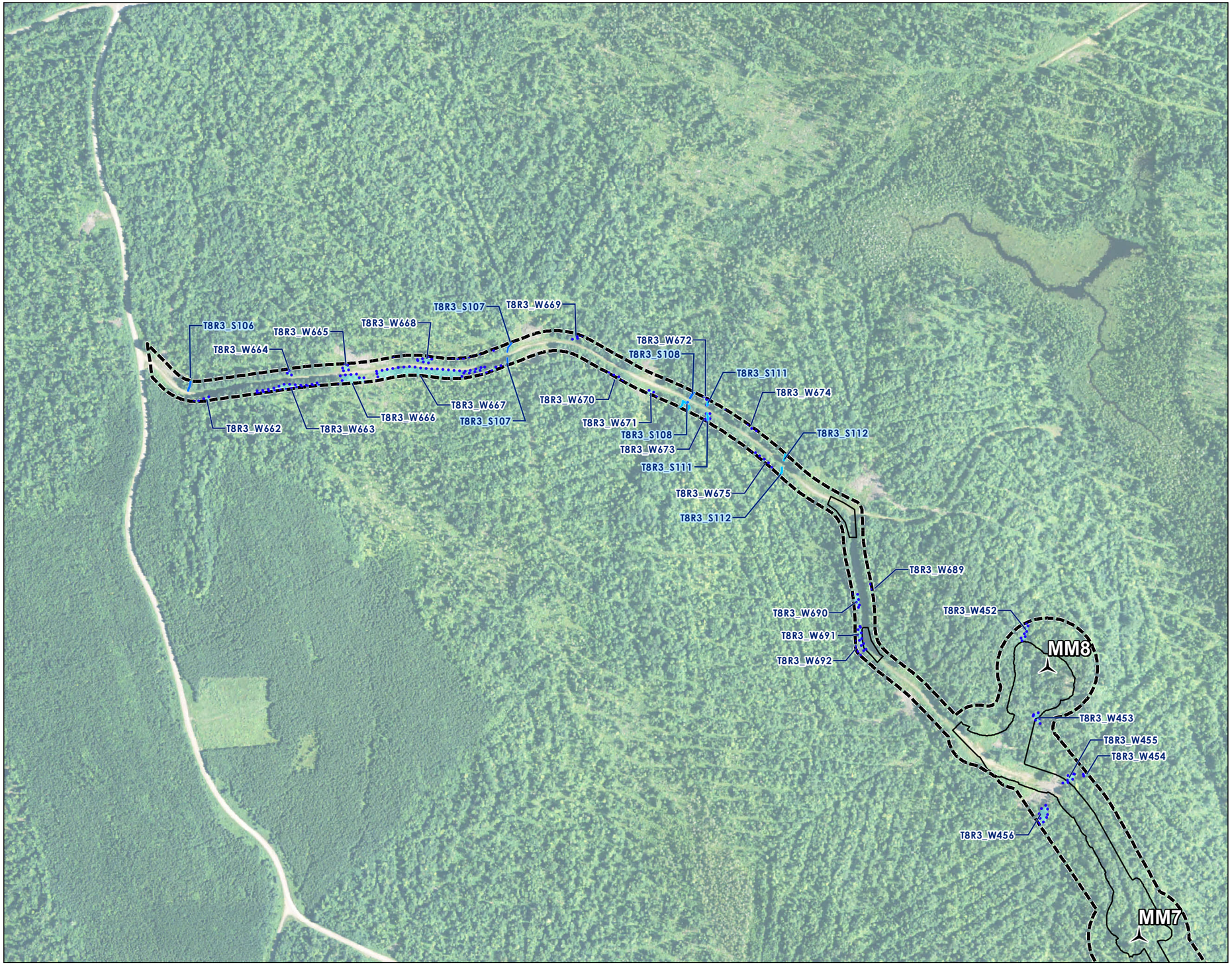
V:\1956\active\195600919\drawing\mxd\Permit\Section07_NR_Maps_WildlifeNR_Maps\009 19 NRMaps_LutPlateAreas.mxd Revised: 2015-07-13 By: jacquemartier



Stantec

Legend

- Perennial Stream
- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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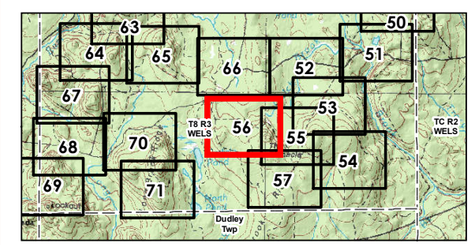

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
56

Title
Turbine Area Delineated Natural Resource Map

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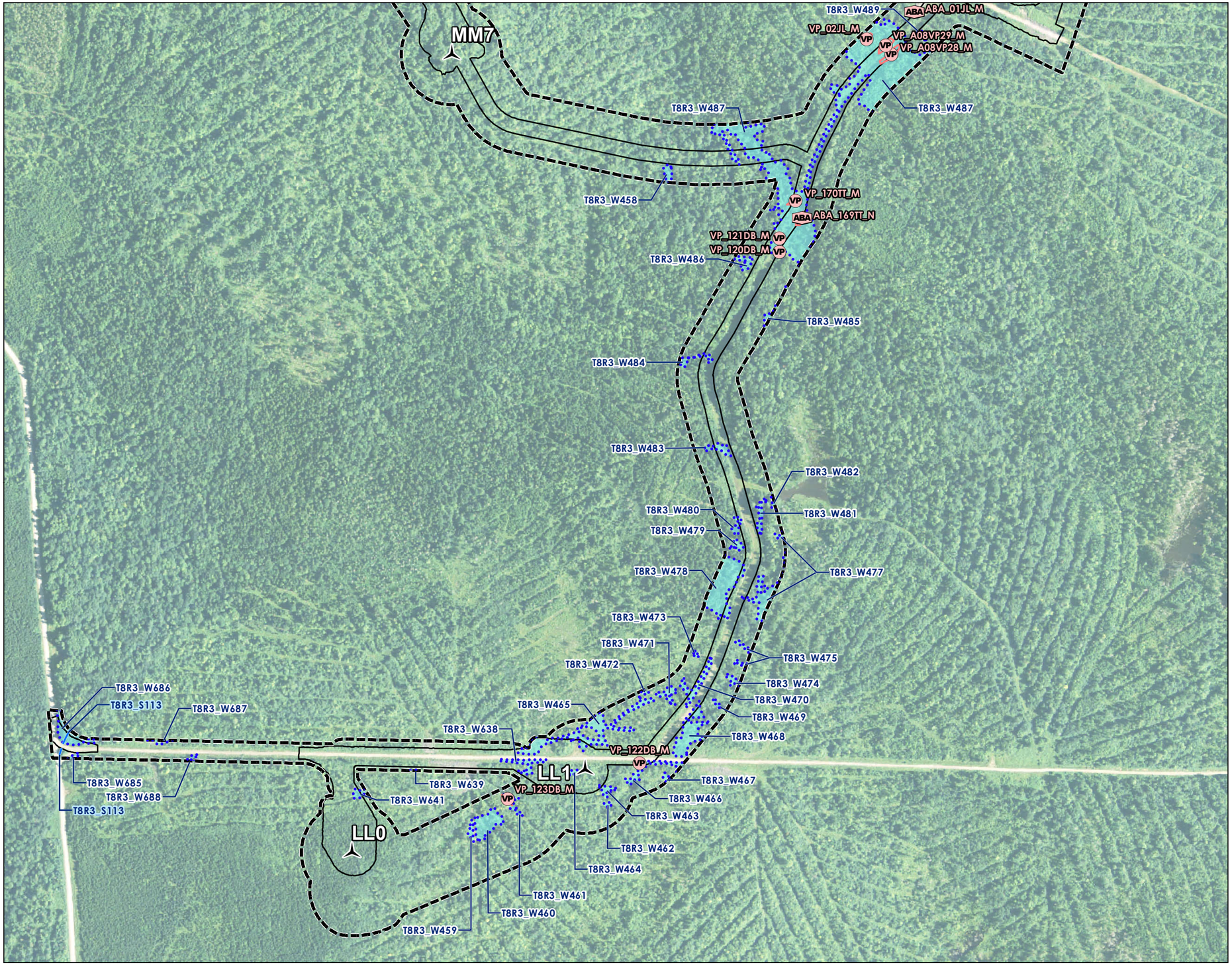

Stantec

Legend

- Vernal Pool
- Amphibian Breeding Area
- Vernal Pool Boundary
- Amphibian Breeding Area
- Perennial Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

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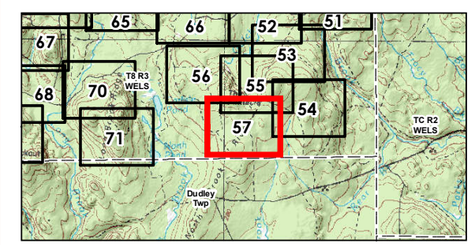

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
57

Title
Turbine Area Delineated Natural Resource Map

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Stantec

Legend

- Intermittent Stream
- Delineated Wetland
- Reporting Limits

N

0 500 1,000 Feet

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Notes

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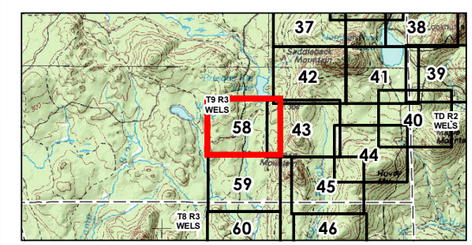
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
58

Title
Turbine Area Delineated Natural Resource Map

V:\195\Active\195600919\Drawing\mxd\Permit\Section07_NR_Maps_Wildlife\NR_Maps\00919_NRMaps_LuPlanAreas.mxd Revised: 2015-07-13 By: jacquemartier

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Stantec

Legend

- Perennial Stream
- Delineated Wetland
- Reporting Limits
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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Notes

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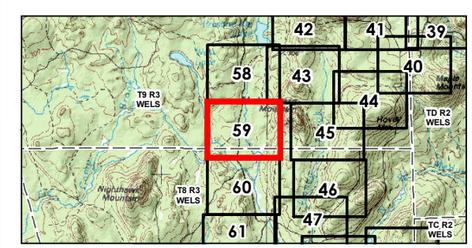

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
59

Title
Turbine Area Delineated Natural Resource Map

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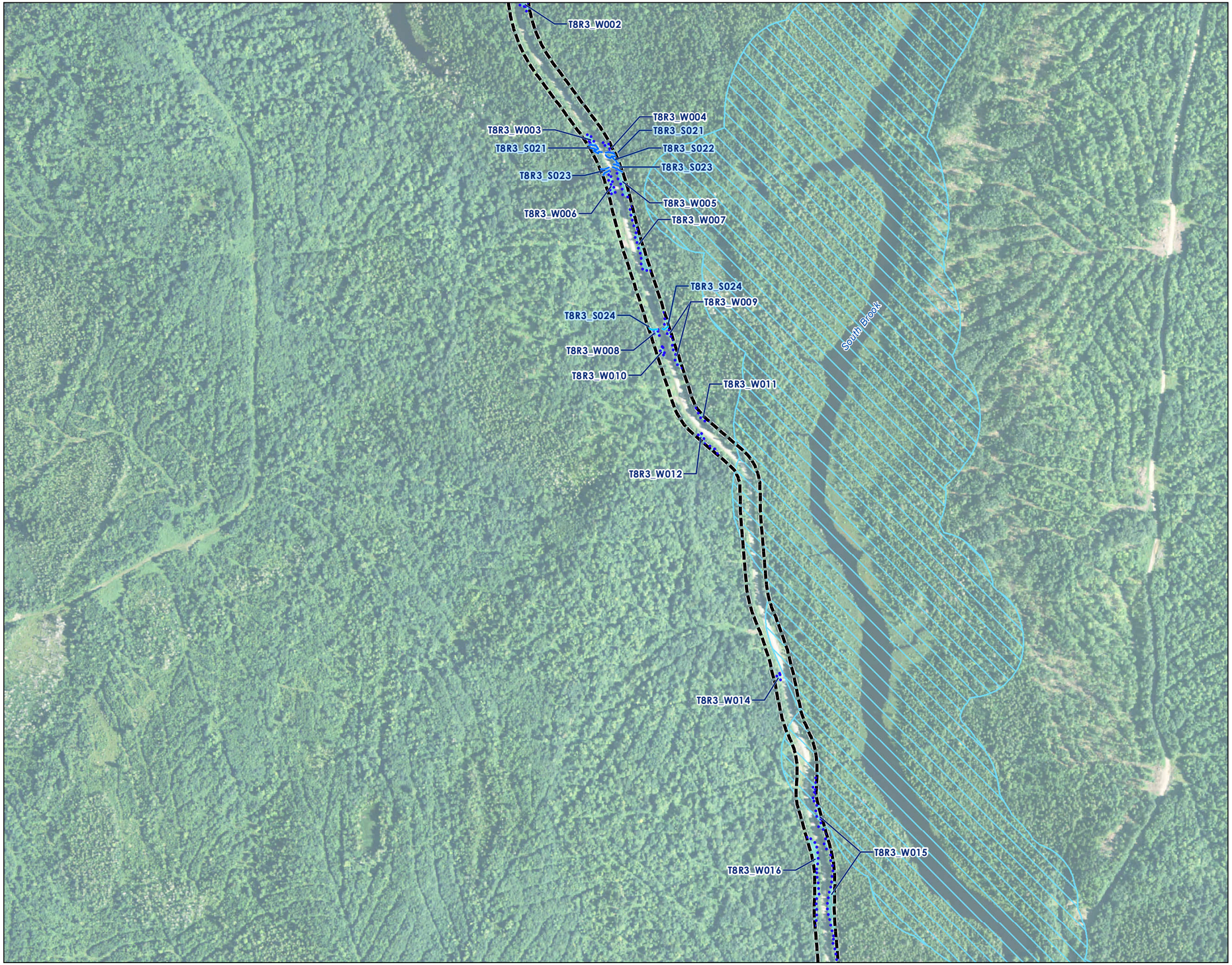

Stantec

Legend

- Perennial Stream
- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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Notes

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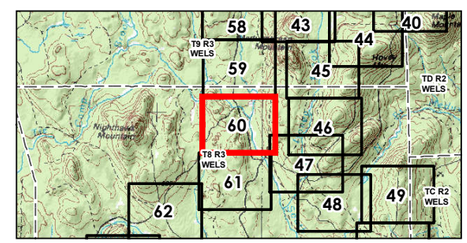

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
60

Title
Turbine Area Delineated Natural Resource Map

V:\195\active\195600919\drawing\maps\Permit\Section07_NR_Maps_Wildlife\NR_Maps\009 19 NRMaps_LurDataAreas.mxd Revised: 2015-07-13 By: jacquemartier

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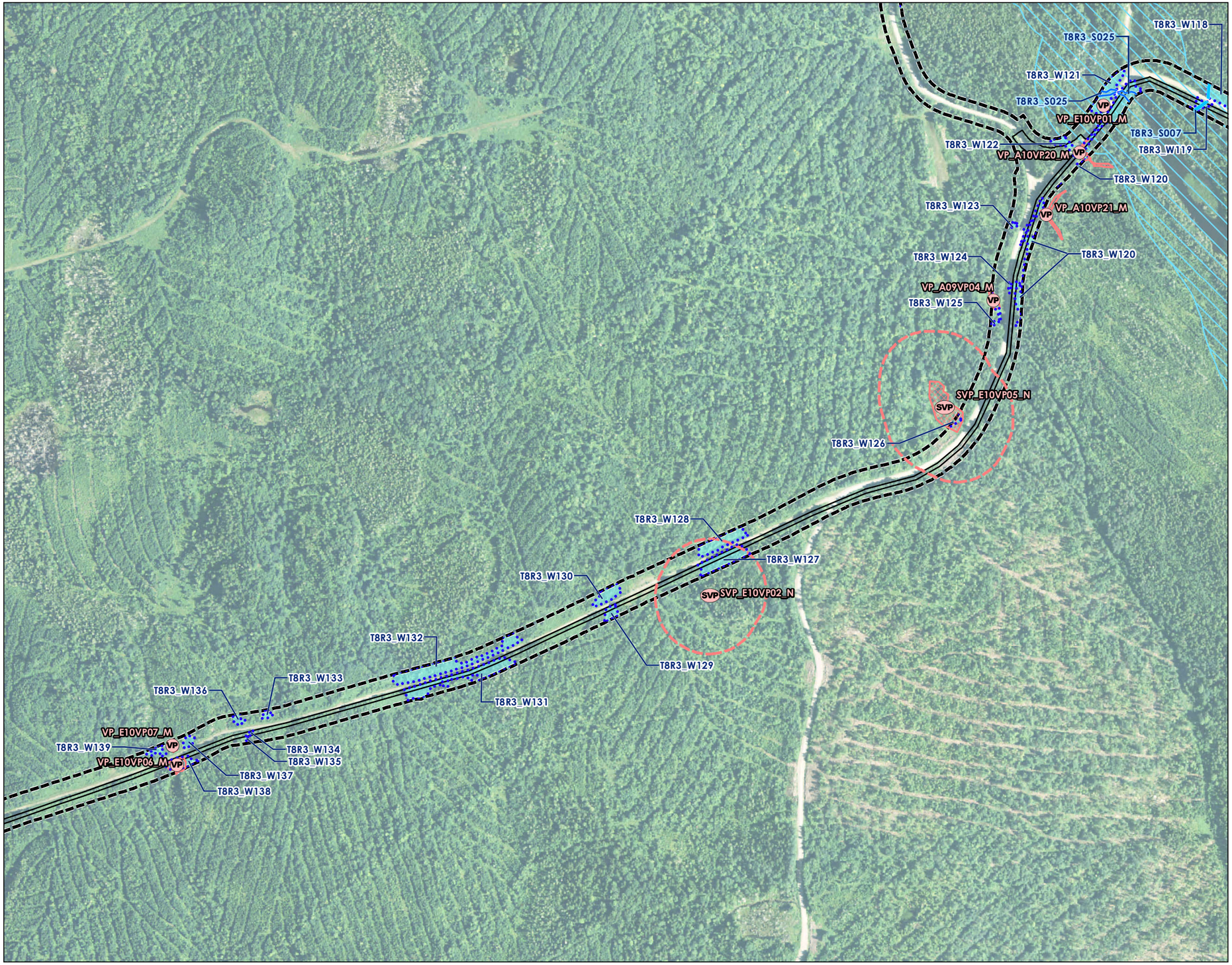

Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Perennial Stream
- Intermittent/Perennial Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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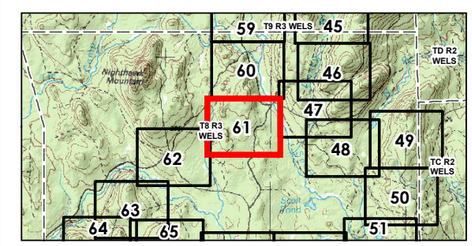

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
61

Title
Turbine Area Delineated Natural Resource Map

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Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Perennial Stream
- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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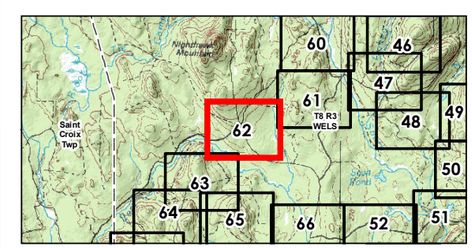

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
62

Title
Turbine Area Delineated Natural Resource Map

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Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Perennial Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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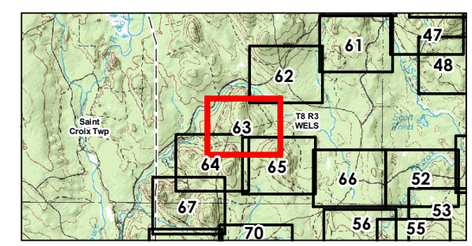

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
63

Title
Turbine Area Delineated Natural Resource Map

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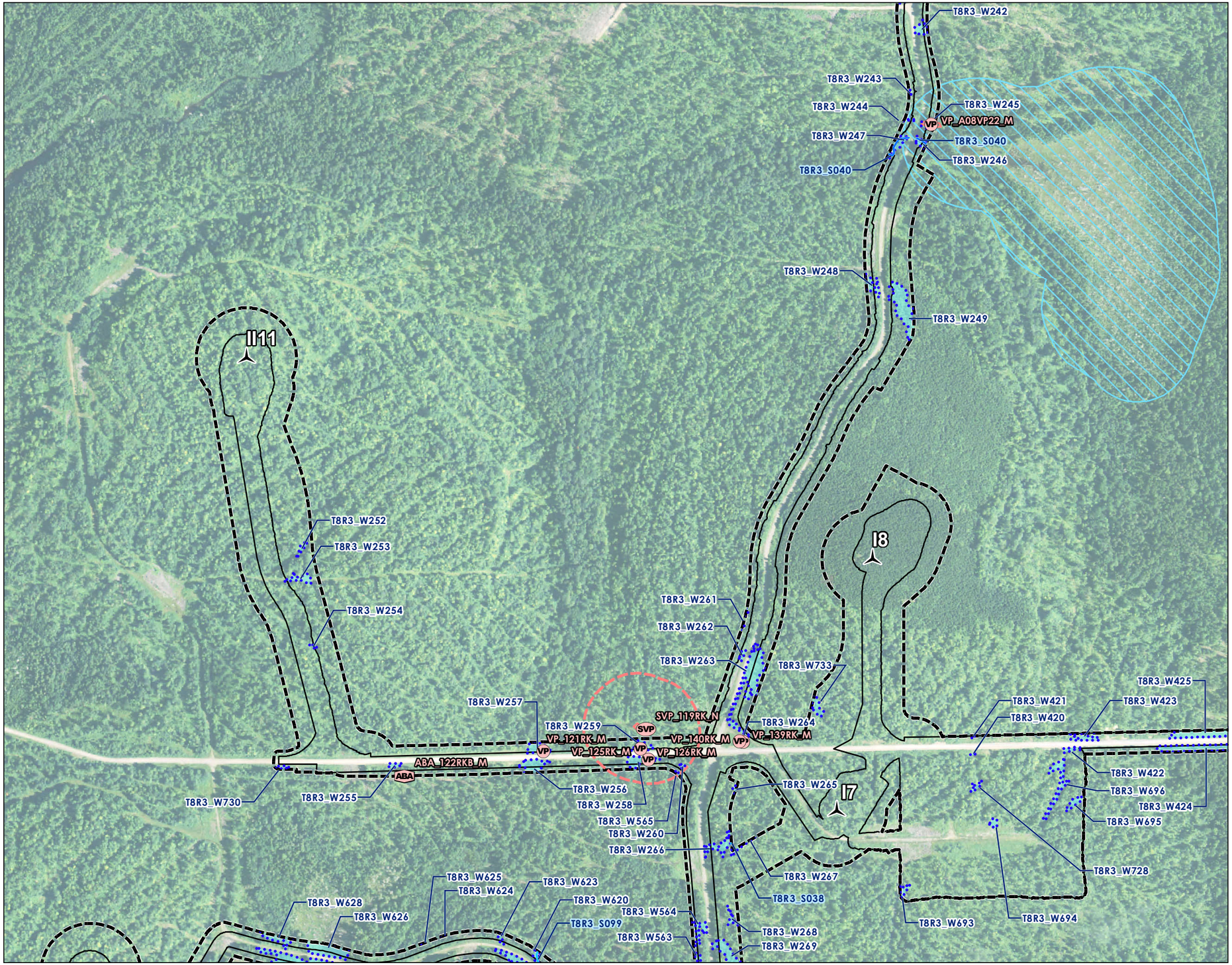

Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Amphibian Breeding Area
- Vernal Pool Boundary
- Amphibian Breeding Area
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Perennial Stream
- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

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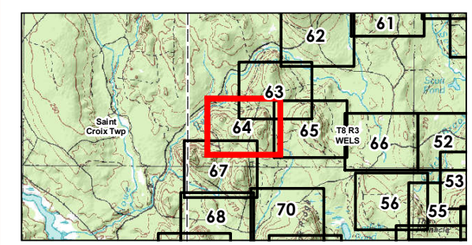

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
64

Title
Turbine Area Delineated Natural Resource Map

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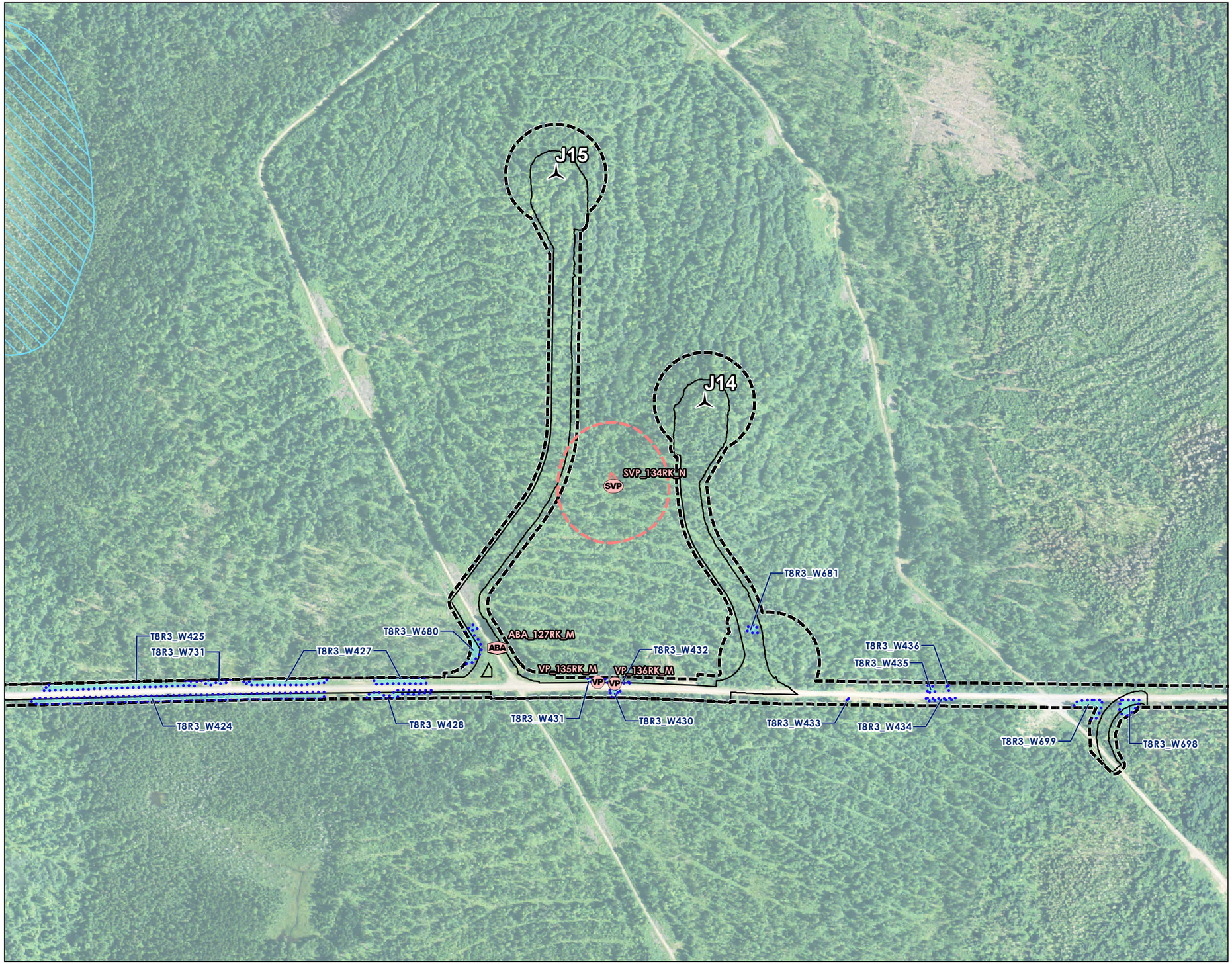

Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Amphibian Breeding Area
- Vernal Pool Boundary
- Amphibian Breeding Area
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Delineated Wetland
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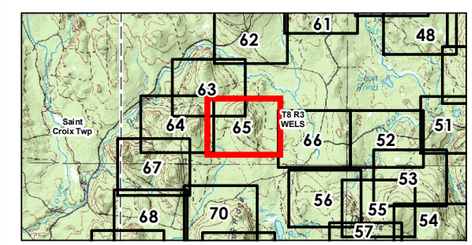

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
65

Title
Turbine Area Delineated Natural Resource Map

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Stantec

Legend

- Perennial Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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Notes

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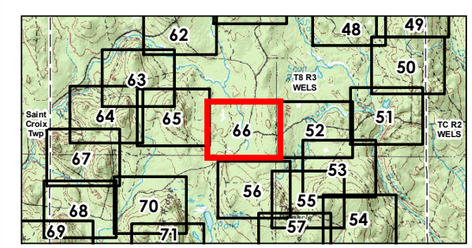
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
66

Title
Turbine Area Delineated Natural Resource Map

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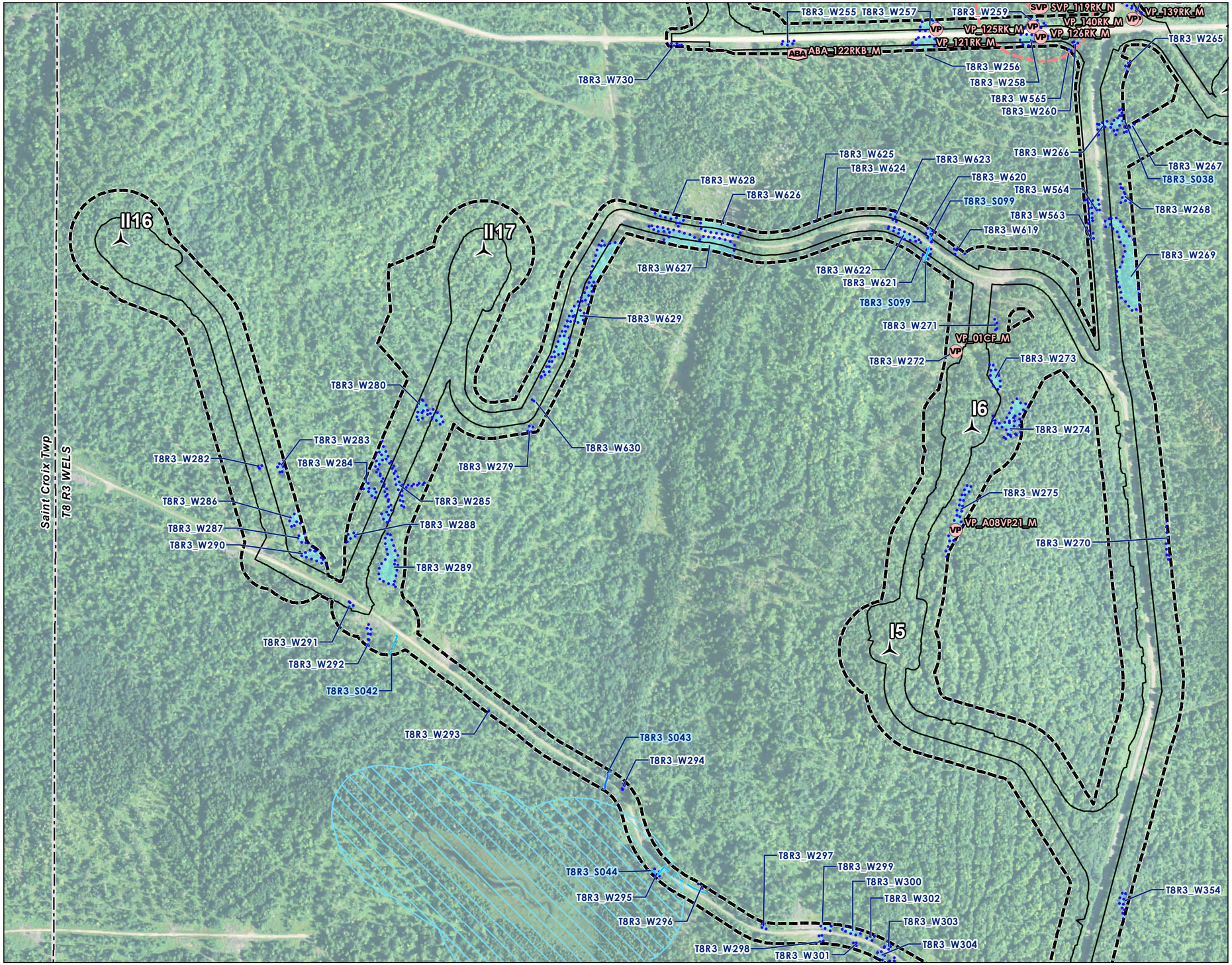

Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Amphibian Breeding Area
- Vernal Pool Boundary
- Amphibian Breeding Area
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Perennial Stream
- Intermittent Stream
- Ephemeral Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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Notes

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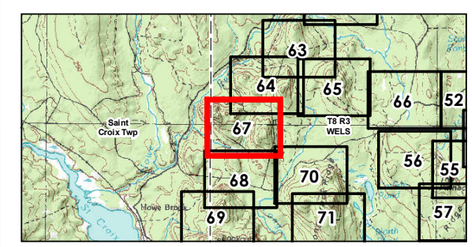
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
67

Title
Turbine Area Delineated Natural Resource Map

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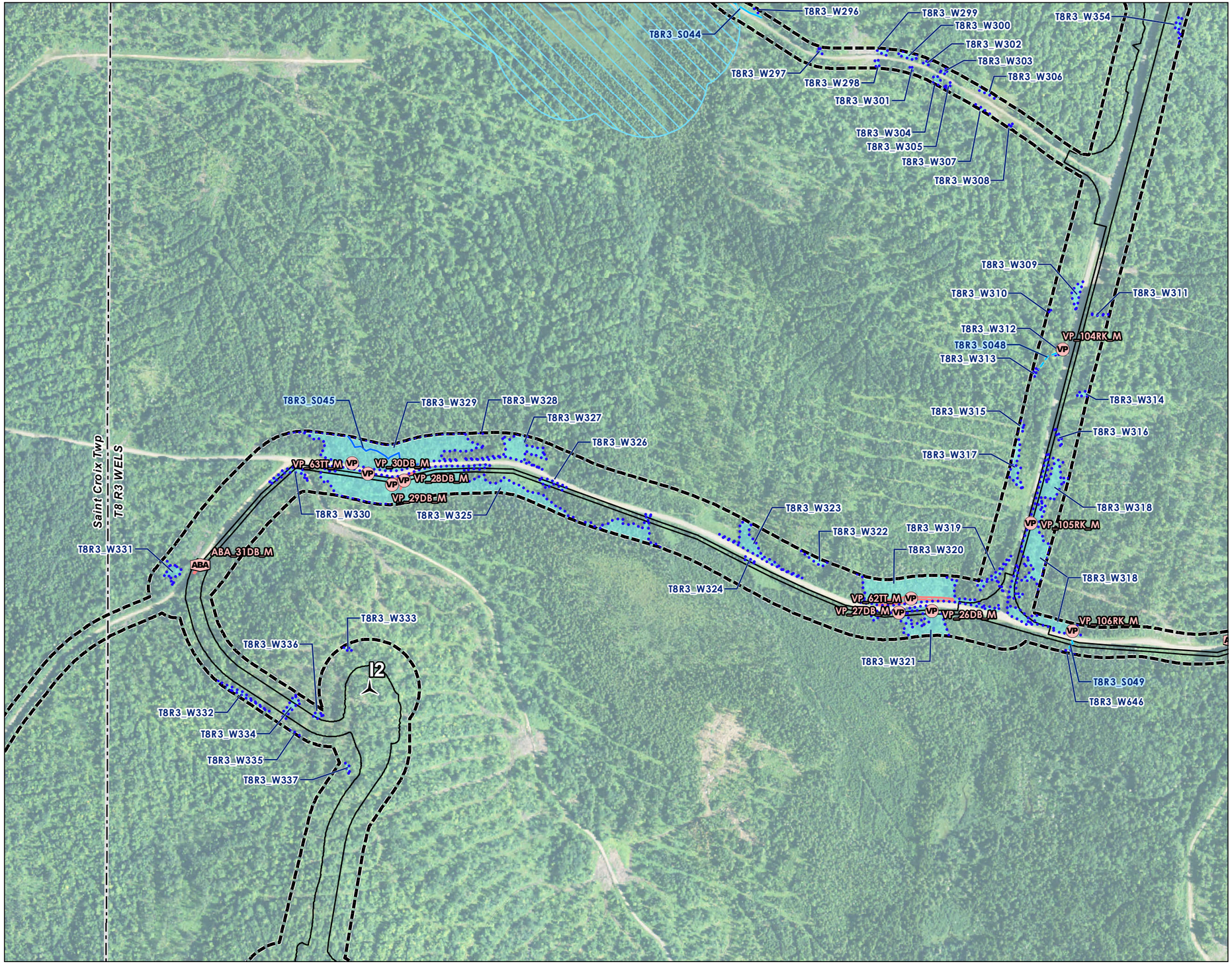

Stantec

Legend

- Vernal Pool
- Amphibian Breeding Area
- Vernal Pool Boundary
- Amphibian Breeding Area
- Perennial Stream
- Intermittent Stream
- Ephemeral Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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Notes

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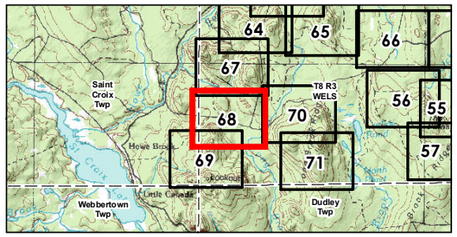

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
68

Title
Turbine Area Delineated Natural Resource Map

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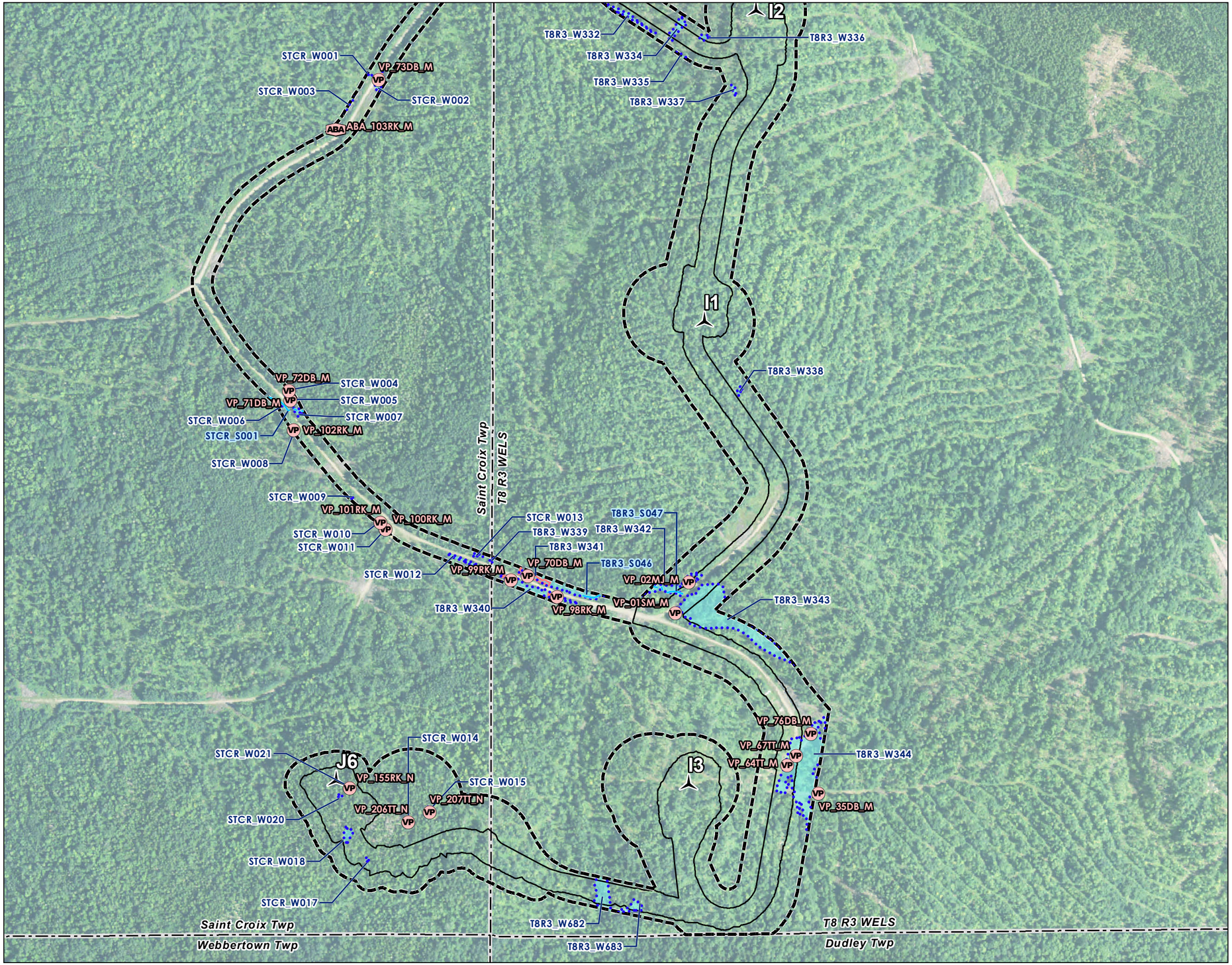

Stantec

Legend

- Vernal Pool
- Amphibian Breeding Area
- Vernal Pool Boundary
- Amphibian Breeding Area
- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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Notes

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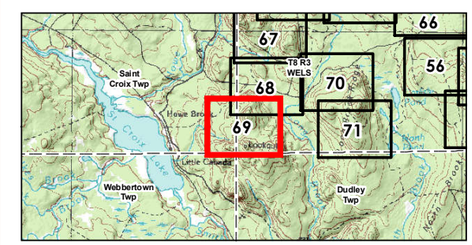

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
69

Title
Turbine Area Delineated Natural Resource Map

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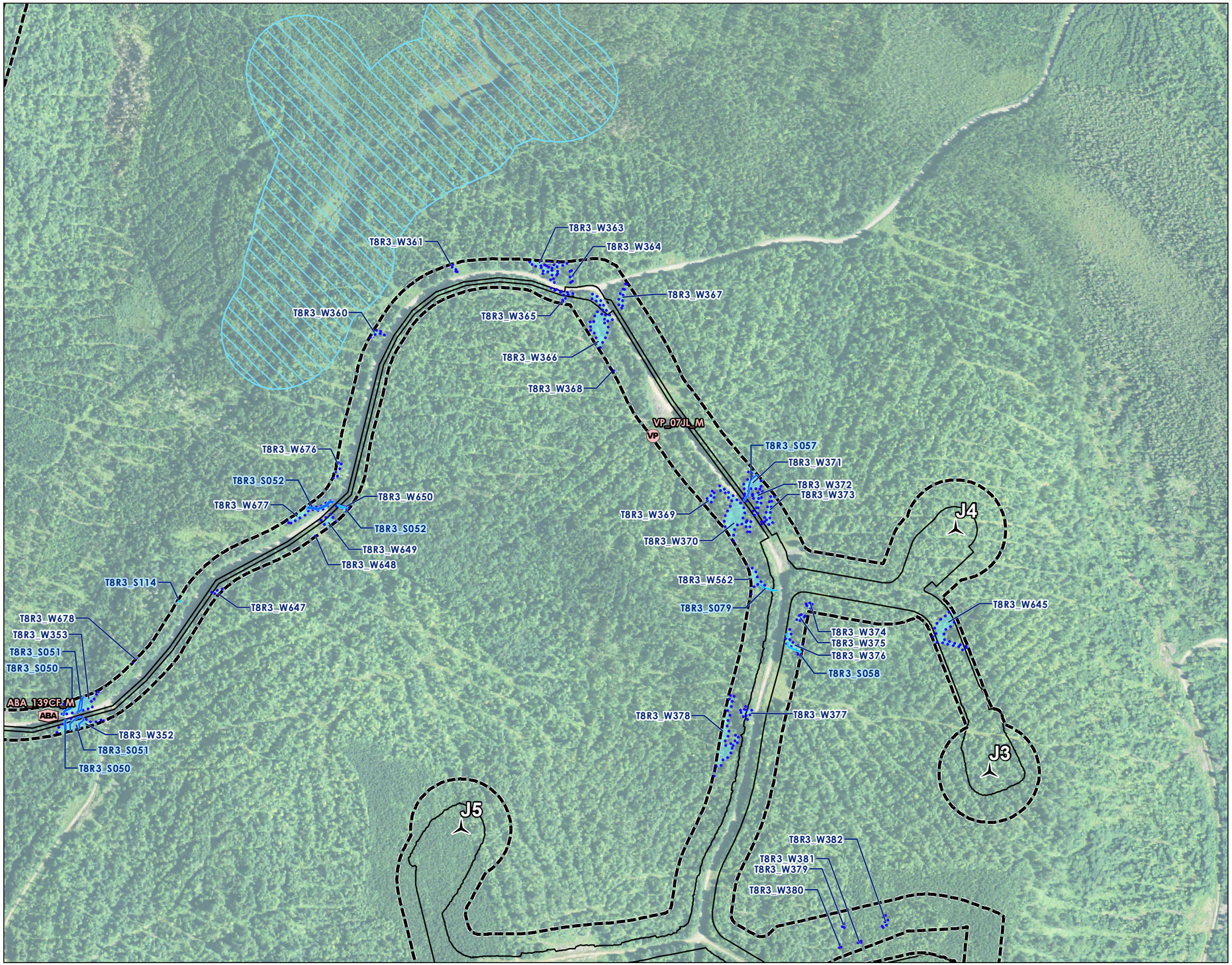

Stantec

Legend

- Vernal Pool
- Amphibian Breeding Area
- Vernal Pool Boundary
- Amphibian Breeding Area
- Perennial Stream
- Intermittent Stream
- Ephemeral Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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Notes

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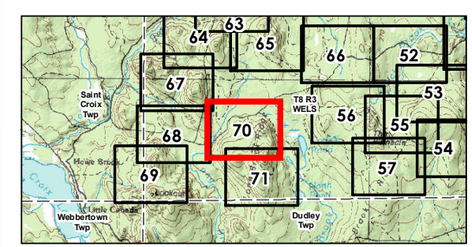

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
70

Title
Turbine Area Delineated Natural Resource Map

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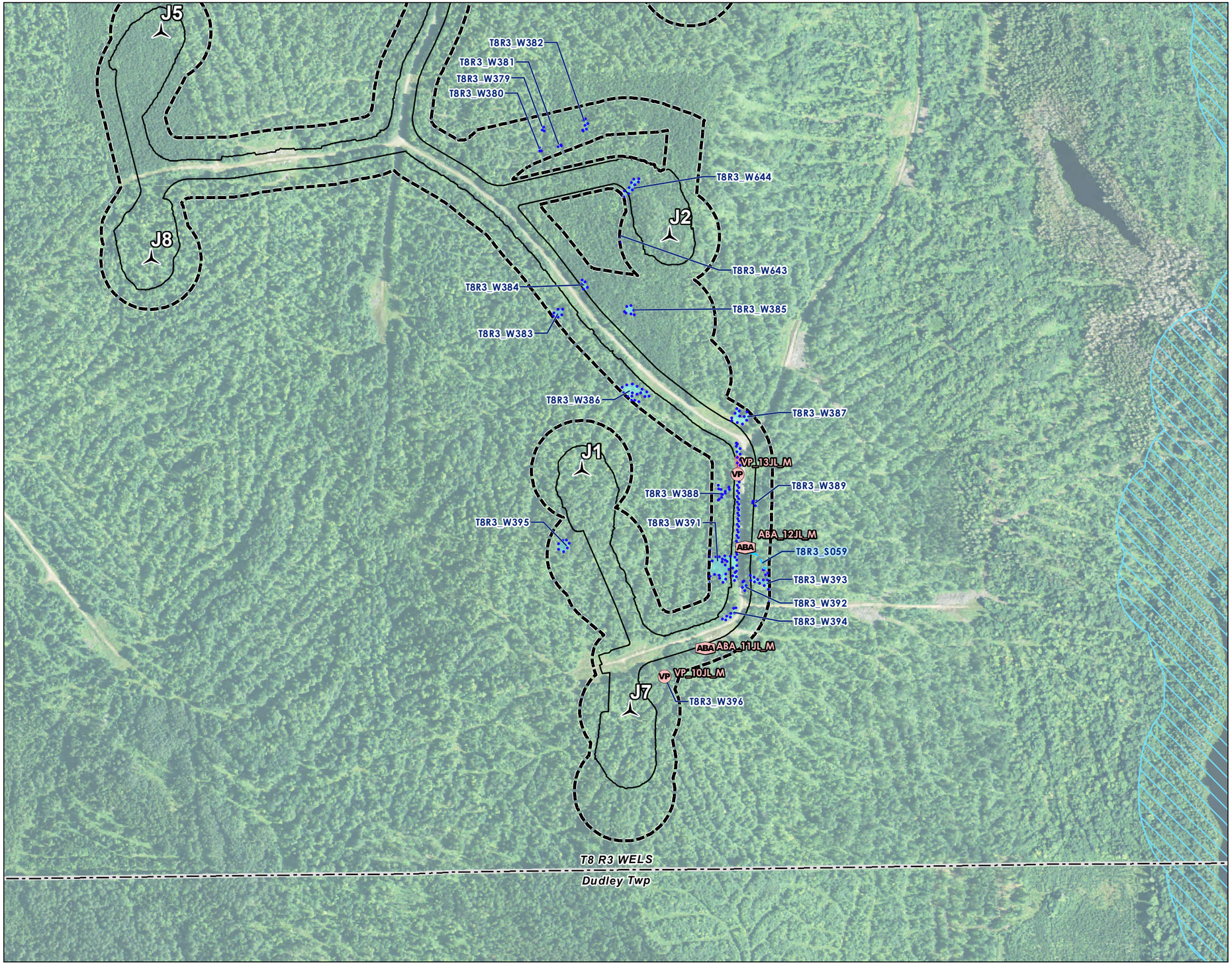

Stantec

Legend

- Vernal Pool
- Amphibian Breeding Area
- Vernal Pool Boundary
- Amphibian Breeding Area
- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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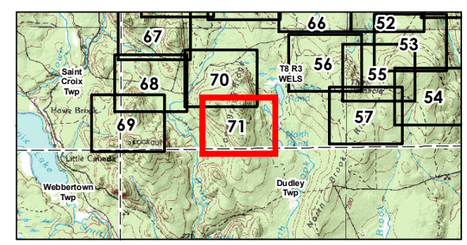

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
71

Title
Turbine Area Delineated Natural Resource Map

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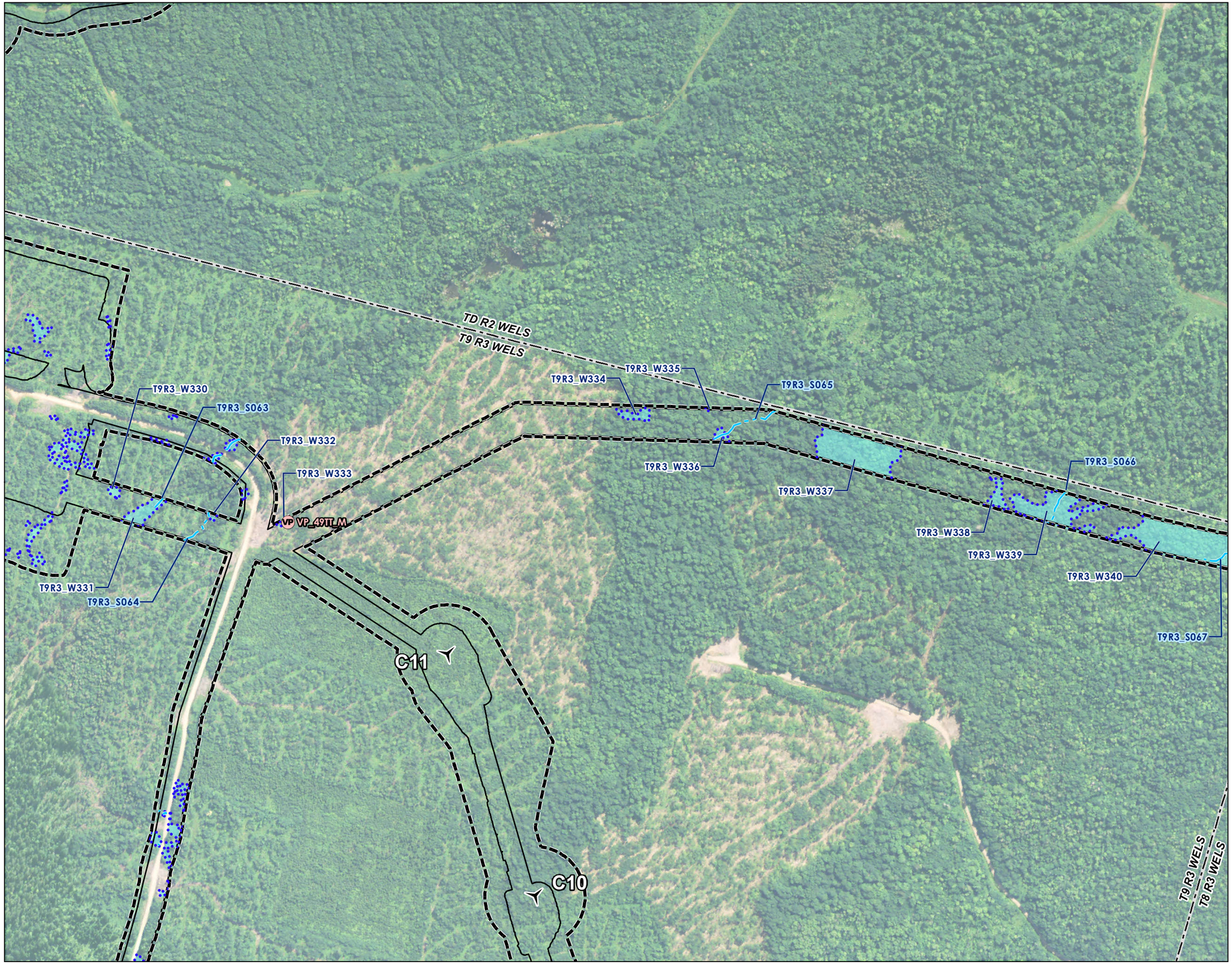

Stantec

Legend

- Vernal Pool
- Intermittent Stream
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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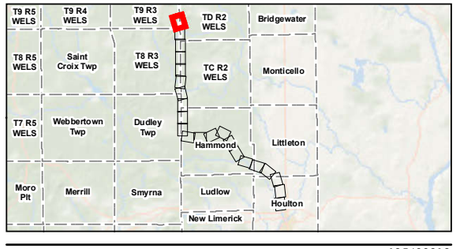

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
1

Title
North Generator Lead Delineated Natural Resource Map

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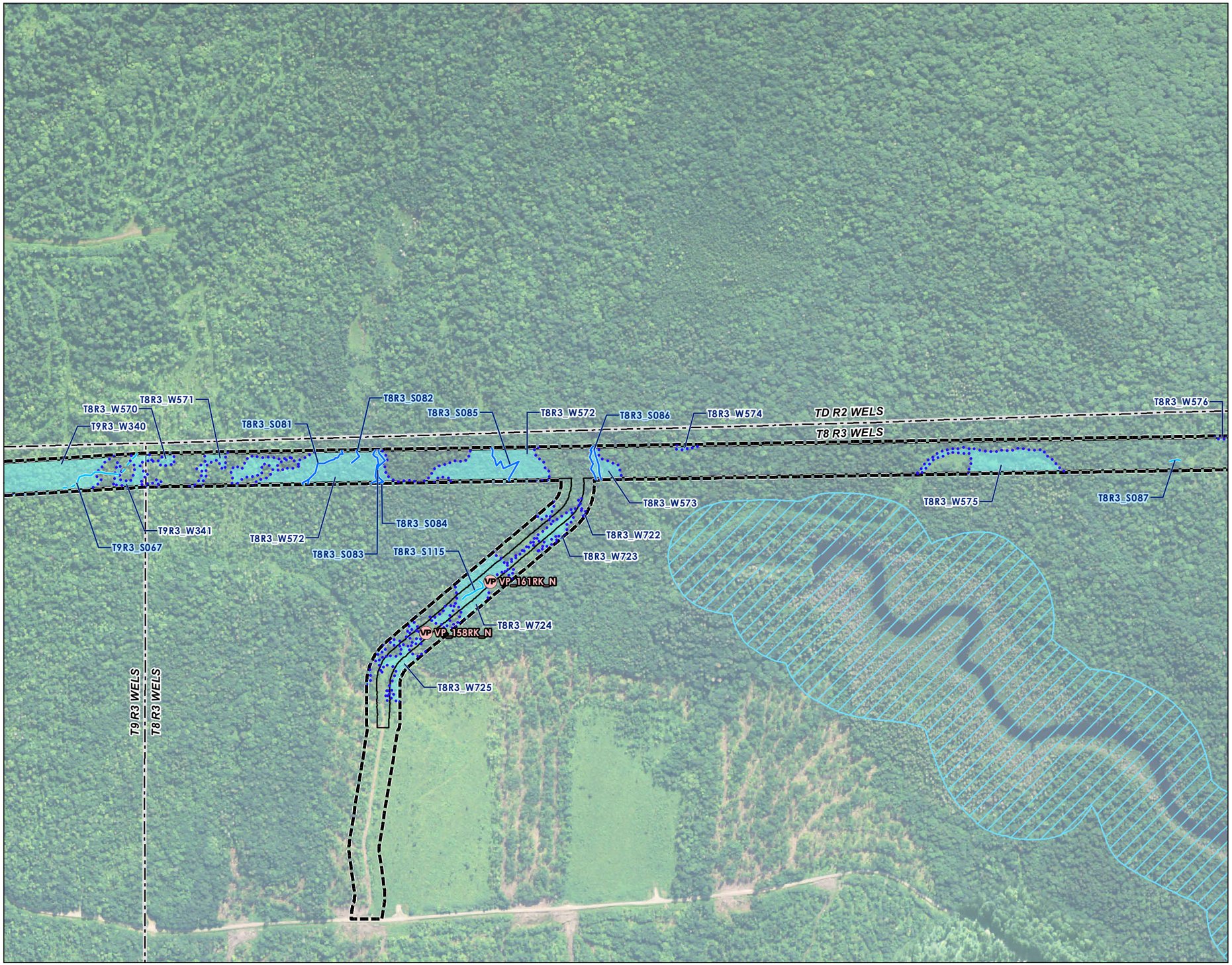

Stantec

Legend

- Vernal Pool
- Perennial Stream
- Intermittent Stream
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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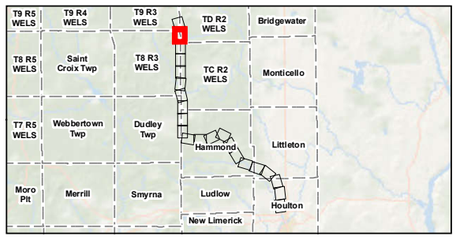

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
2

Title
North Generator Lead Delineated Natural Resource Map

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Stantec

Legend

- Significant Vernal Pool
- Intermittent Stream
- Ephemeral Stream
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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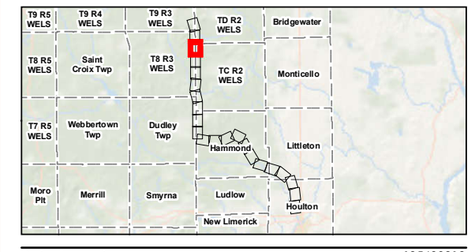

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
3

Title
North Generator Lead Delineated Natural Resource Map

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Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Perennial Stream
- Intermittent Stream
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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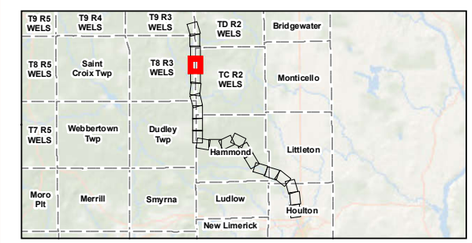

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
4

Title
North Generator Lead Delineated Natural Resource Map

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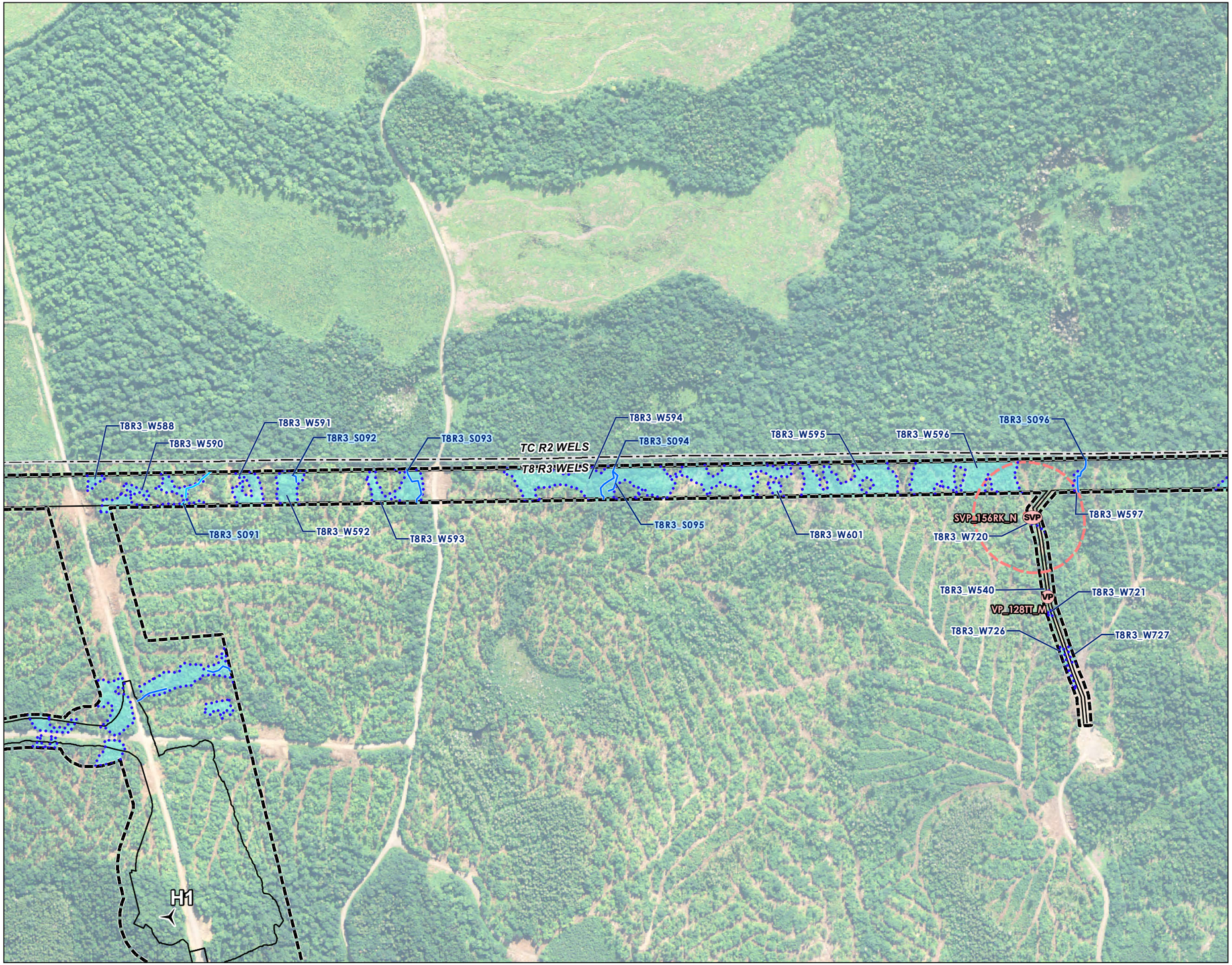

Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Perennial Stream
- Intermittent Stream
- Ephemeral Stream
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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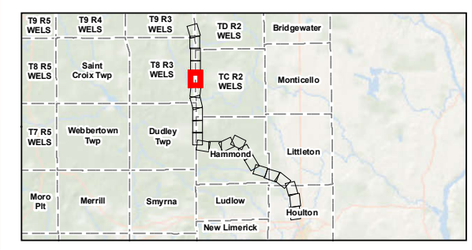

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
5

Title
North Generator Lead Delineated Natural Resource Map

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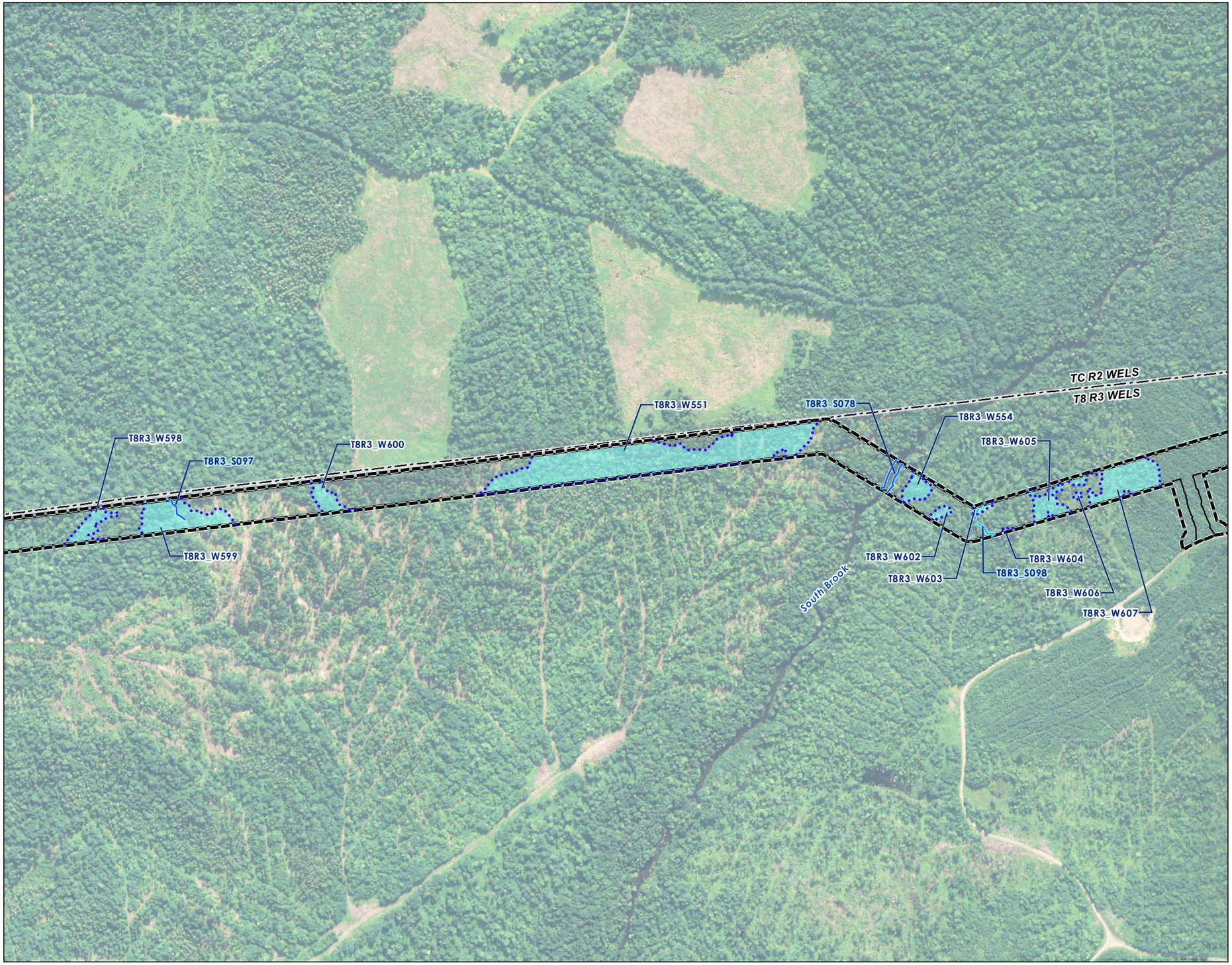

Stantec

Legend

- Perennial Stream
- Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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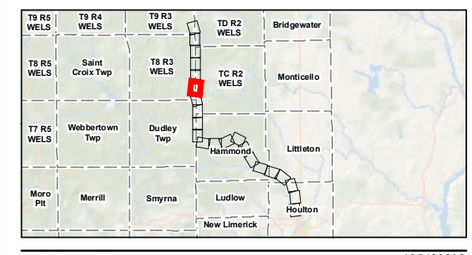
3. Data sources: Maine Office of GIS, Maine Department of Inland Fisheries and Wildlife, Maine Land Use Planning Commission
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
6

Title
North Generator Lead Delineated Natural Resource Map

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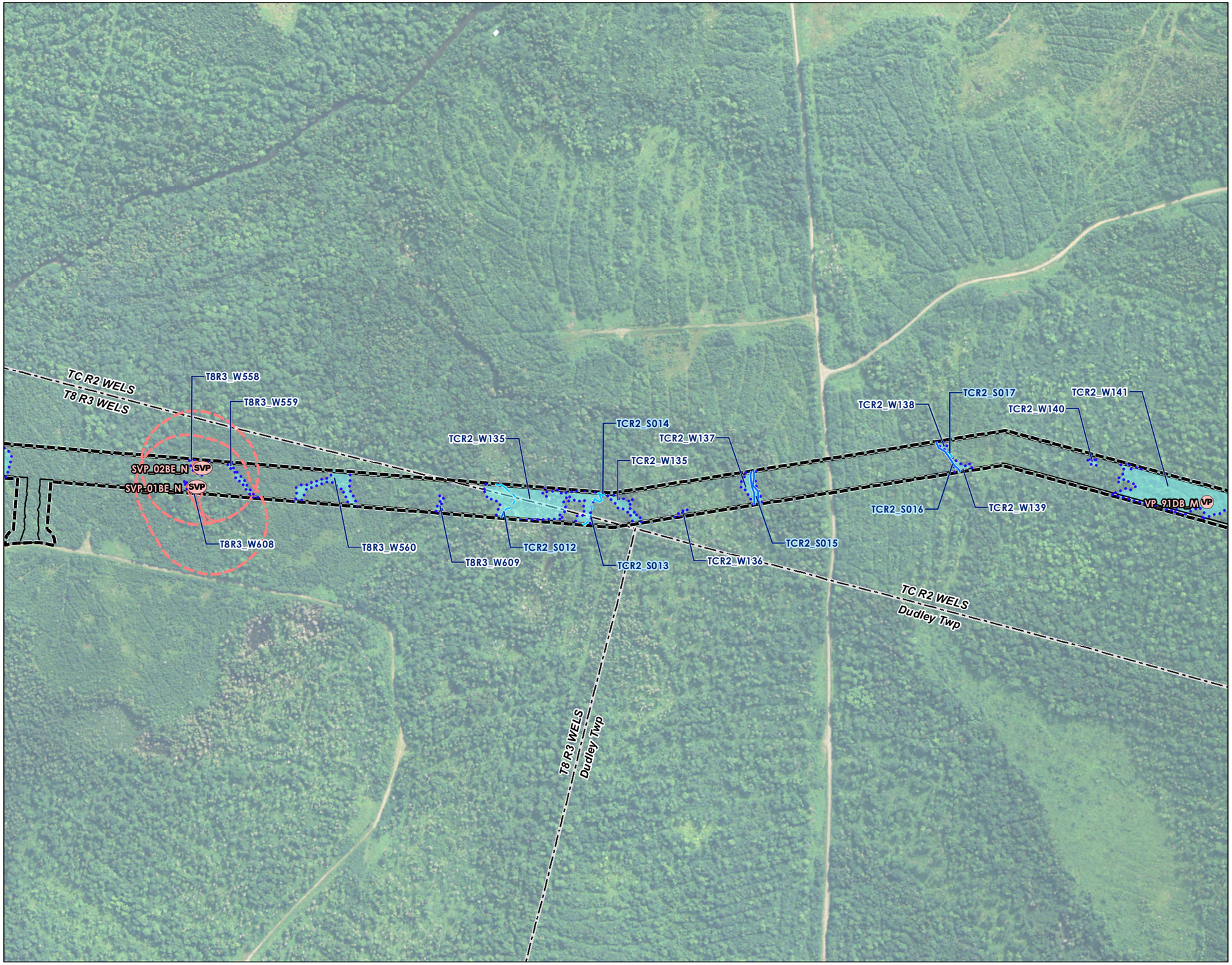

Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Perennial Stream
- Intermittent Stream
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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3. Data sources: Maine Office of GIS, Maine Department of Inland Fisheries and Wildlife, Maine Land Use Planning Commission
4. Aerial Imagery: NAIP 2013

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
7

Title
North Generator Lead Delineated Natural Resource Map

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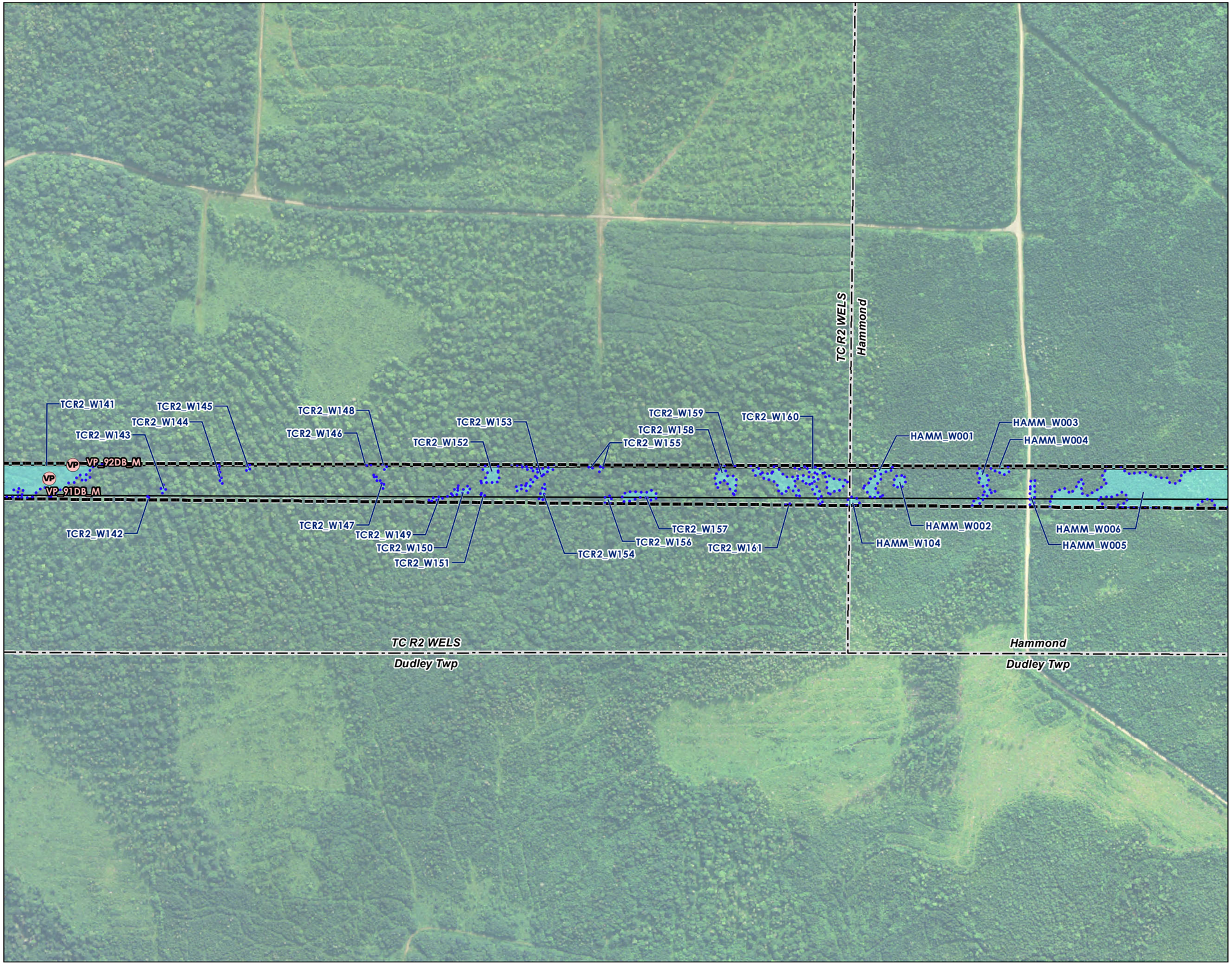

Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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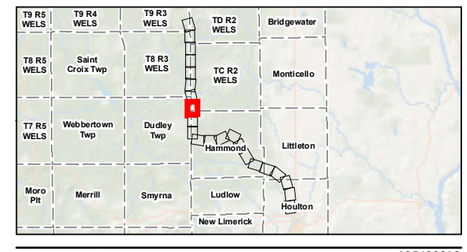
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
8

Title
North Generator Lead Delineated Natural Resource Map

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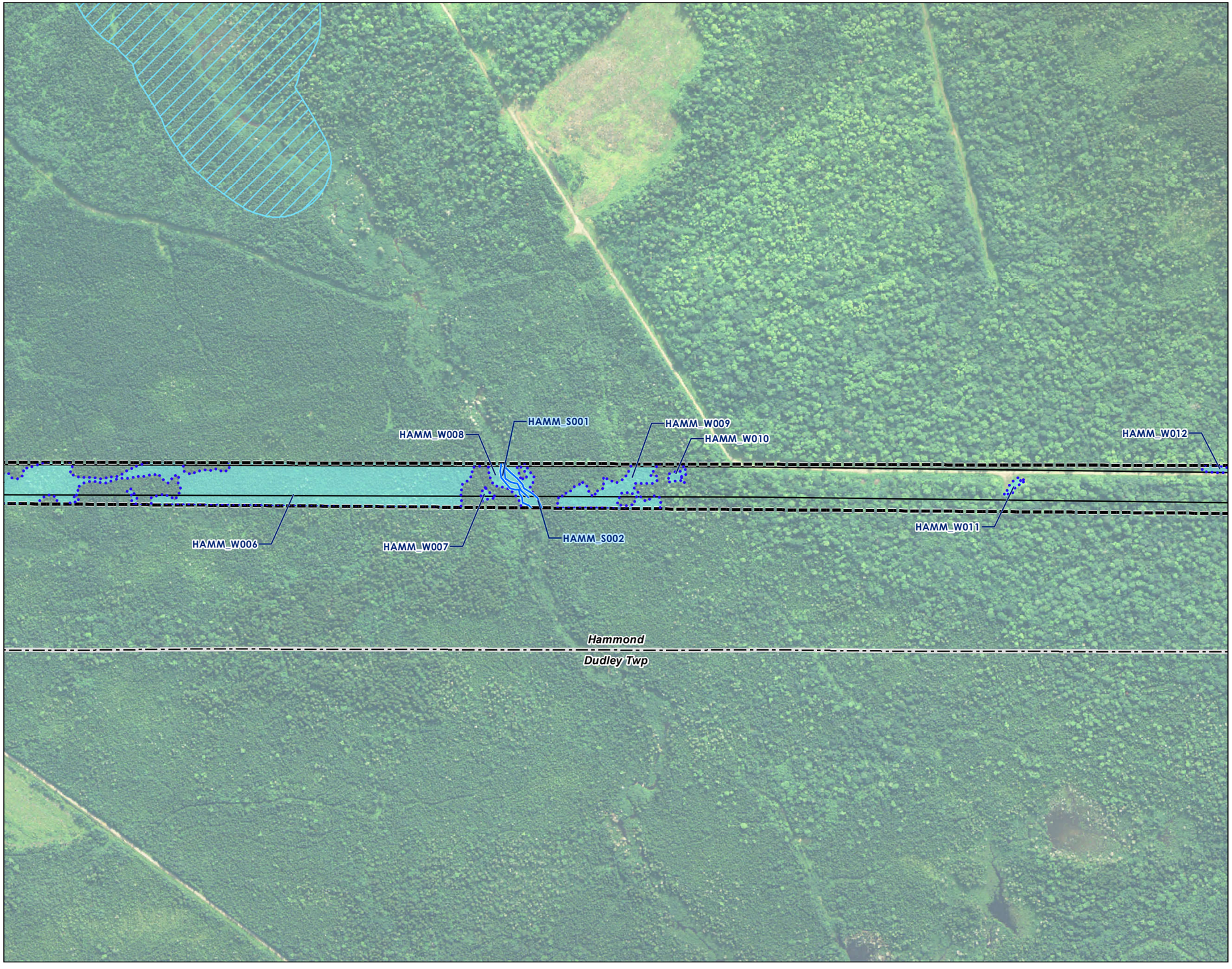

Stantec

Legend

- Perennial Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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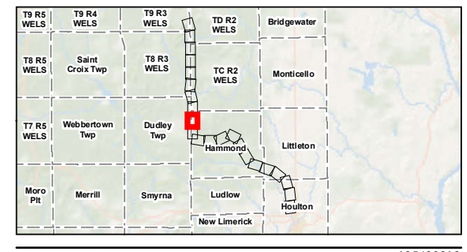

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
9

Title
North Generator Lead Delineated Natural Resource Map

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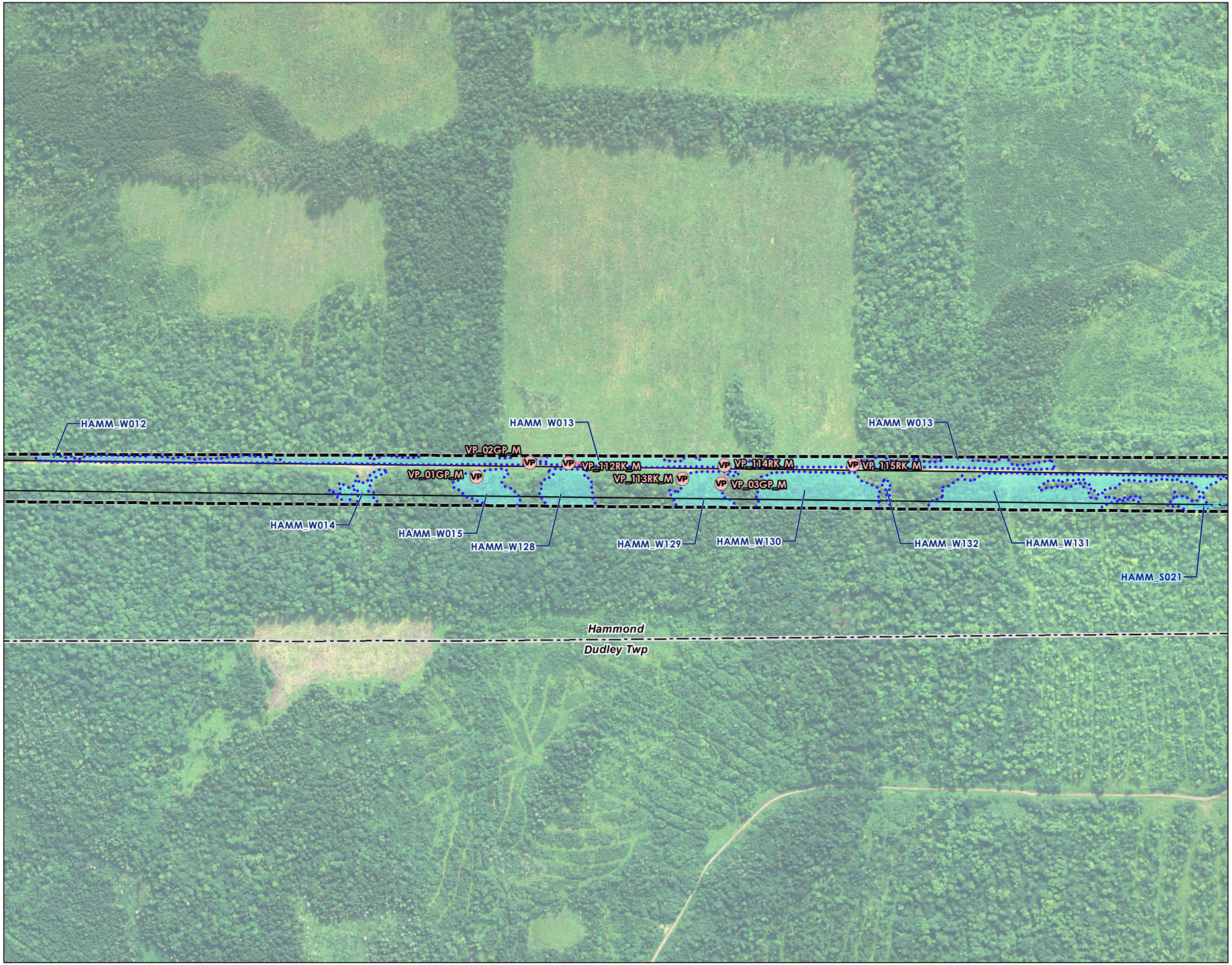

Stantec

Legend

- Vernal Pool
- Ephemeral Stream
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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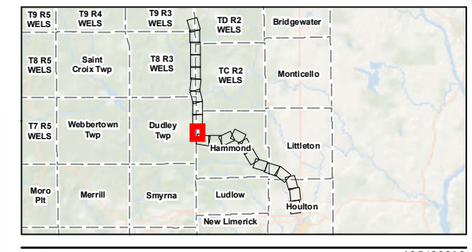

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
10

Title
North Generator Lead Delineated Natural Resource Map

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Stantec

Legend

- Vernal Pool
- Perennial Stream
- Intermittent Stream
- Ephemeral Stream
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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Notes

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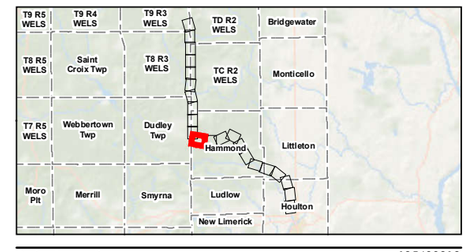

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
11

Title
North Generator Lead Delineated Natural Resource Map

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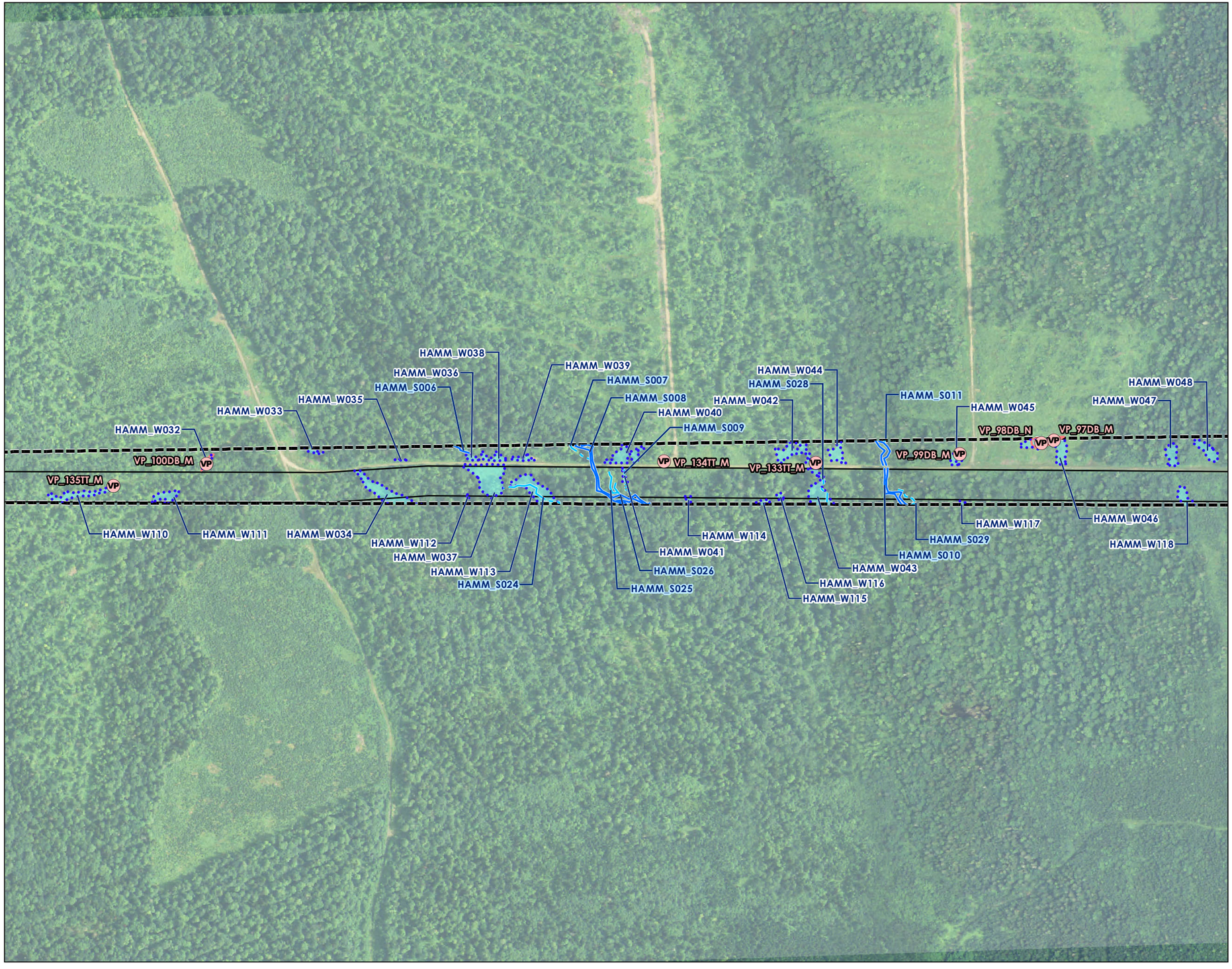

Stantec

Legend

- Vernal Pool
- Perennial Stream
- Intermittent Stream
- Ephemeral Stream
- Ephemeral/Intermittent Stream
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
12

Title
North Generator Lead Delineated Natural Resource Map

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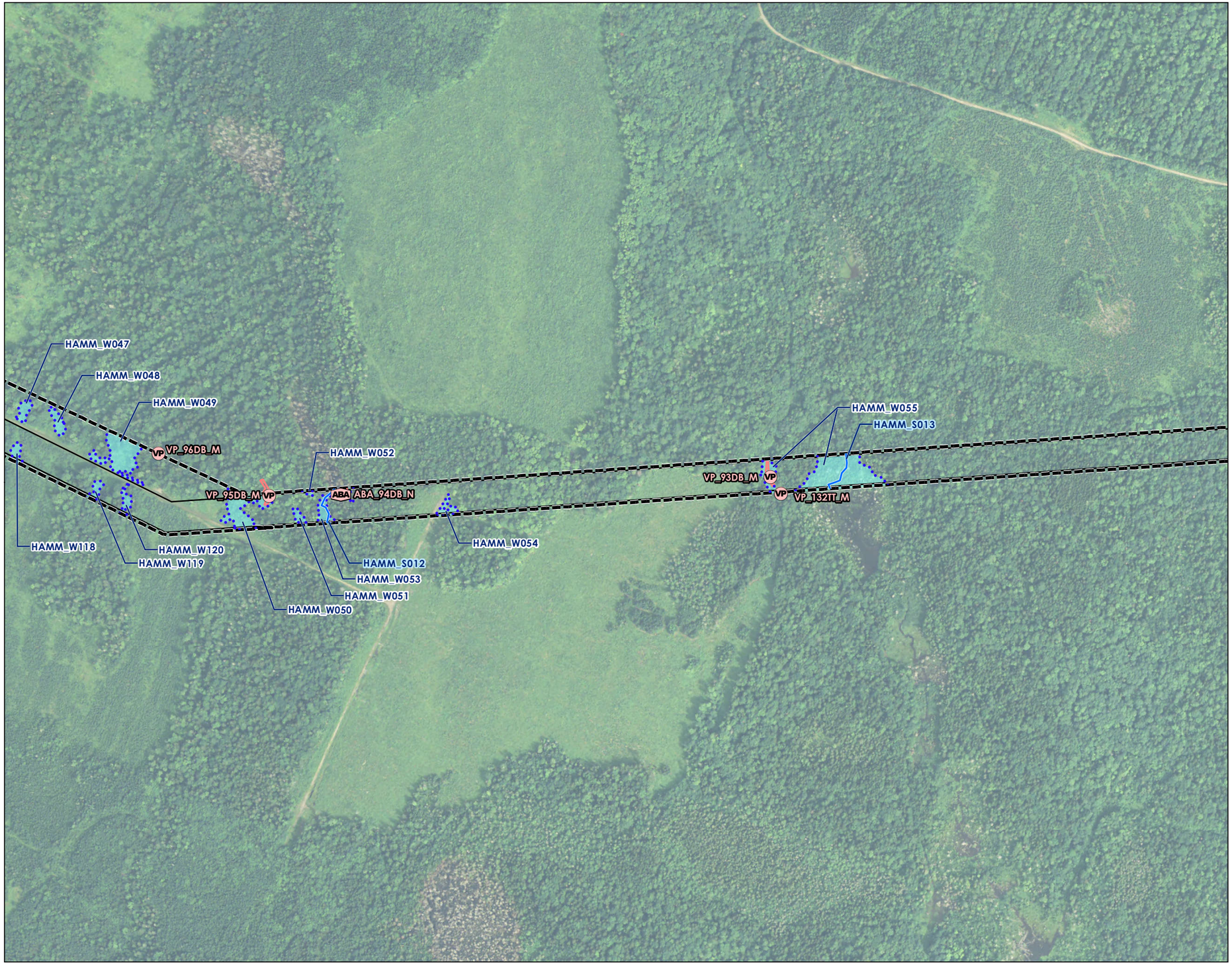

Stantec

Legend

- Vernal Pool
- Amphibian Breeding Area
- Perennial Stream
- Vernal Pool Boundary
- Amphibian Breeding Area
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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Notes

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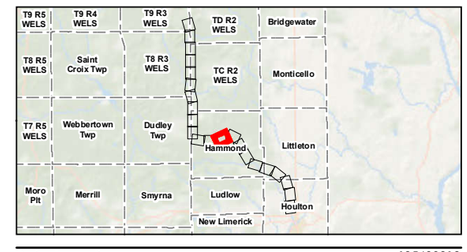

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
13

Title
North Generator Lead Delineated Natural Resource Map

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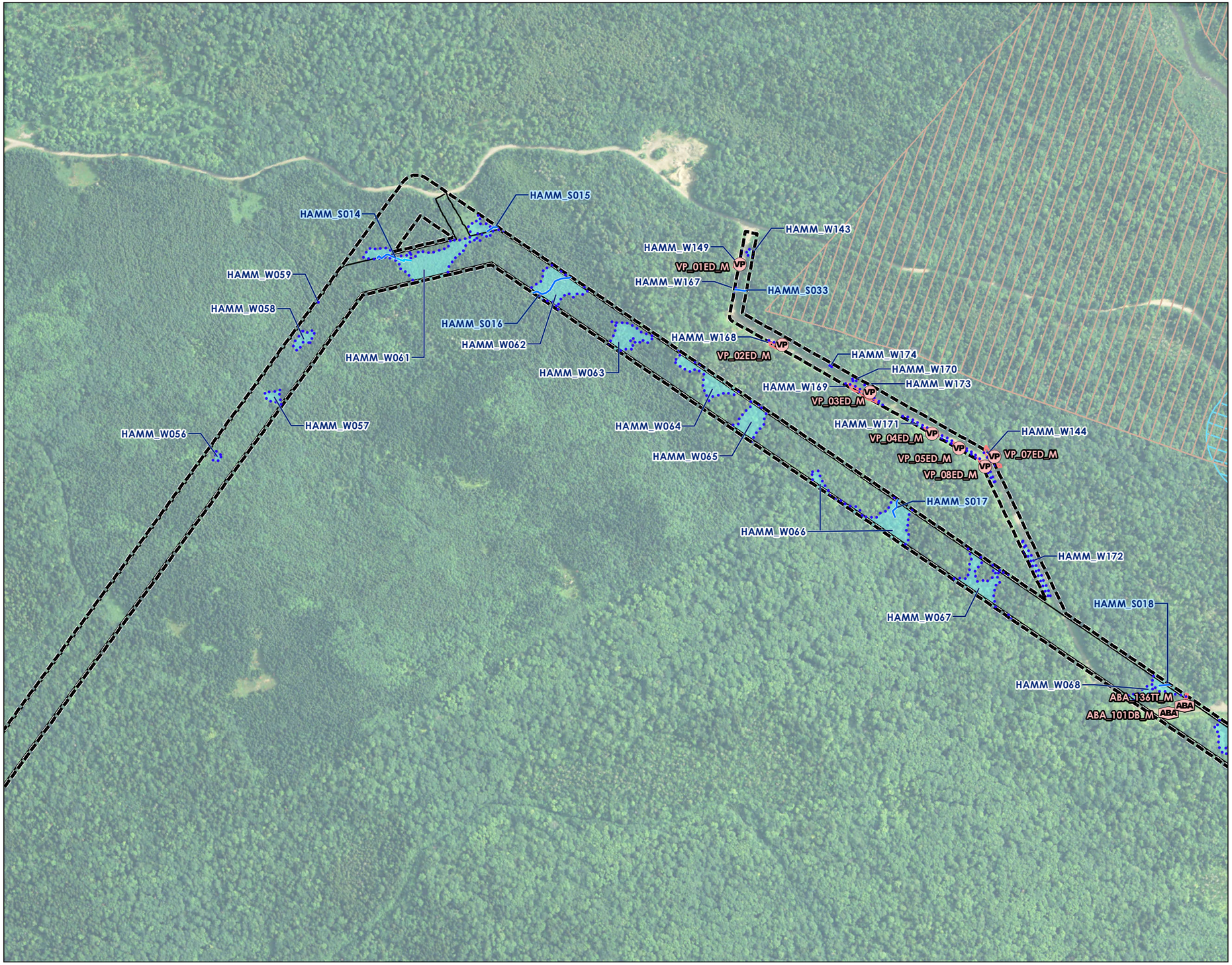

Stantec

Legend

- Vernal Pool
- Amphibian Breeding Area
- Perennial Stream
- Intermittent Stream
- Vernal Pool Boundary
- Amphibian Breeding Area
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Deer Wintering Area
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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Notes

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4. Aerial Imagery: NAIP 2013

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
14

Title
North Generator Lead Delineated Natural Resource Map

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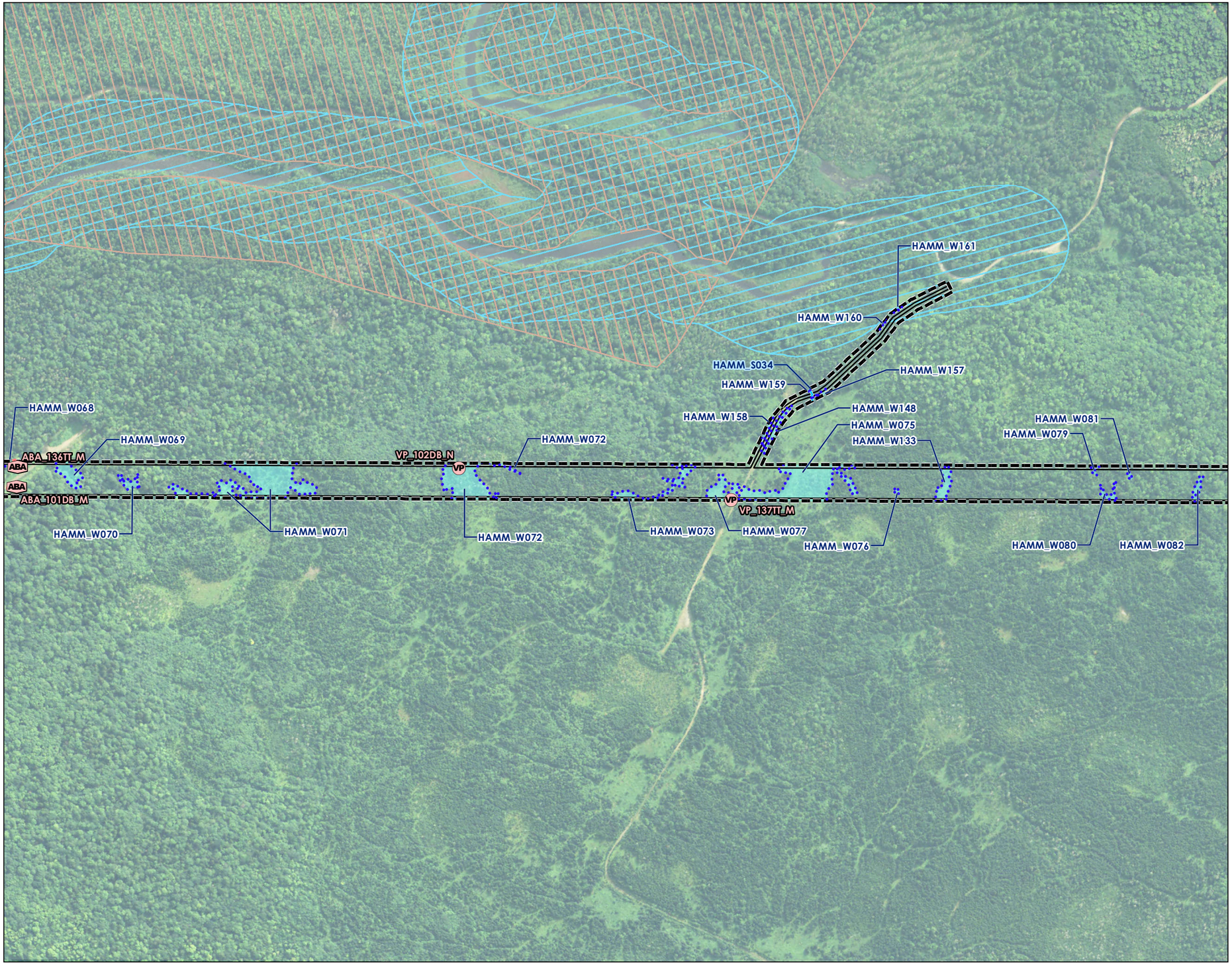

Stantec

Legend

- Vernal Pool
- Amphibian Breeding Area
- Ephemeral Stream
- Vernal Pool Boundary
- Amphibian Breeding Area
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Deer Wintering Area
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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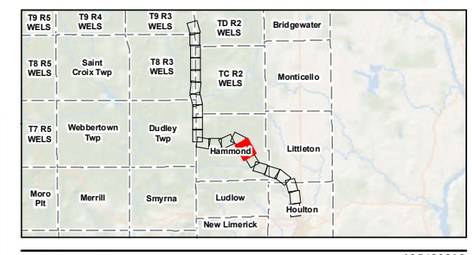

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
15

Title
North Generator Lead Delineated Natural Resource Map

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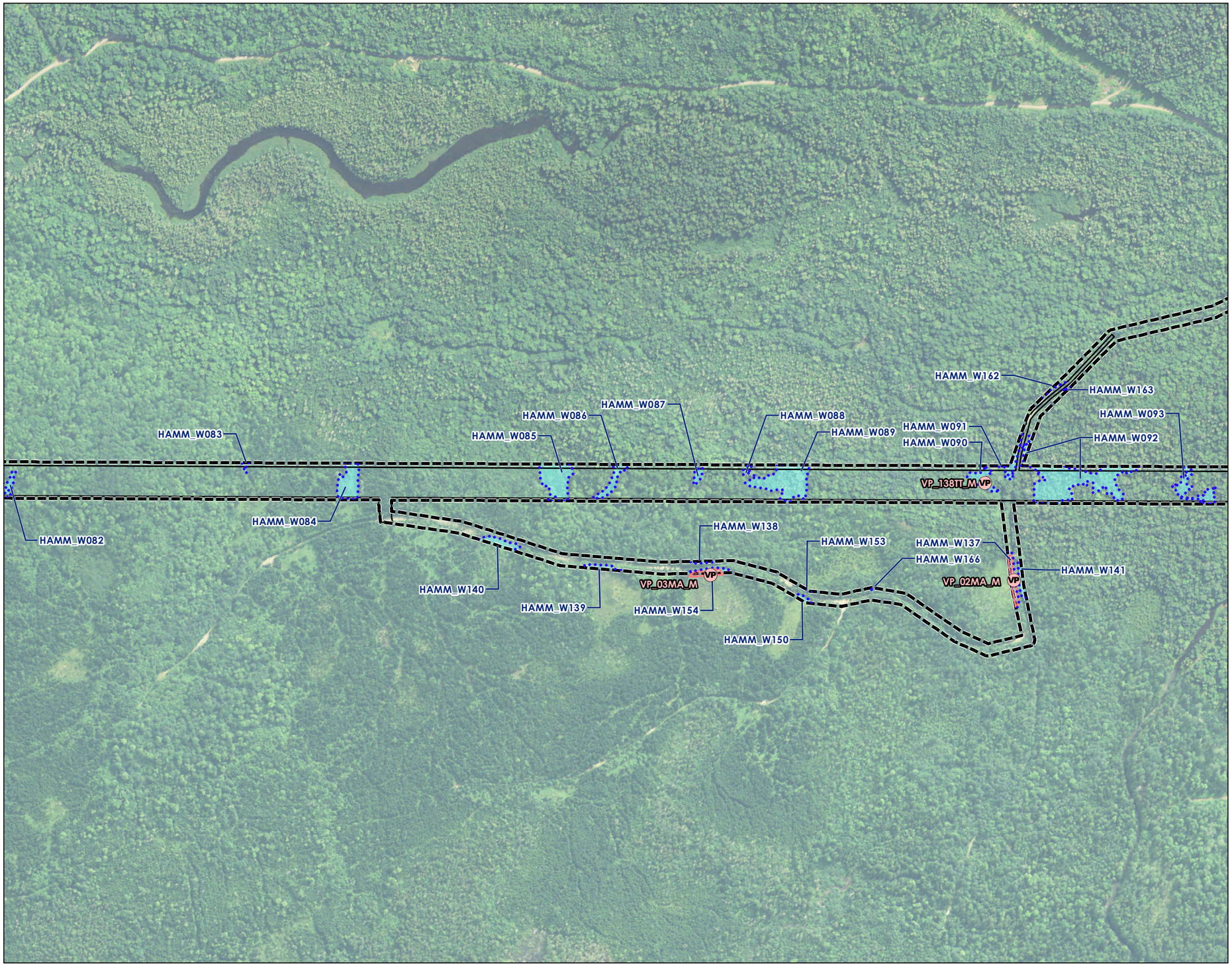

Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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Notes

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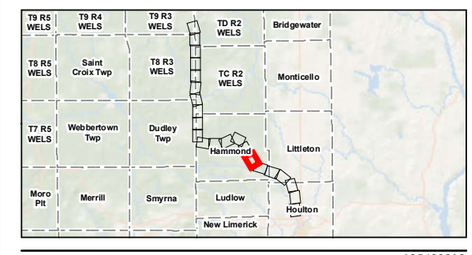

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
16

Title
North Generator Lead Delineated Natural Resource Map

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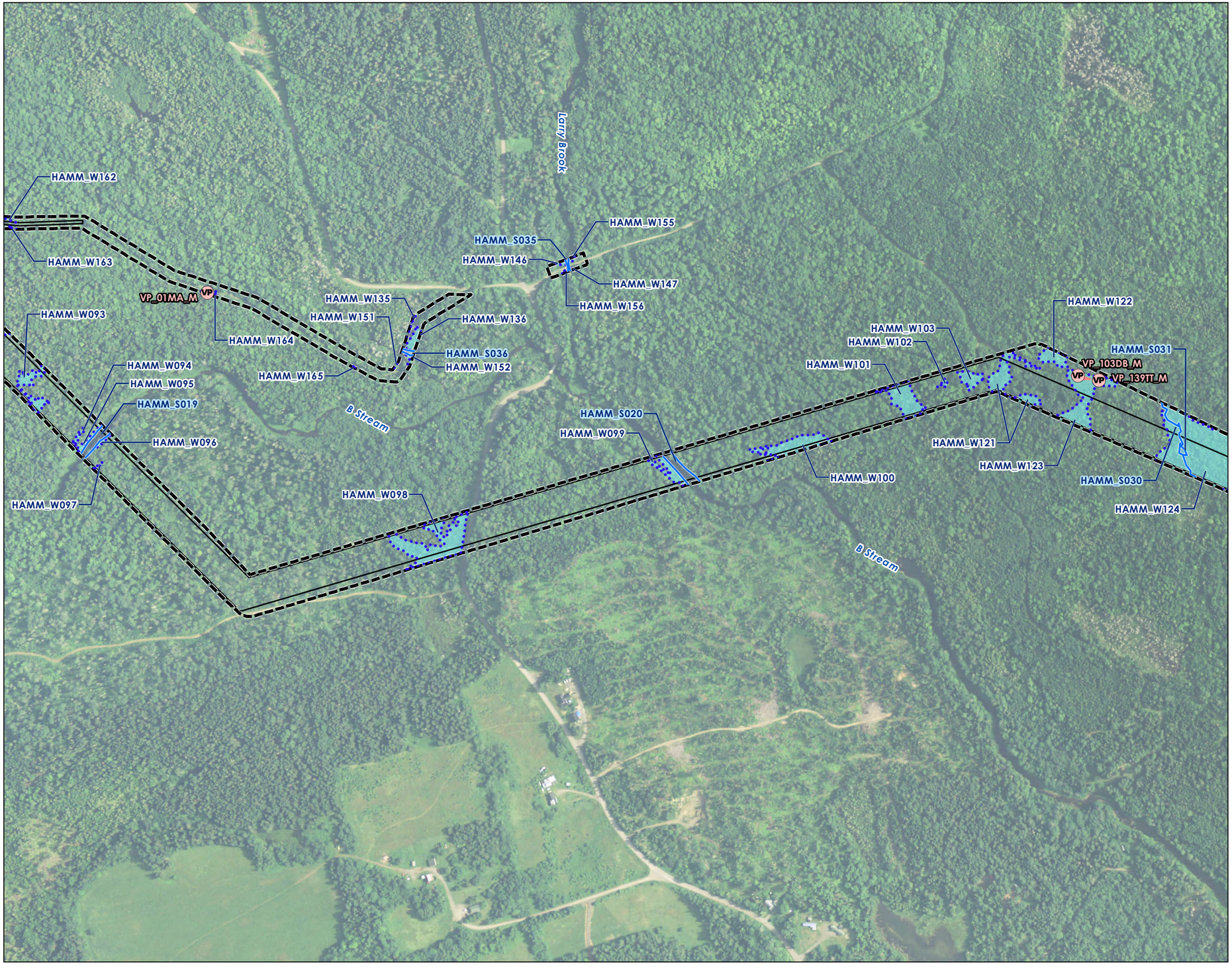

Stantec

Legend

- Vernal Pool
- Perennial Stream
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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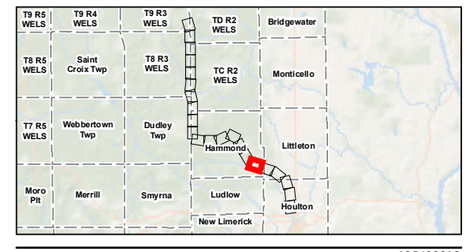

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
17

Title
North Generator Lead Delineated Natural Resource Map

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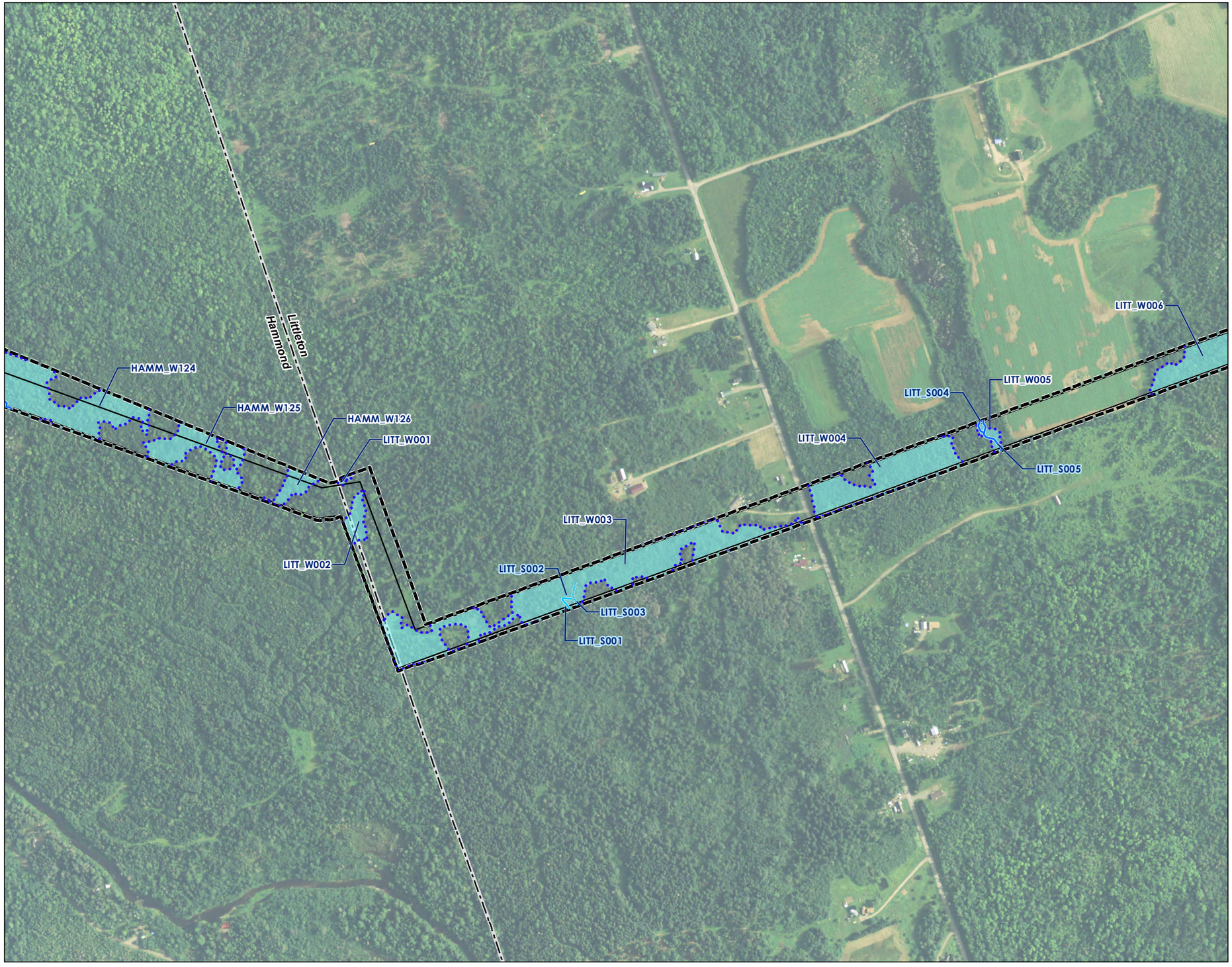
V:\1956\active\195600919\drawing\mxd\Permit\Section07_NR_Maps_Wildlife\NR_Maps\V09 19 NRMaps_GenLeadNorth.mxd Revised: 2015-07-13 By: jacompanion



Stantec

Legend

- Perennial Stream
- Intermittent Stream
- Ephemeral/Intermittent Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

1. Wetland boundaries delineated in accordance with USACE 1987 Wetland Delineation Manual or subsequent versions. Vernal pool surveys in 2014 and 2015 were conducted according to the Maine Association of Wetland Scientist Vernal Pool Technical Committee Vernal Pool Survey Protocols (April 2014). Vernal pool surveys conducted prior to 2014 followed other protocols that were accepted by the Maine Department of Inland Fisheries and Wildlife.
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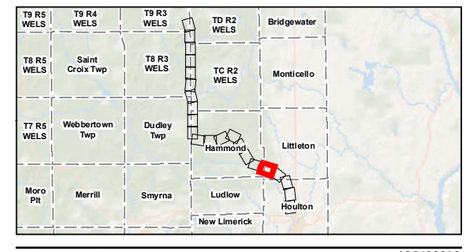
3. Data sources: Maine Office of GIS, Maine Department of Inland Fisheries and Wildlife, Maine Land Use Planning Commission
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
18

Title
North Generator Lead Delineated Natural Resource Map

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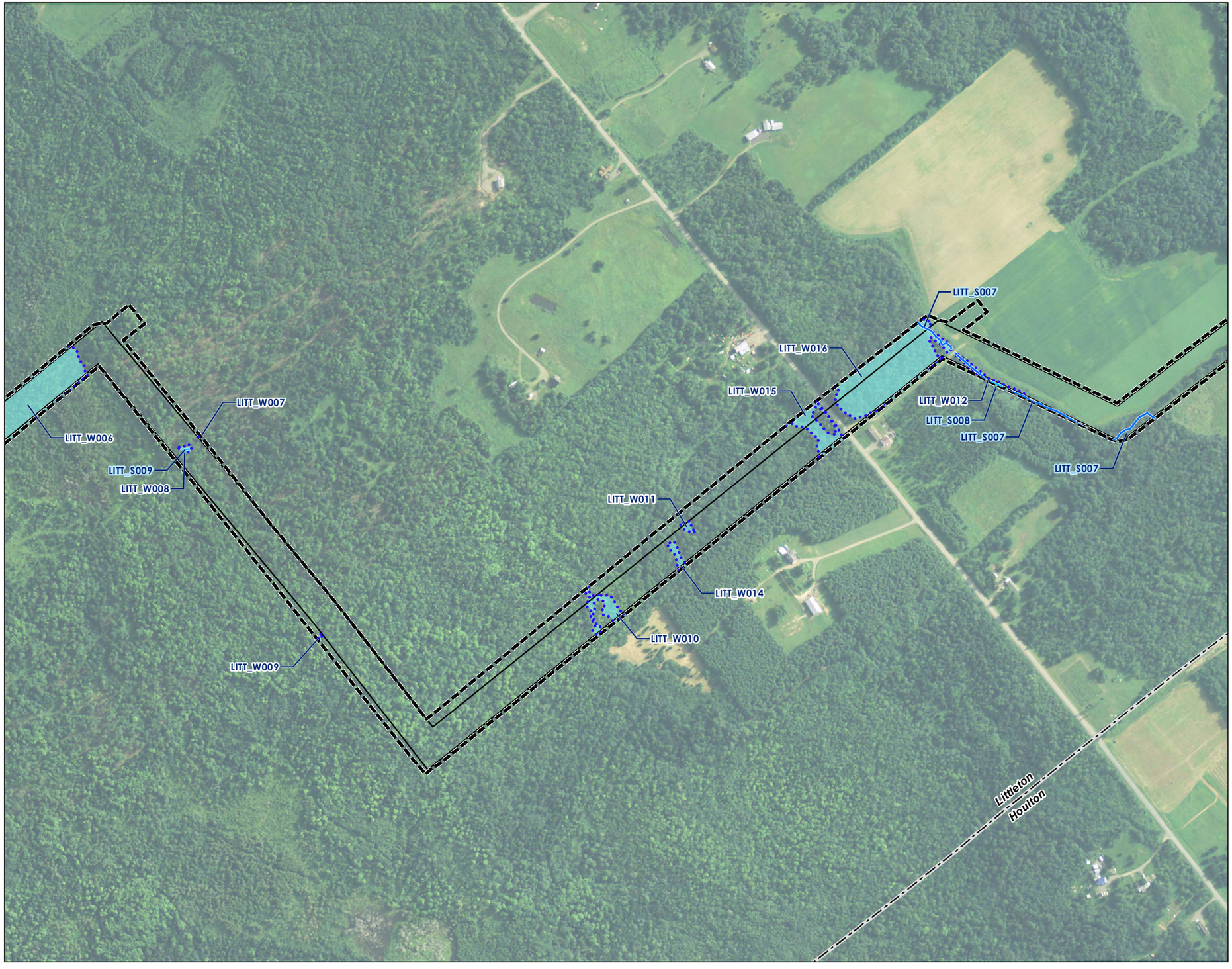
V:\1956\active\195600919\drawing\mxd\Permit\Section07_NR_Maps_Wetlands\NR_Maps\V09 19 NRMaps_GenLeadNorth.mxd Revised: 2015-07-13 By: jacqueline.ter



Stantec

Legend

- Perennial Stream
- Intermittent Stream
- Ephemeral Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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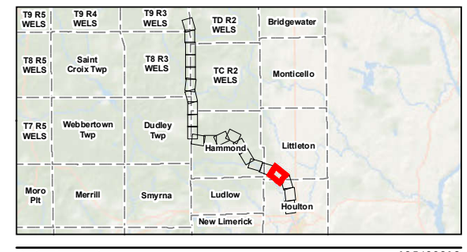
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
19

Title
North Generator Lead Delineated Natural Resource Map

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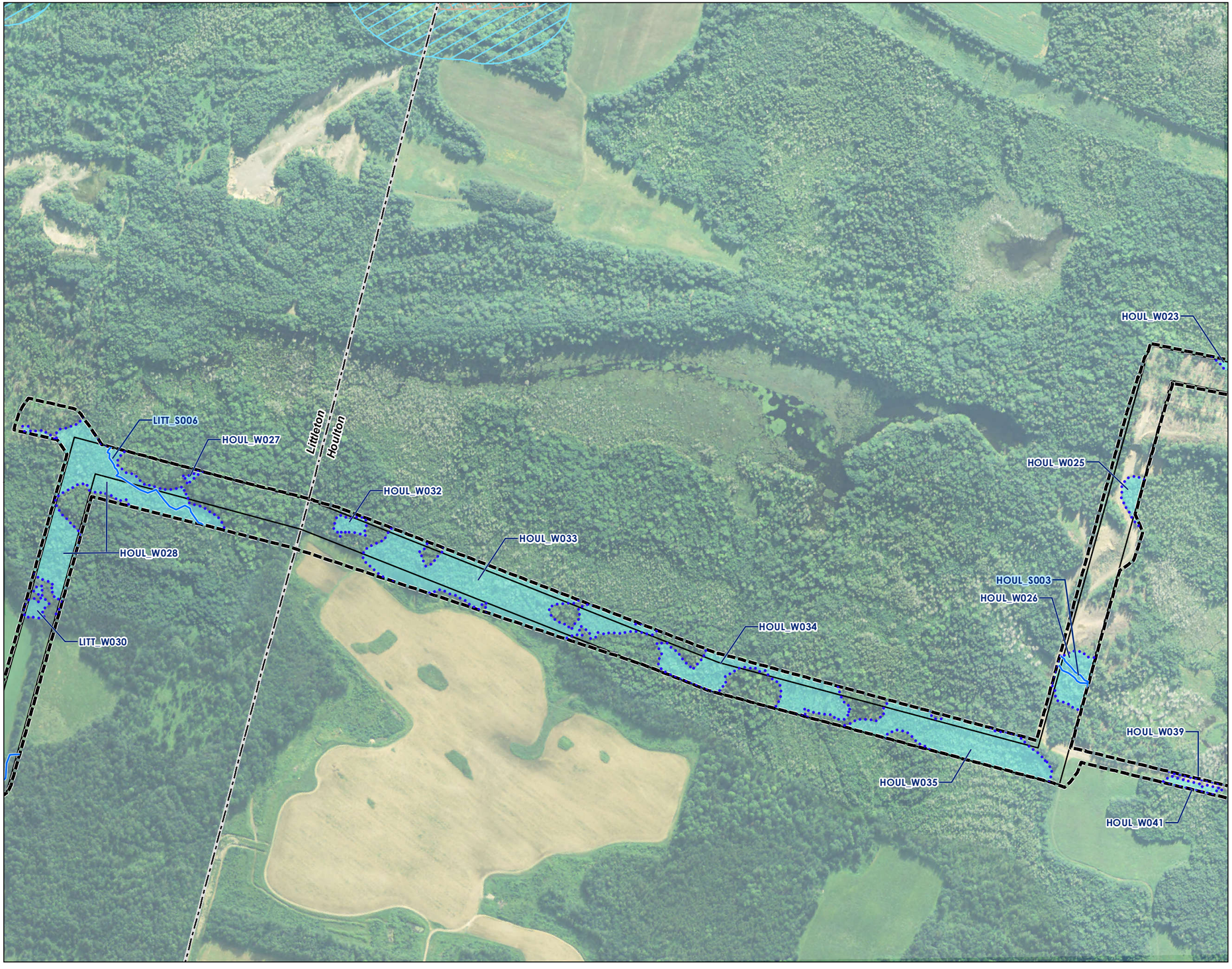

Stantec

Legend

- Perennial Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Deer Wintering Area
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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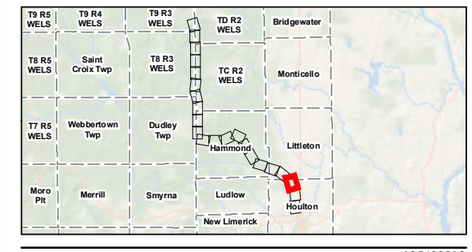

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
20

Title
North Generator Lead Delineated Natural Resource Map

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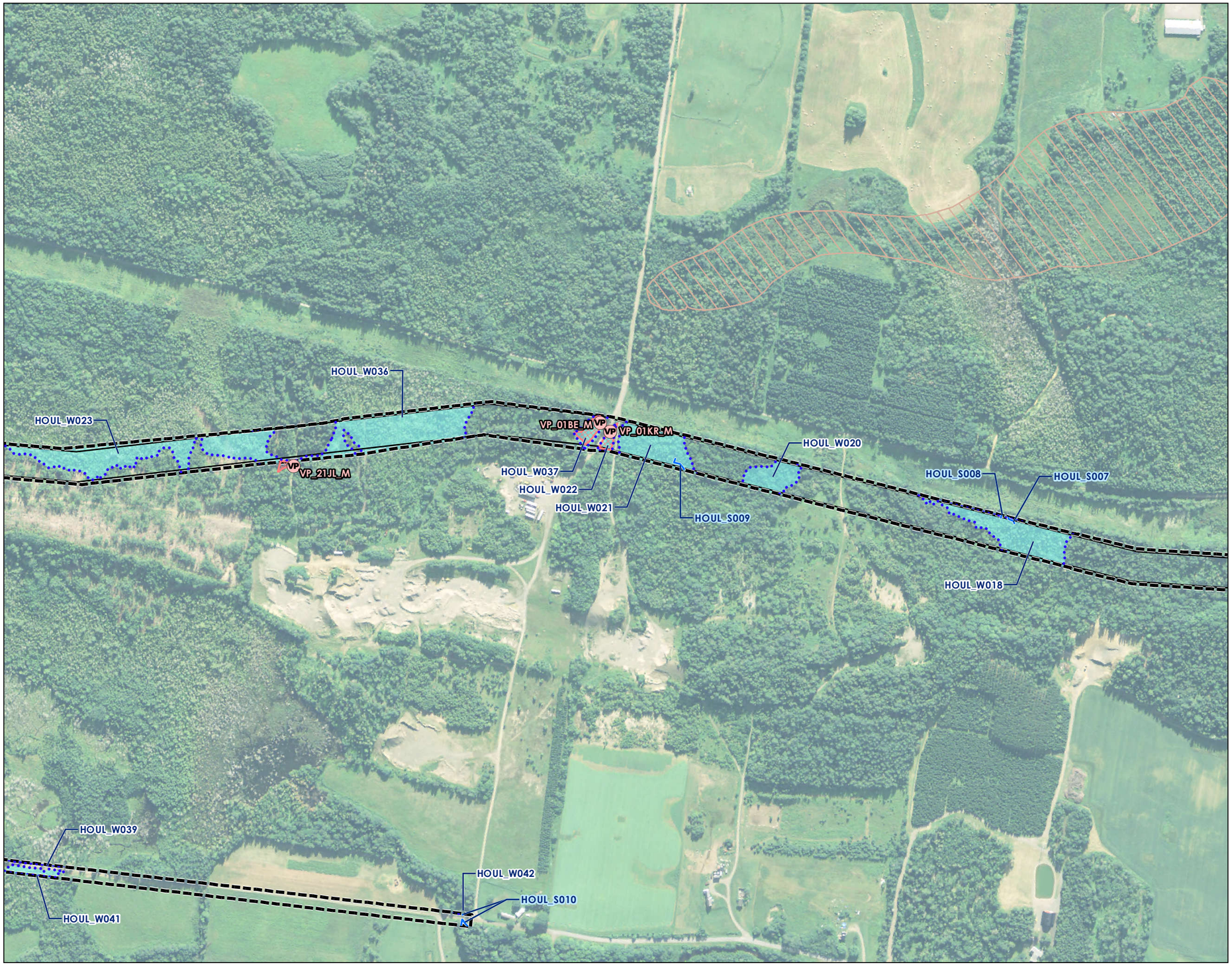

Stantec

Legend

- Vernal Pool
- Perennial Stream
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Deer Wintering Area

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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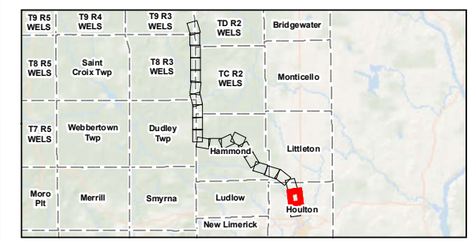
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
21

Title
North Generator Lead Delineated Natural Resource Map

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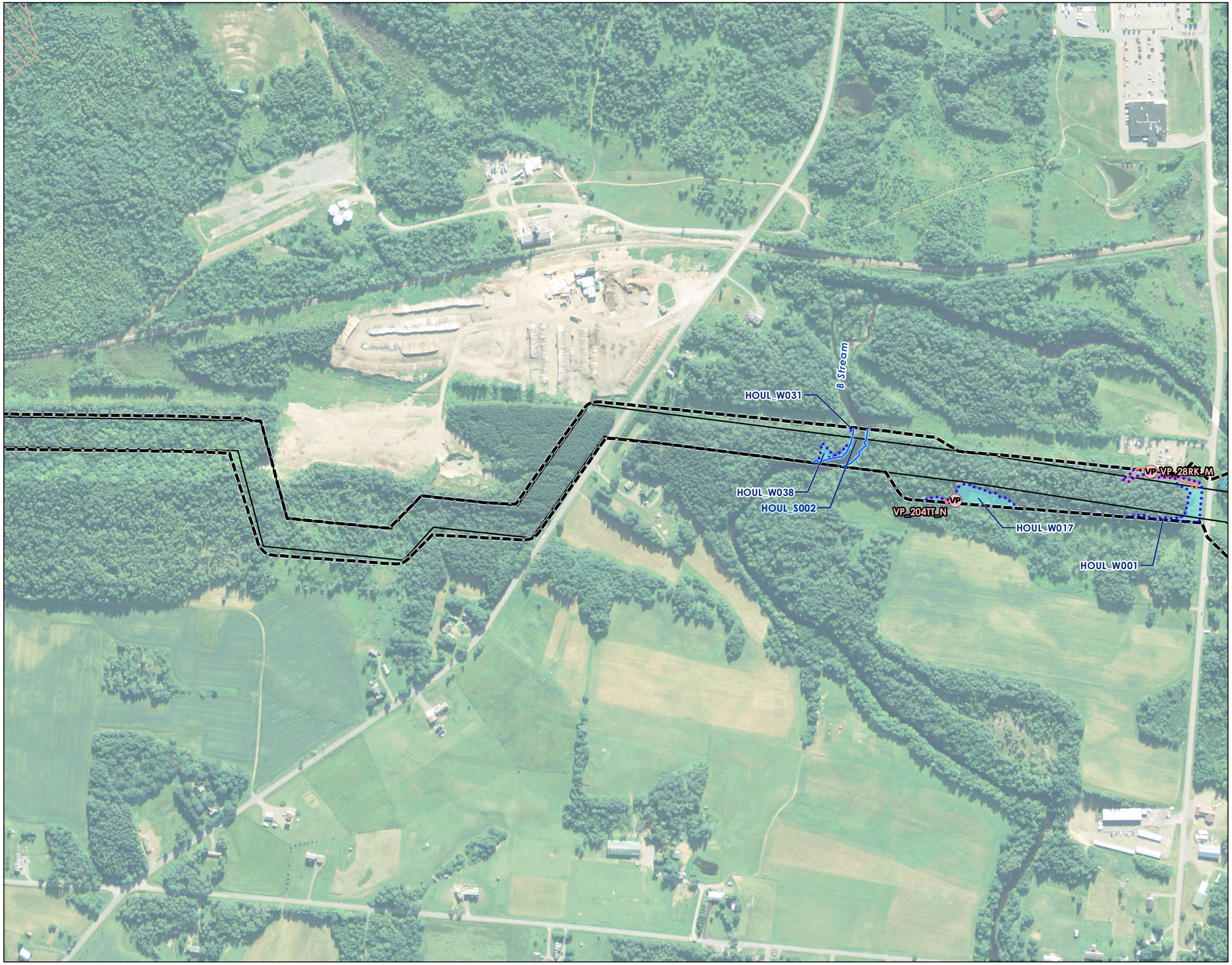

Stantec

Legend

- Vernal Pool
- Perennial Stream
- Intermittent Stream
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Deer Wintering Area

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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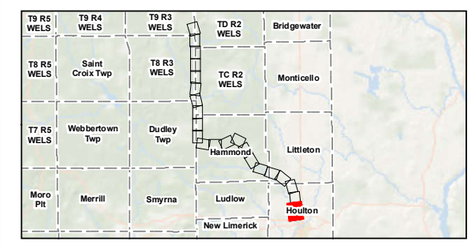
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
22

Title
North Generator Lead Delineated Natural Resource Map

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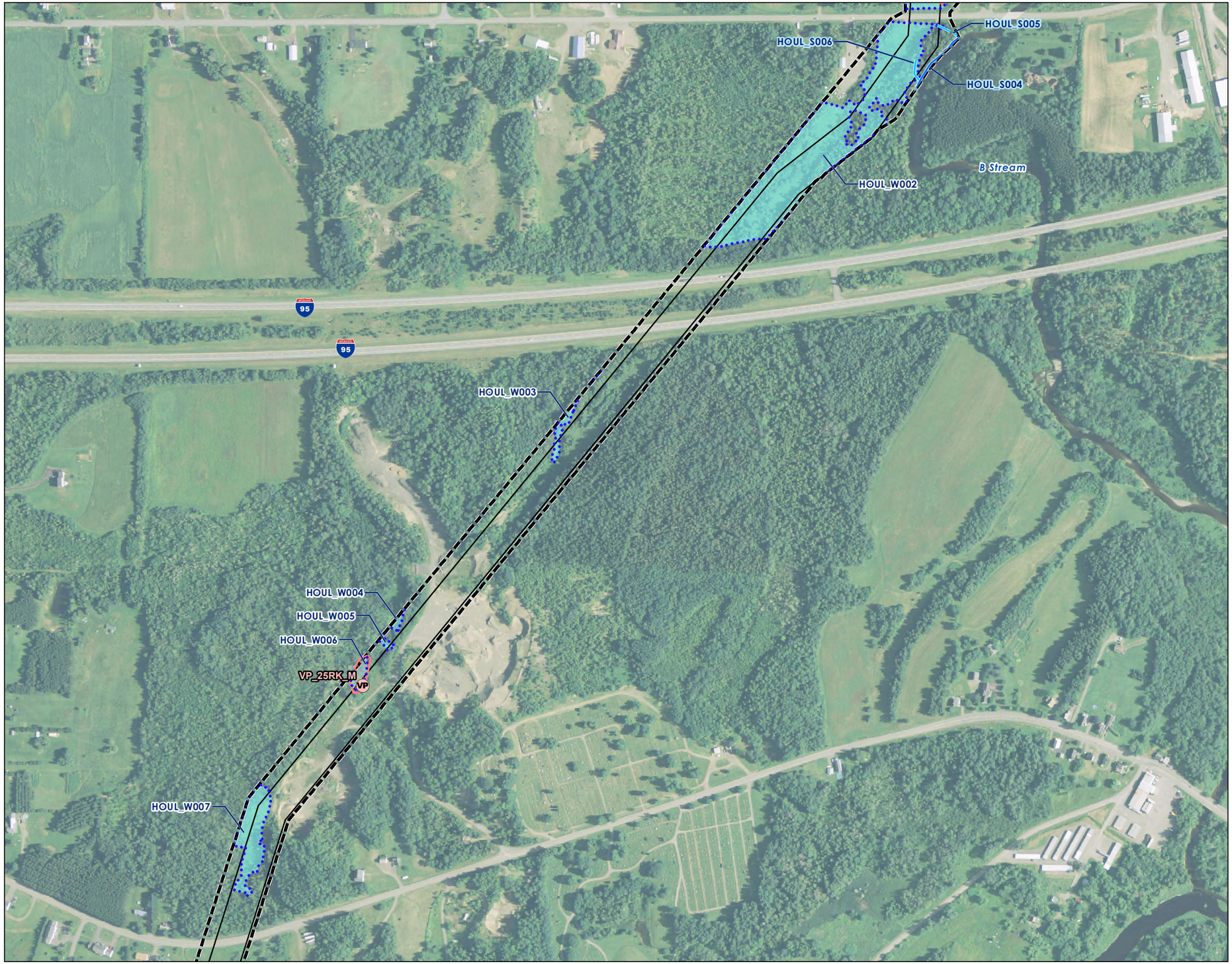

Stantec

Legend

- Vernal Pool
- Perennial Stream
- Intermittent Stream
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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3. Data sources: Maine Office of GIS, Maine Department of Inland Fisheries and Wildlife, Maine Land Use Planning Commission
4. Aerial Imagery: NAIP 2013

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
1

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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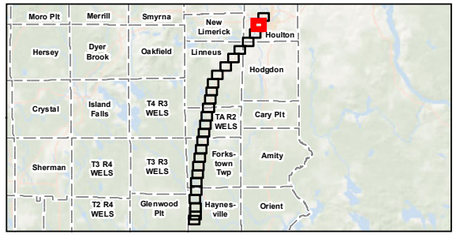
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
2

Title
Bridal Path Generator Lead Delineated Natural Resource Map

V:\195600919\drawing\mxd\Permit\Section07_NR_Maps_Wildlife\NR_Maps\00919_NRMaps_GenLeadBridalPath.mxd Revised: 2015-07-13 By: accarpenter

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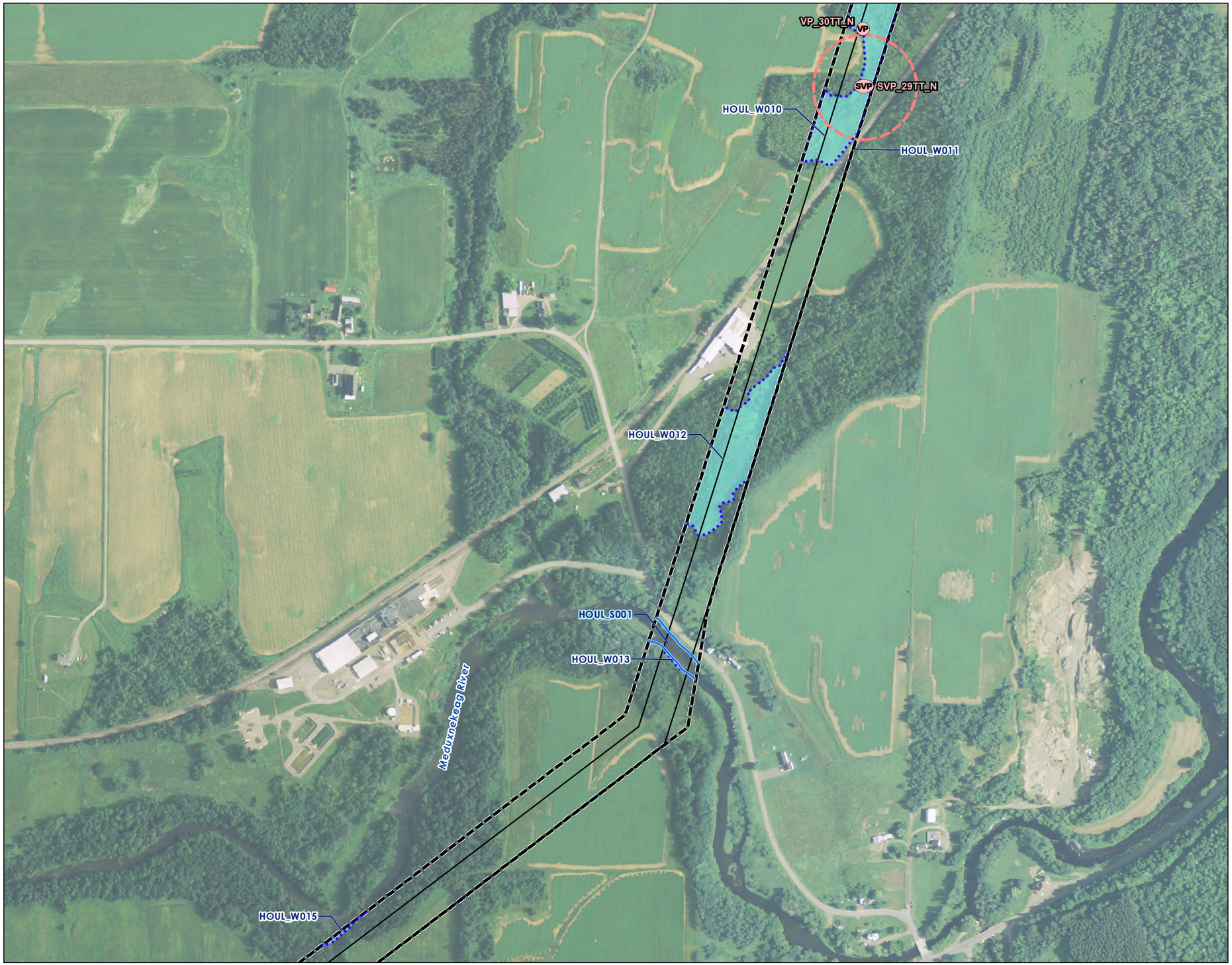

Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Perennial Stream
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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Notes

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4. Aerial Imagery: NAIP 2013

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
3

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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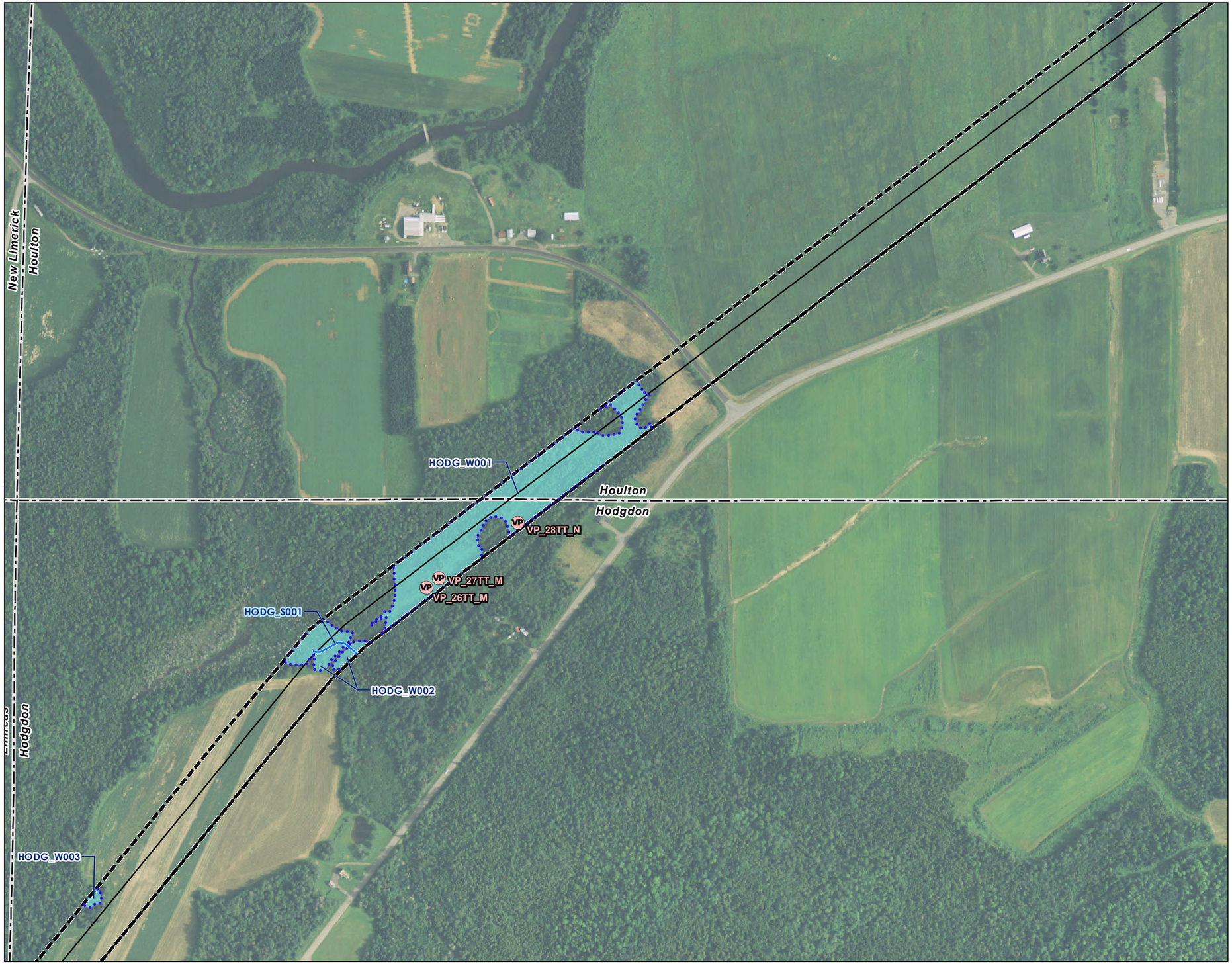

Stantec

Legend

- Vernal Pool
- Perennial Stream
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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Notes

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3. Data sources: Maine Office of GIS, Maine Department of Inland Fisheries and Wildlife, Maine Land Use Planning Commission
4. Aerial Imagery: NAIP 2013

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
4

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Perennial Stream
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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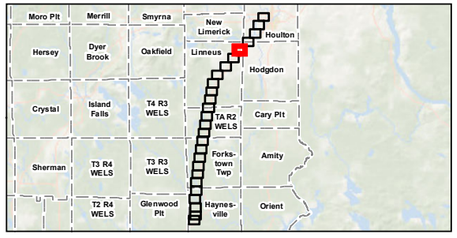

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
5

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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Stantec

Legend

- Vernal Pool
- Perennial Stream
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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Notes

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4. Aerial Imagery: NAIP 2013

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
6

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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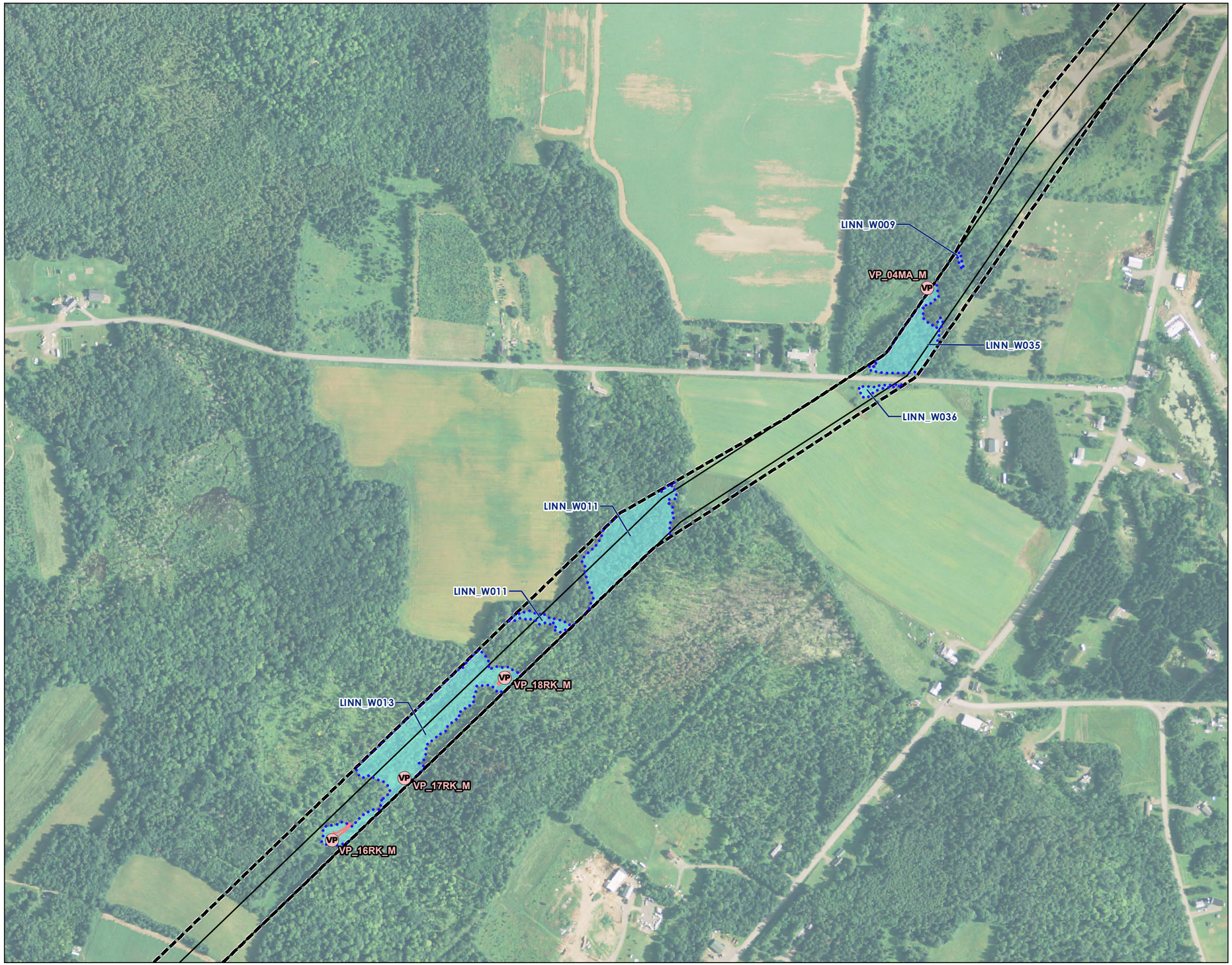

Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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4. Aerial Imagery: NAIP 2013

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
7

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Perennial Stream
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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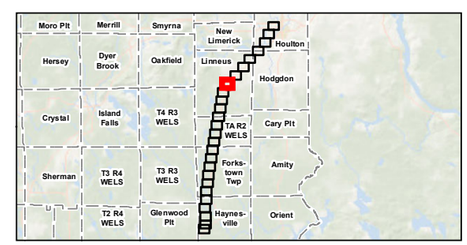
3. Data sources: Maine Office of GIS, Maine Department of Inland Fisheries and Wildlife, Maine Land Use Planning Commission
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
8

Title
Bridal Path Generator Lead Delineated Natural Resource Map

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

1. Wetland boundaries delineated in accordance with USACE 1987 Wetland Delineation Manual or subsequent versions. Vernal pool surveys in 2014 and 2015 were conducted according to the Maine Association of Wetland Scientist Vernal Pool Technical Committee Vernal Pool Survey Protocols (April 2014). Vernal pool surveys conducted prior to 2014 followed other protocols that were accepted by the Maine Department of Inland Fisheries and Wildlife.
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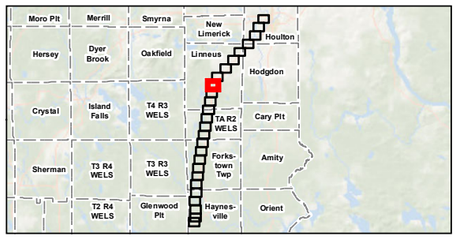
3. Data sources: Maine Office of GIS, Maine Department of Inland Fisheries and Wildlife, Maine Land Use Planning Commission
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
9

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

1. Wetland boundaries delineated in accordance with USACE 1987 Wetland Delineation Manual or subsequent versions. Vernal pool surveys in 2014 and 2015 were conducted according to the Maine Association of Wetland Scientist Vernal Pool Technical Committee Vernal Pool Survey Protocols (April 2014). Vernal pool surveys conducted prior to 2014 followed other protocols that were accepted by the Maine Department of Inland Fisheries and Wildlife.
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4. Aerial Imagery: NAIP 2013

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
10

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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Stantec

Legend

- Significant Vernal Pool
- Vernal Pool
- Vernal Pool Boundary
- Significant Vernal Pool 250' Critical Terrestrial Habitat
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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4. Aerial Imagery: NAIP 2013

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
11

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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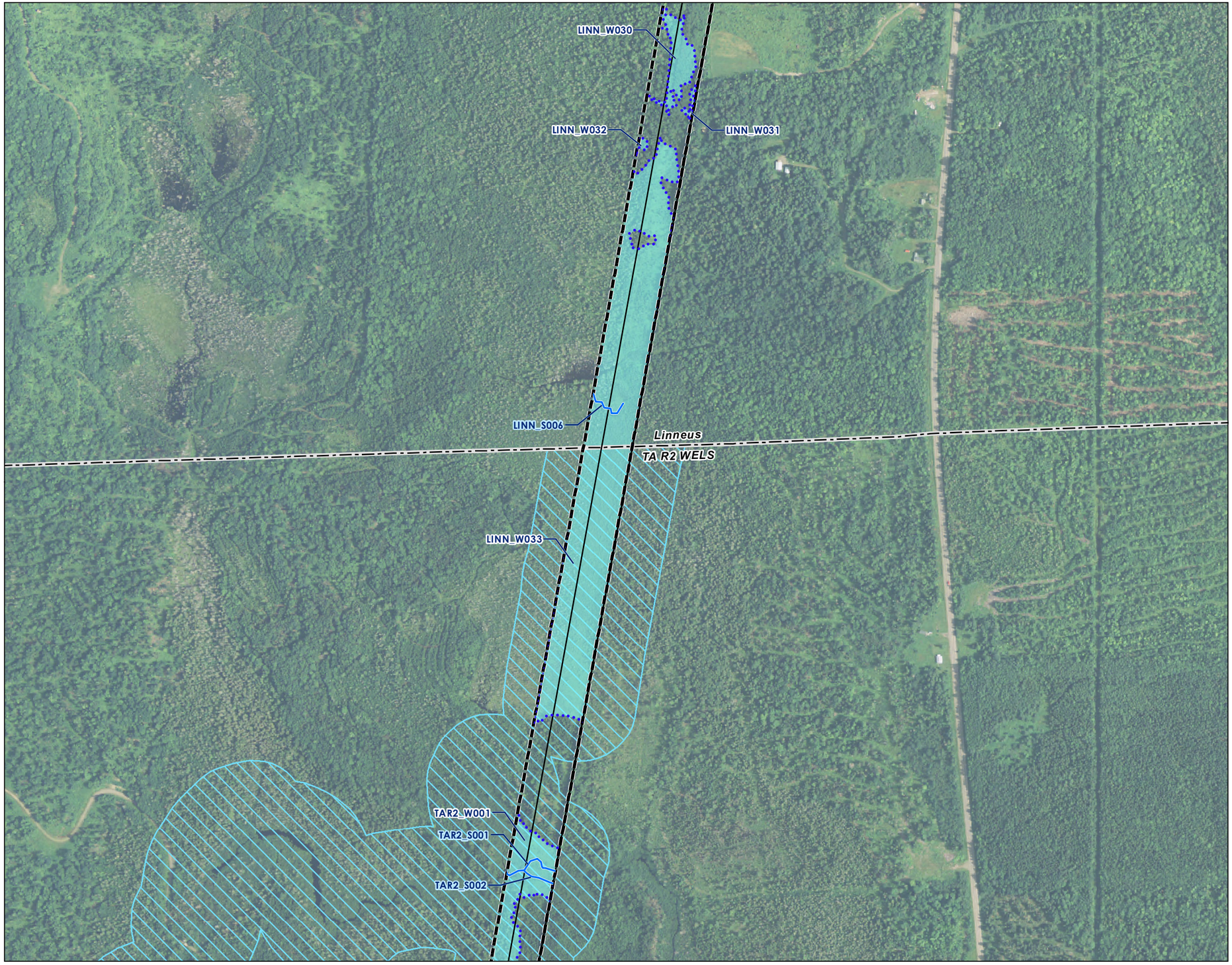

Stantec

Legend

- Perennial Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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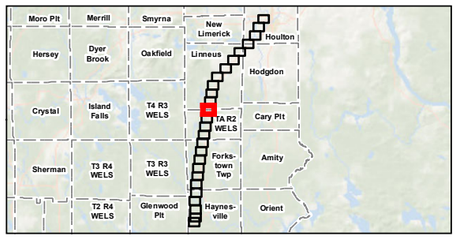
4. Aerial Imagery: NAIP 2013



Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
12

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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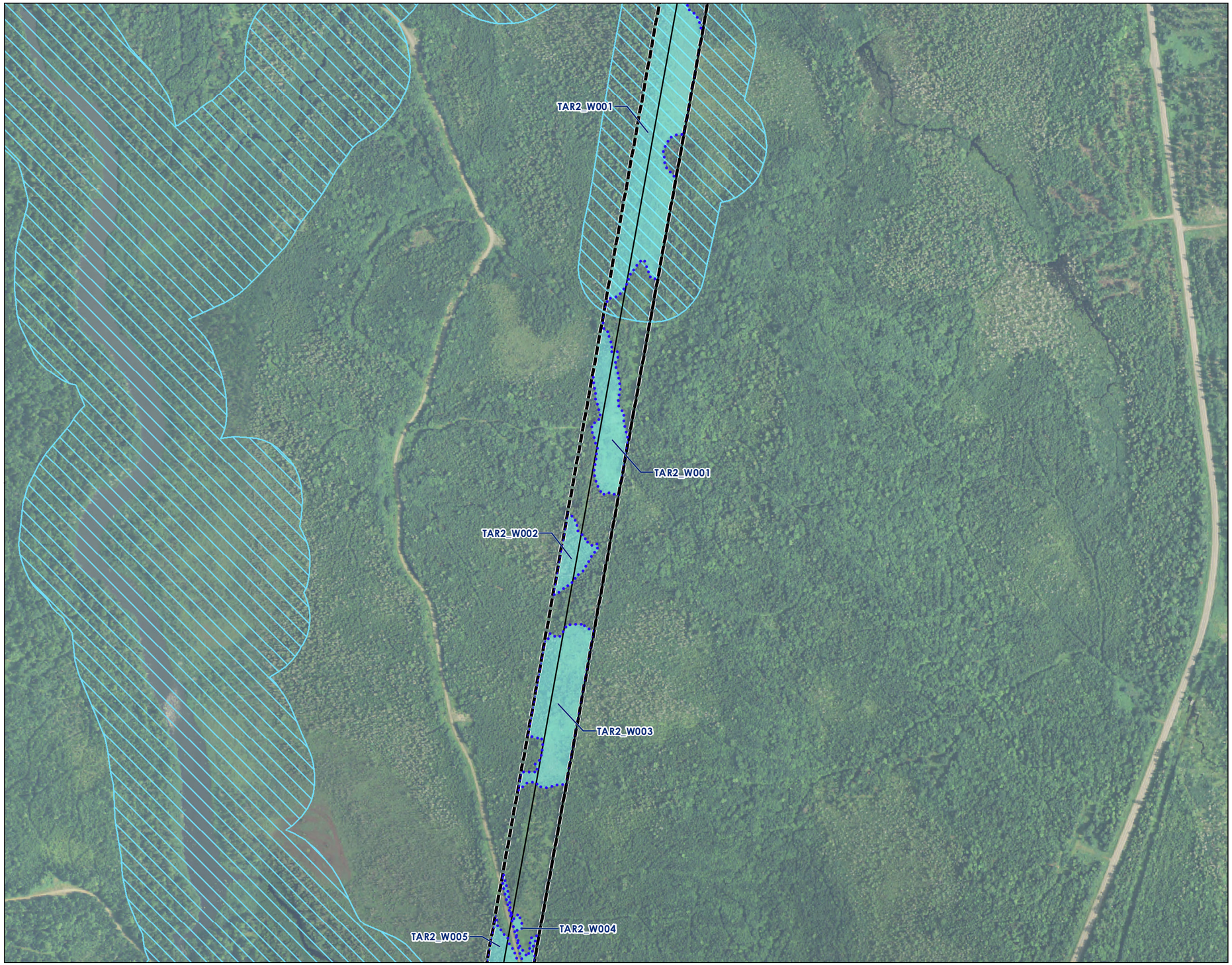

Stantec

Legend
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes
1. Wetland boundaries delineated in accordance with USACE 1987 Wetland Delineation Manual or subsequent versions. Vernal pool surveys in 2014 and 2015 were conducted according to the Maine Association of Wetland Scientist Vernal Pool Technical Committee Vernal Pool Survey Protocols (April 2014). Vernal pool surveys conducted prior to 2014 followed other protocols that were accepted by the Maine Department of Inland Fisheries and Wildlife.
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4. Aerial Imagery: NAIP 2013

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
13

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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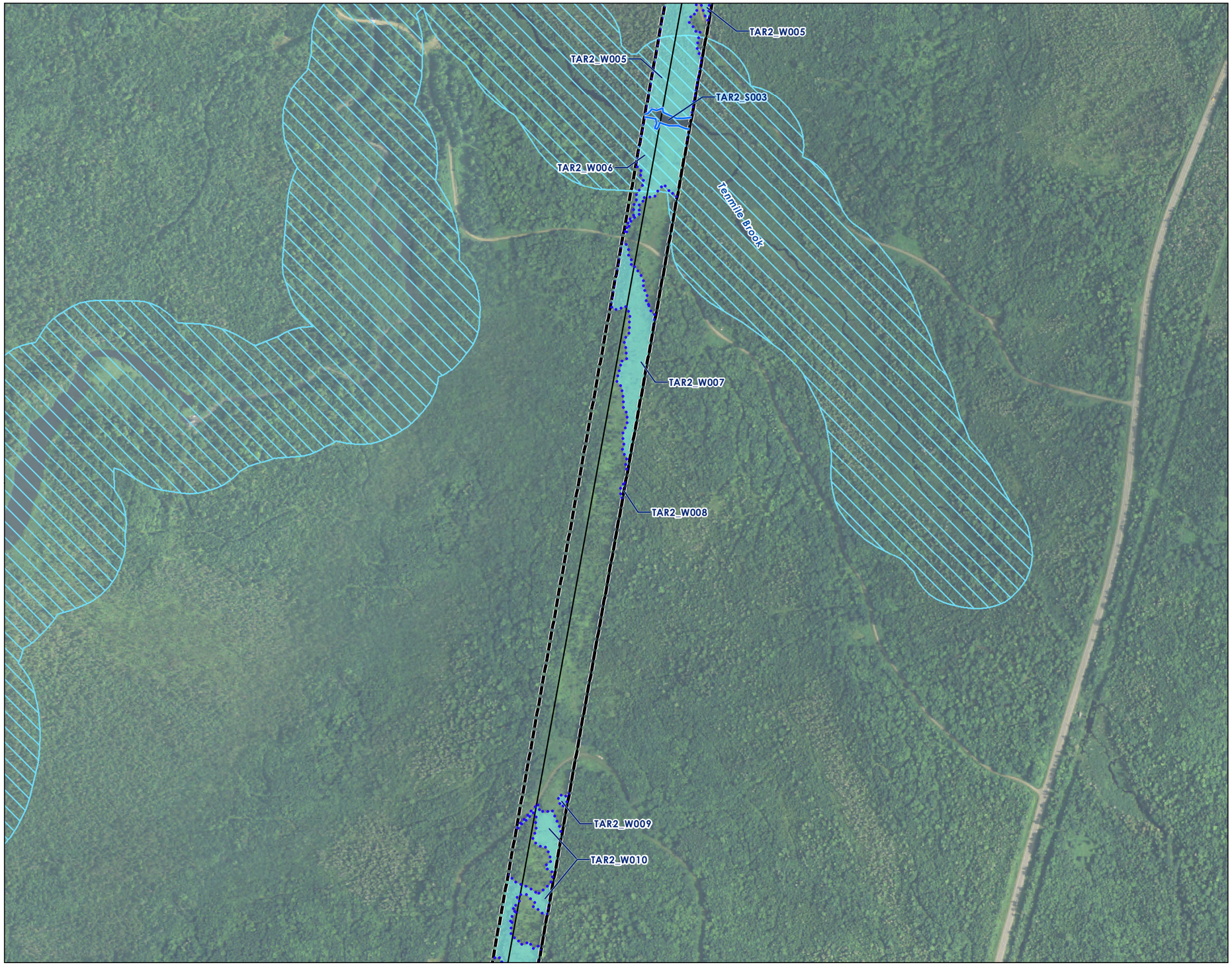

Stantec

Legend

- Perennial Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

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3. Data sources: Maine Office of GIS, Maine Department of Inland Fisheries and Wildlife, Maine Land Use Planning Commission
4. Aerial Imagery: NAIP 2013

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
14

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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Stantec

Legend

- Vernal Pool
- Intermittent Stream
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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Notes

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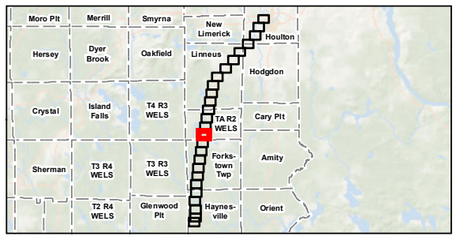

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
15

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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Stantec

Legend

- Vernal Pool
- Amphibian Breeding Area
- Vernal Pool Boundary
- Amphibian Breeding Area
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Deer Wintering Area
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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Notes

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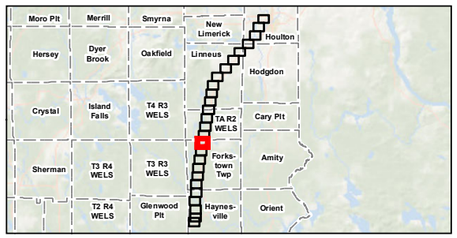

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
16

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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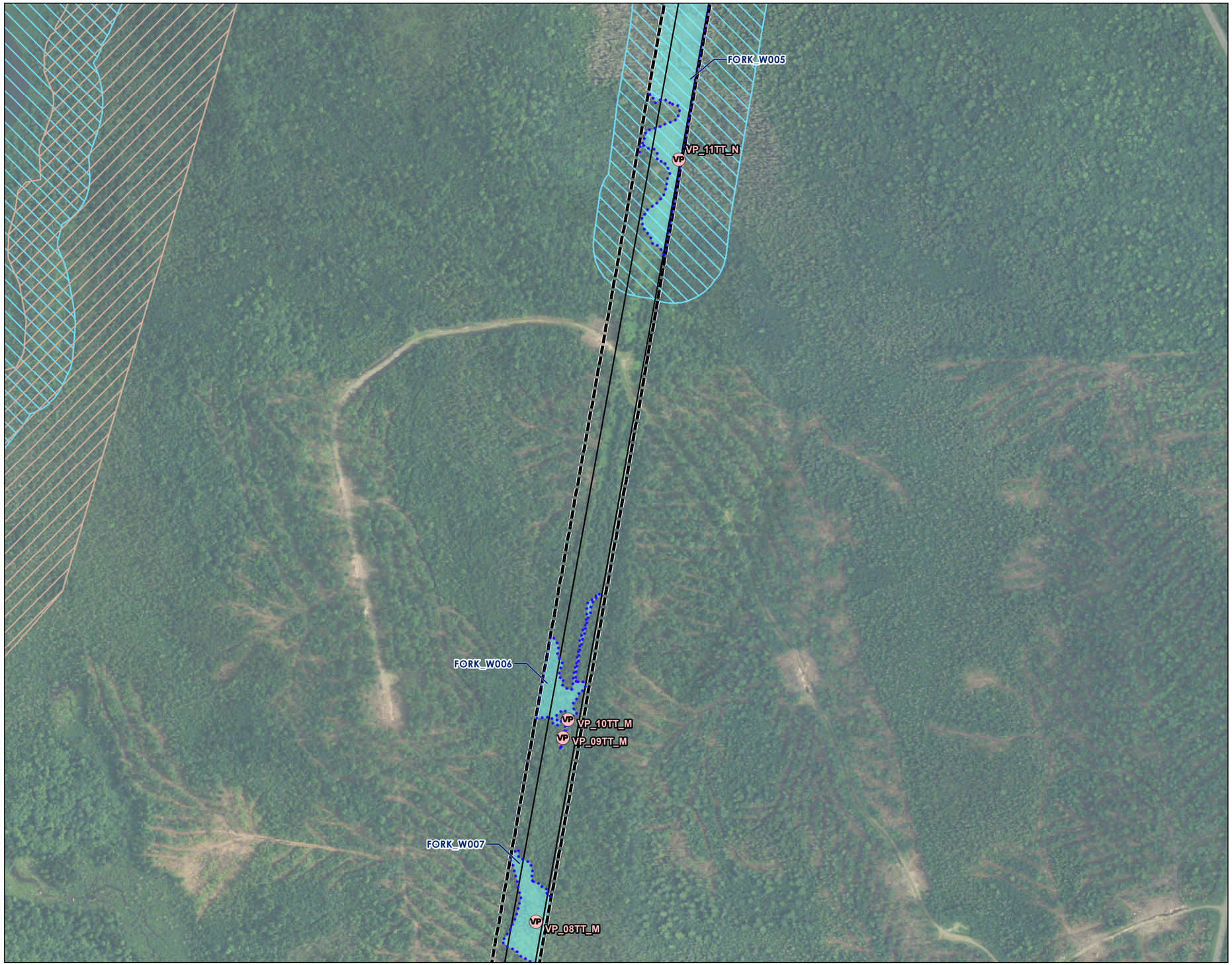

Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Deer Wintering Area
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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Notes

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4. Aerial Imagery: NAIP 2013

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
17

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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Stantec

Legend

- Vernal Pool
- Perennial Stream
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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Notes

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Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
18

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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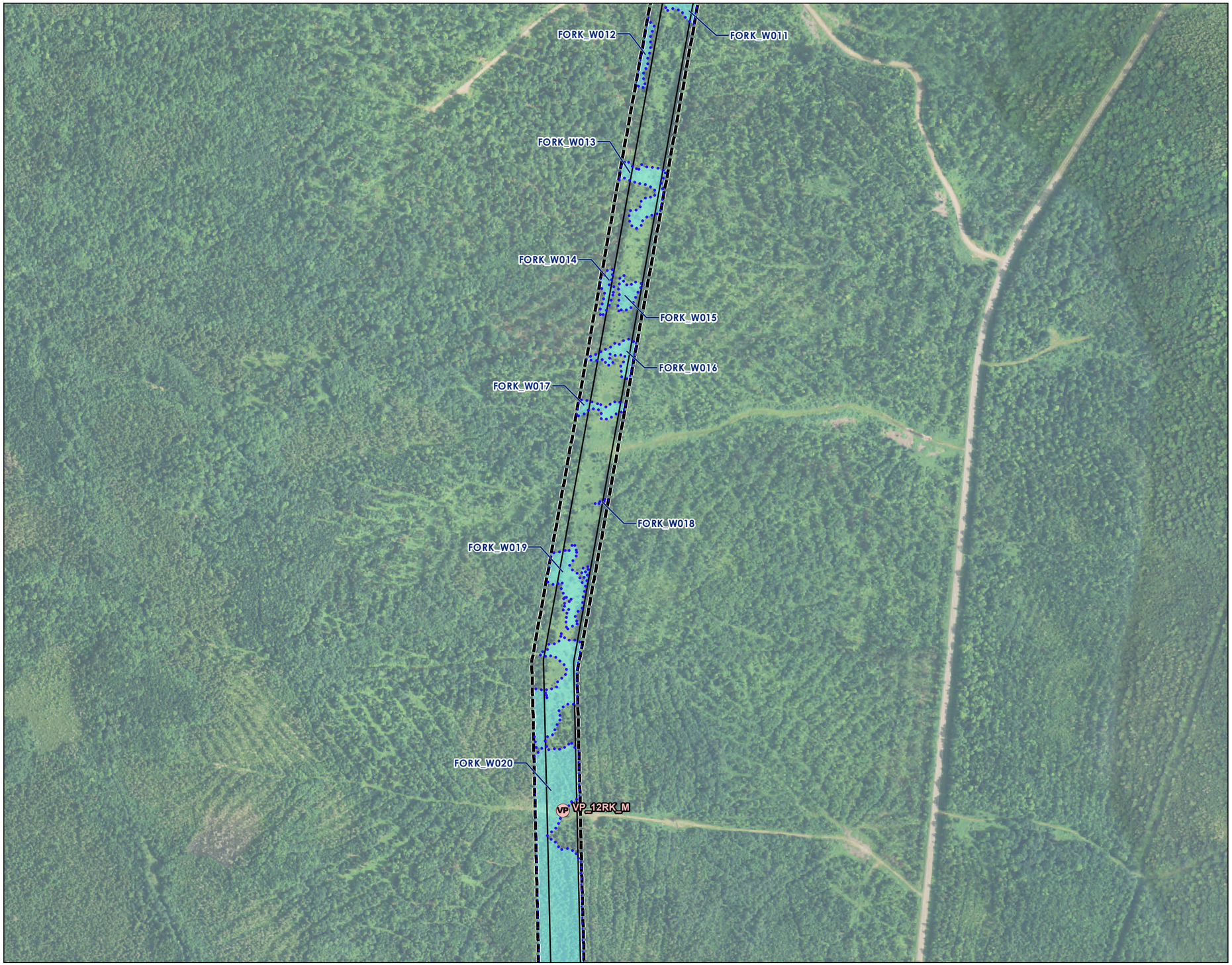

Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance

N

0 500 1,000 Feet

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Notes

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Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
19

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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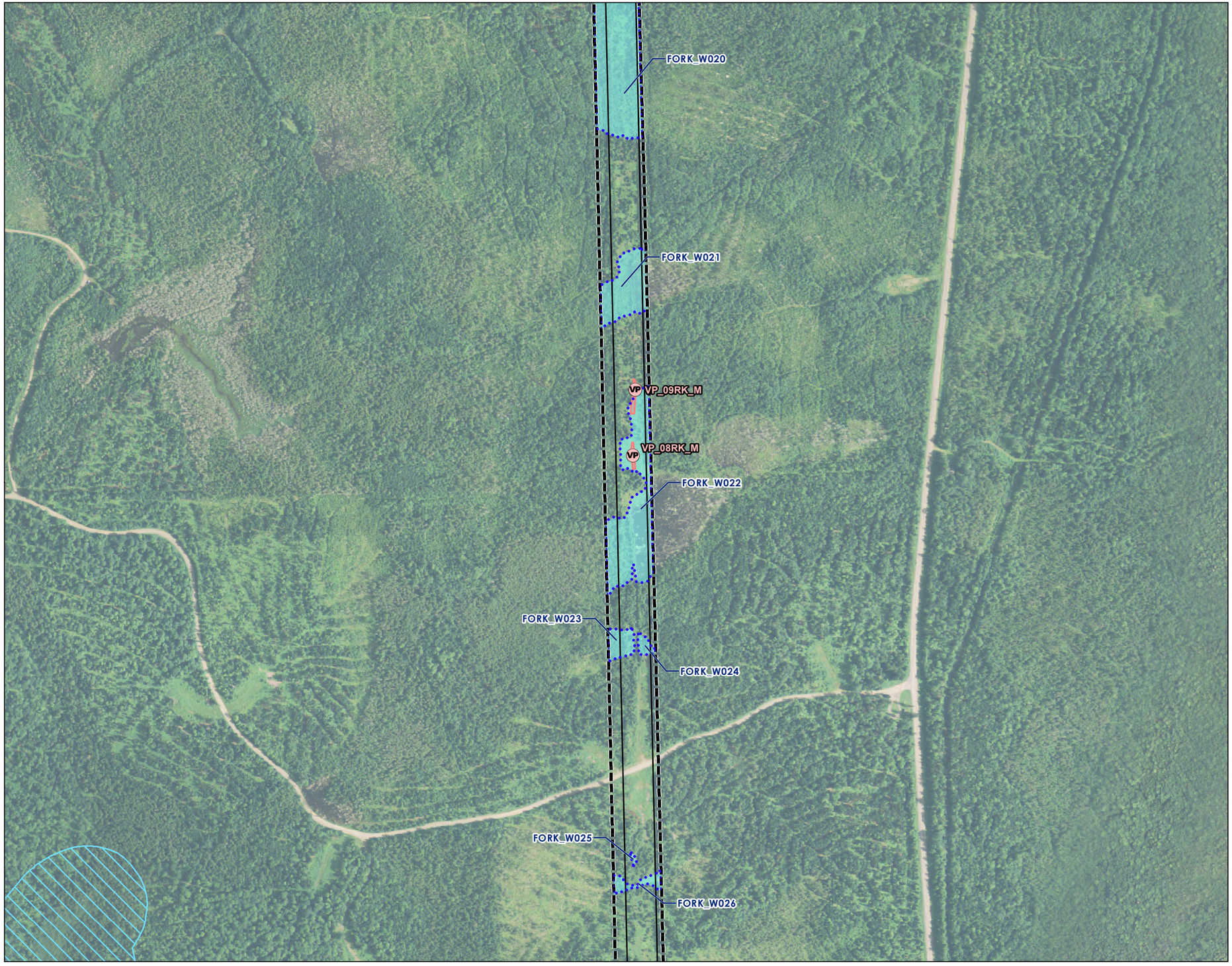

Stantec

Legend

- Vernal Pool
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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Notes

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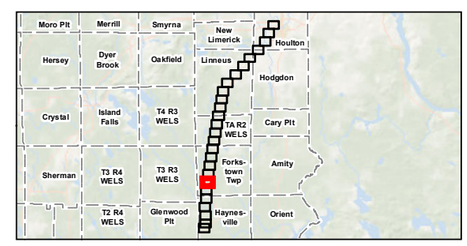

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
20

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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Stantec

Legend

- Amphibian Breeding Area
- Perennial Stream
- Amphibian Breeding Area
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

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Notes

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Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
21

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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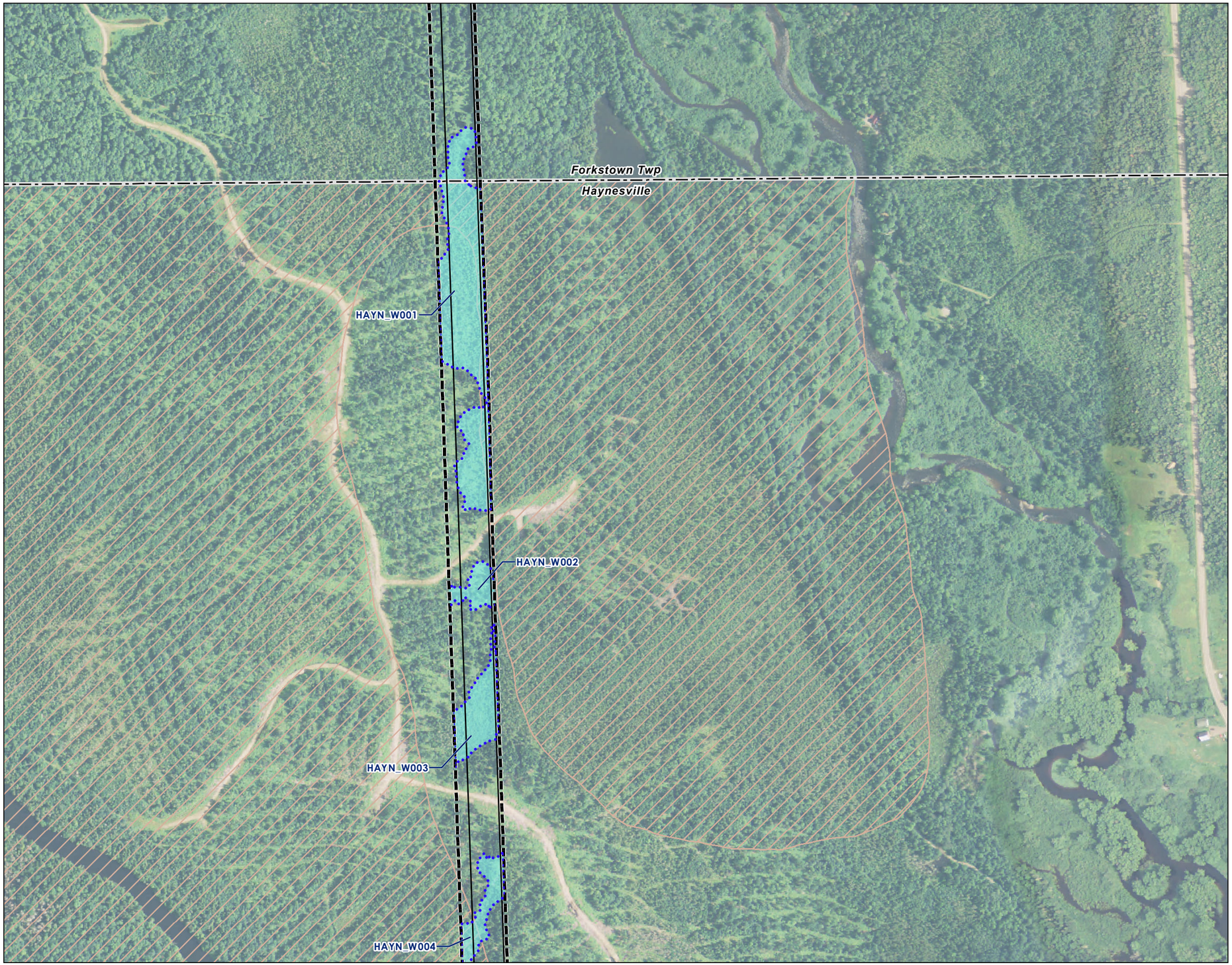

Stantec

Legend
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Deer Wintering Area

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes
1. Wetland boundaries delineated in accordance with USACE 1987 Wetland Delineation Manual or subsequent versions. Vernal pool surveys in 2014 and 2015 were conducted according to the Maine Association of Wetland Scientist Vernal Pool Technical Committee Vernal Pool Survey Protocols (April 2014). Vernal pool surveys conducted prior to 2014 followed other protocols that were accepted by the Maine Department of Inland Fisheries and Wildlife.
2. Wetland and vernal pool boundaries were located utilizing Trimble Geo-XH GeoExplorer 6000 Series Receivers. Expected accuracy of GPS data is within 1 meter of actual position.
3. Data sources: Maine Office of GIS, Maine Department of Inland Fisheries and Wildlife, Maine Land Use Planning Commission
4. Aerial Imagery: NAIP 2013

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
22

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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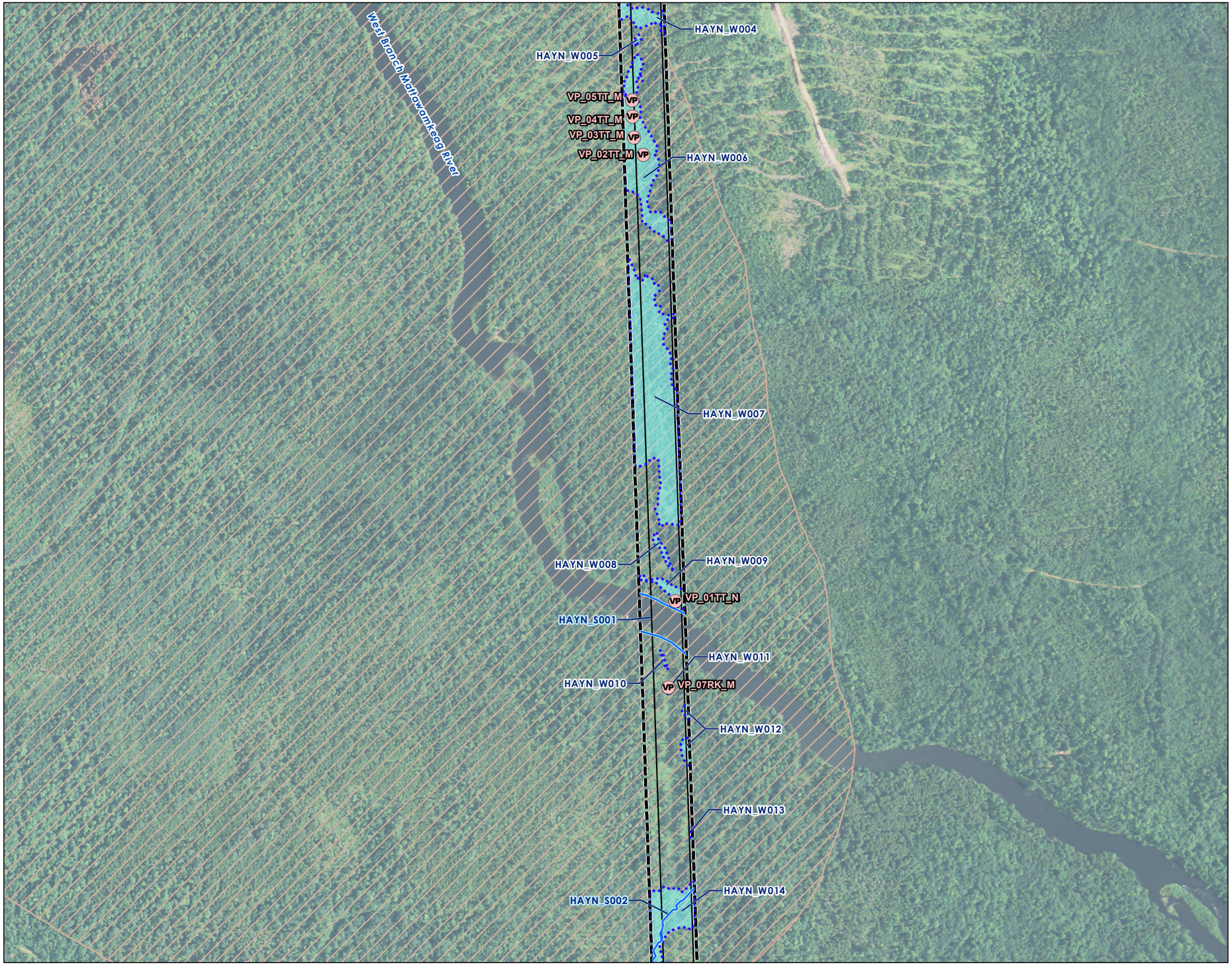

Stantec

Legend

- Vernal Pool
- Perennial Stream
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Deer Wintering Area

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

1. Wetland boundaries delineated in accordance with USACE 1987 Wetland Delineation Manual or subsequent versions. Vernal pool surveys in 2014 and 2015 were conducted according to the Maine Association of Wetland Scientist Vernal Pool Technical Committee Vernal Pool Survey Protocols (April 2014). Vernal pool surveys conducted prior to 2014 followed other protocols that were accepted by the Maine Department of Inland Fisheries and Wildlife.
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4. Aerial Imagery: NAIP 2013

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
23

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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Stantec

Legend

- Vernal Pool
- Perennial Stream
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Deer Wintering Area

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

1. Wetland boundaries delineated in accordance with USACE 1987 Wetland Delineation Manual or subsequent versions. Vernal pool surveys in 2014 and 2015 were conducted according to the Maine Association of Wetland Scientist Vernal Pool Technical Committee Vernal Pool Survey Protocols (April 2014). Vernal pool surveys conducted prior to 2014 followed other protocols that were accepted by the Maine Department of Inland Fisheries and Wildlife.
2. Wetland and vernal pool boundaries were located utilizing Trimble Geo-XH GeoExplorer 6000 Series Receivers. Expected accuracy of GPS data is within 1 meter of actual position.
3. Data sources: Maine Office of GIS, Maine Department of Inland Fisheries and Wildlife, Maine Land Use Planning Commission
4. Aerial Imagery: NAIP 2013

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
24

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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Stantec

Legend

- Vernal Pool
- Perennial Stream
- Vernal Pool Boundary
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Deer Wintering Area
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

1. Wetland boundaries delineated in accordance with USACE 1987 Wetland Delineation Manual or subsequent versions. Vernal pool surveys in 2014 and 2015 were conducted according to the Maine Association of Wetland Scientist Vernal Pool Technical Committee Vernal Pool Survey Protocols (April 2014). Vernal pool surveys conducted prior to 2014 followed other protocols that were accepted by the Maine Department of Inland Fisheries and Wildlife.
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3. Data sources: Maine Office of GIS, Maine Department of Inland Fisheries and Wildlife, Maine Land Use Planning Commission
4. Aerial Imagery: NAIP 2013

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
25

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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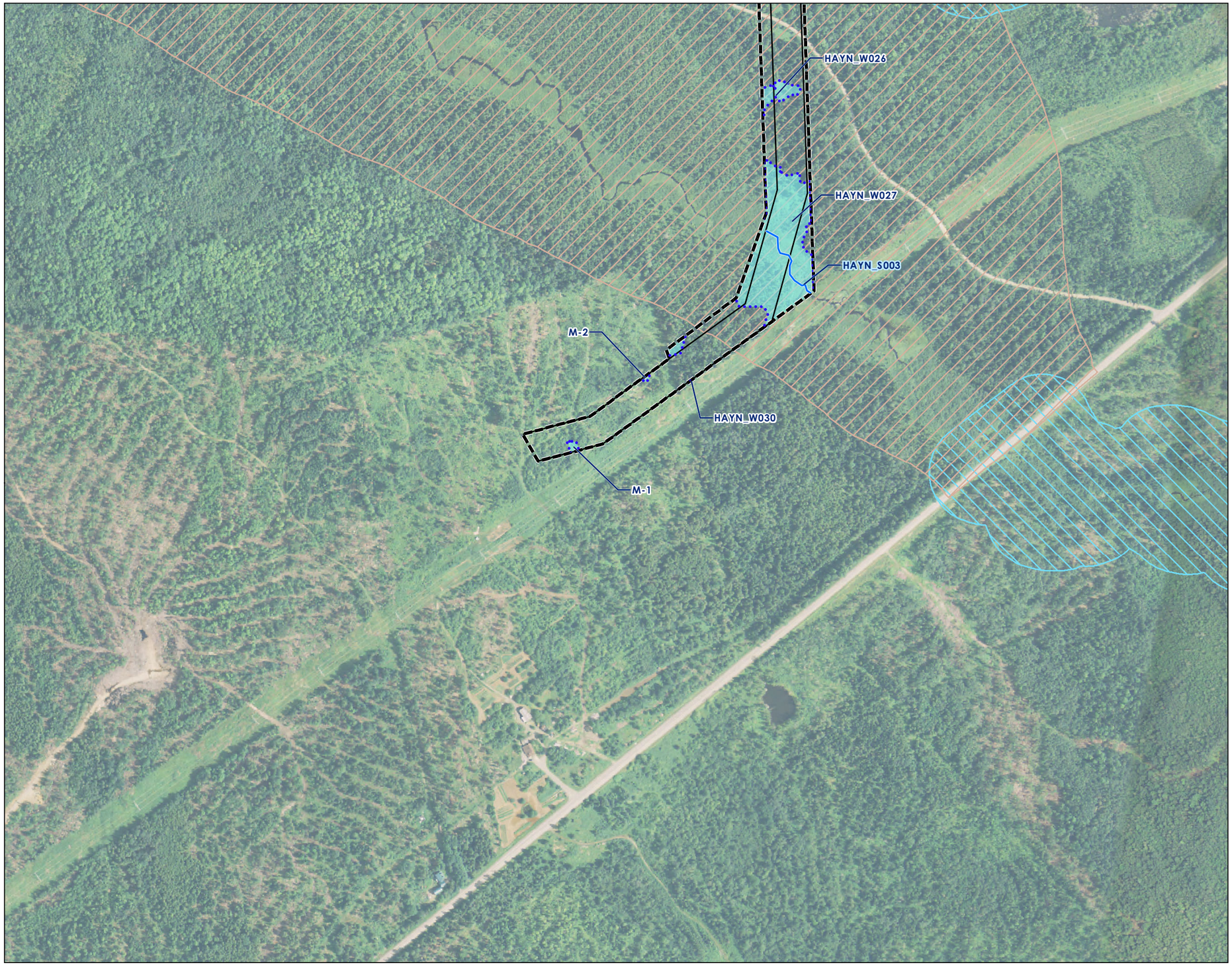

Stantec

Legend

- Perennial Stream
- Delineated Wetland
- Reporting Limits
- Limit of Disturbance
- Deer Wintering Area
- Inland Waterfowl & Wading Bird Habitat

N

0 500 1,000 Feet

1" = 500' (At original page size of 11"x17")

Notes

1. Wetland boundaries delineated in accordance with USACE 1987 Wetland Delineation Manual or subsequent versions. Vernal pool surveys in 2014 and 2015 were conducted according to the Maine Association of Wetland Scientist Vernal Pool Technical Committee Vernal Pool Survey Protocols (April 2014). Vernal pool surveys conducted prior to 2014 followed other protocols that were accepted by the Maine Department of Inland Fisheries and Wildlife.
2. Wetland and vernal pool boundaries were located utilizing Trimble Geo-XH GeoExplorer 6000 Series Receivers. Expected accuracy of GPS data is within 1 meter of actual position.
3. Data sources: Maine Office of GIS, Maine Department of Inland Fisheries and Wildlife, Maine Land Use Planning Commission
4. Aerial Imagery: NAIP 2013

Project Location
Aroostook County, Maine

195600919
Prepared by GAC on 2015-07-06
Reviewed by KAW on 2015-07-06

Client/Project
EDP Renewables North America LLC
Number Nine Wind Farm

Figure No.
26

Title
Bridal Path Generator Lead Delineated Natural Resource Map

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Appendix C NATURAL RESOURCE TABLES

TABLE C-1 DELINEATED WETLAND RESOURCES

Table C-1a Turbine Area Delineated Wetland Resources
Table C-1b North Generator Lead Line Delineated Wetland Resources
Table C-1c Bridal Path Generator Lead Line Delineated Wetland Resources

TABLE C-2 DELINEATED STREAM RESOURCES

Table C-2a Turbine Area Delineated Stream Resources
Table C-2b North Generator Lead Line Delineated Stream Resources
Table C-2c Bridal Path Generator Lead Line Delineated Stream Resources

TABLE C-3 VERNAL POOL SURVEY RESULTS

Table C-3a Turbine Area Vernal Pool Survey Results
Table C-3b North Generator Lead Line Vernal Pool Survey Results
Table C-3c Bridal Path Generator Lead Line Vernal Pool Survey Results

Table C-1a: Summary of wetland resources, including associated streams, vernal pools and amphibian breeding areas, identified within the Turbine Area reporting limits for the Number Nine Wind Farm. Identification of Wetlands of Special Significant (WSS) based upon definition in the Maine Natural Resource Protection Act: **E** = Wetlands that contain 20,000 sq. ft. or more of open water or emergent habitat; **H** = Wetlands that include Significant Wildlife Habitat; **R** = Wetlands within 25 feet of a river, stream or brook; **P** = Wetlands that contain a peatland.

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
1	BRID_W001	5/28/2015		D	X			SVP_147CF_N	H	
1	BRID_W002	6/1/2015		X						
1	TDR2_W412	5/27/2015	X					VP_159RK_M VP_160RK_M		
2	TDR2_W395	11/12/2014			X					
2	TDR2_W396	11/12/2014	X				TDR2_S109		R	
2	TDR2_W397	11/12/2014	X							
2	TDR2_W398	11/12/2014			X		TDR2_S110		R	
2	TDR2_W399	11/12/2014	X				TDR2_S111		R	
2	TDR2_W400	11/12/2014	X				TDR2_S112		R	
2	TDR2_W401	11/12/2014	X							
2	TDR2_W402	11/12/2014		X						
2	TDR2_W403	11/12/2014			X					
2	TDR2_W404	11/12/2014	D		X					
2	TDR2_W405	11/12/2014, 6/2/2015	D		X					
2	TDR2_W410	6/2/2015		X						
2	TDR2_W411	6/2/2015	D		X					
3	TDR2_W008	7/28/2014			X					
3	TDR2_W009	7/28/2014, 9/15/2014	X	D	D		TDR2_S006			Stream is LUPC ephemeral
3	TDR2_W010	9/16/2014		X						
3	TDR2_W011	9/16/2014		X						
3	TDR2_W012	9/15/2014		X						
3	TDR2_W015	7/28/2014			X			VP_09KR_M		
3	TDR2_W016	7/28/2014	X				TDR2_S006			Stream is LUPC ephemeral
3	TDR2_W017	8/27/2014			X					
3	TDR2_W018	8/27/2014	X				TDR2_S005		R	
3	TDR2_W019	8/27/2014			X					
3	TDR2_W020	8/27/2014	X		D					
3	TDR2_W021	8/27/2014		X						
3	TDR2_W022	8/12/2014, 8/27/2014		D	X					
3	TDR2_W023	8/27/2014	X							
3	TDR2_W024	9/17/2014			X					
3	TDR2_W025	8/12/2014, 8/27/2014, 9/16/2014	X		D		TDR2_S008 TDR2_S007		R	Stream TDR2_S007 is LUPC ephemeral
3	TDR2_W026	8/27/2014		X			TDR2_S008		R	
3	TDR2_W027	8/27/2014		X			TDR2_S009		R	
3	TDR2_W028	8/27/2014		X			TDR2_S009 TDR2_S010		R	
3	TDR2_W029	8/27/2014	X				TDR2_S010		R	
3	TDR2_W030	8/27/2014			X					
3	TDR2_W031	8/27/2014			X		TDR2_S011			Stream is LUPC ephemeral
3	TDR2_W032	8/27/2014			X		TDR2_S011			Stream is LUPC ephemeral
3	TDR2_W033	8/27/2014	X				TDR2_S012		R	
3	TDR2_W034	8/27/2014	X				TDR2_S012		R	
3	TDR2_W035	8/27/2014	X							
3	TDR2_W051	7/30/2014		X	D					
3	TDR2_W052	7/30/2014		X				VP_D08VP30_M		
3	TDR2_W053	7/29/2014, 7/30/2014, 8/12/2014, 9/11/2014	D		X		TDR2_S003	SVP_C08VP19_N VP_88RK_M	R, H	
3	TDR2_W055	7/28/2014			X					
3	TDR2_W056	8/12/2014			X					

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
3	TDR2_W057	7/23/2014, 8/12/2014	D		D					
3	TDR2_W058	9/11/2014			X			VP_D08VP27_M		
3	TDR2_W059	8/12/2014			X					
3	TDR2_W060	9/11/2014			X					
3	TDR2_W061	8/12/2014, 9/11/2014			X					
3	TDR2_W062	8/12/2014			X					
3	TDR2_W063	7/23/2014			X					
3	TDR2_W064	7/23/2014	X		D		TDR2_S001		R	
3	TDR2_W065	7/23/2014			X		TDR2_S001		R	
3	TDR2_W075	8/12/2014		X						
3	TDR2_W077	7/29/2014			X					
3	TDR2_W363	11/3/2014			X			VP_119CF_M		
3	TDR2_W364	11/3/2014			X			VP_117CF_M VP_118CF_M		
3	TDR2_W365	11/3/2014	X					VP_116CF_M		
3	TDR2_W366	11/4/2014		X				VP_120CF_M		
3	TDR2_W367	11/4/2014	X							
3	TDR2_W368	11/4/2014	X							
3	TDR2_W369	11/4/2014			X					
3	TDR2_W370	11/4/2014			X					
3	TDR2_W371	11/4/2014			X					
4	TDR2_W036	8/27/2014	X							
4	TDR2_W037	8/27/2014		X		D	TDR2_S013		R	
4	TDR2_W038	8/26/2014	X							
4	TDR2_W039	7/15/2014		X	D					
4	TDR2_W040	8/26/2014	X							
4	TDR2_W041	8/26/2014			X					
4	TDR2_W042	8/26/2014		X						
4	TDR2_W043	8/26/2014	X				TDR2_S015		R	
4	TDR2_W044	8/26/2014	X				TDR2_S016		R	
4	TDR2_W045	8/26/2014		X						
4	TDR2_W046	8/26/2014	D				TDR2_S016		R	
4	TDR2_W047	8/26/2014		X			TDR2_S016		R	
4	TDR2_W048	8/26/2014			X		TDR2_S016		R	
4	TDR2_W049	8/26/2014	X							
4	TDR2_W050	7/15/2014	D	X	X			VP_177TT_M		
4	TDR2_W143	7/25/2014, 8/26/2014	D	X			TDR2_S021 TDR2_S022 TDR2_S023		R, E	Open water component influenced by beaver activity
4	TDR2_W144	8/26/2014			X					
4	TDR2_W372	11/4/2014	X							
4	TDR2_W373	11/4/2014	X							
5	TDR2_W076	8/12/2014		X						
5	TDR2_W078	7/29/2014			X					
5	TDR2_W079	7/29/2014			X					
5	TDR2_W085	8/12/2014	X							
5	TDR2_W086	8/12/2014		X	D					
5	TDR2_W087	8/12/2014	X							
5	TDR2_W088	8/12/2014		X	D					
5	TDR2_W089	8/13/2014			X					
5	TDR2_W099	7/15/2014		X						
5	TDR2_W100	7/15/2014	X							
5	TDR2_W101	7/15/2014	X				TDR2_S017		R	
5	TDR2_W102	7/15/2014			X					
5	TDR2_W103	7/15/2014	X							
5	TDR2_W104	7/15/2014	X							
5	TDR2_W105	9/17/2014			X					
5	TDR2_W106	7/15/2014	X							
5	TDR2_W109	7/15/2014			X					
5	TDR2_W111	9/17/2014			X					
5	TDR2_W112	7/15/2014	X					SVP_C08VP15_N	H	
5	TDR2_W113	7/15/2014	D		X			VP_C08VP13_M		

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
								VP_C08VP14_M		
5	TDR2_W114	7/15/2014			X					
5	TDR2_W407	11/13/2014		X						
6	TDR2_W066	7/24/2014, 11/10/2014	X		D					
6	TDR2_W067	7/24/2014, 11/10/2014			X					
6	TDR2_W068	7/24/2014, 11/10/2014			X					
6	TDR2_W069	7/24/2014		X						
6	TDR2_W070	7/24/2014			X					
6	TDR2_W071	7/24/2014			X					
6	TDR2_W072	7/24/2014		X						
6	TDR2_W073	7/24/2014	X		D					
6	TDR2_W074	7/24/2014	X							
6	TDR2_W097	7/16/2014			X			VP_179TT_M		
6	TDR2_W098	7/16/2014	X							
6	TDR2_W380	11/10/2014			X					
6	TDR2_W381	11/10/2014			X					
6	TDR2_W382	11/10/2014			X					
6	TDR2_W383	11/10/2014		X						
6	TDR2_W384	11/10/2014			X					
6	TDR2_W385	11/10/2014			X			VP_126CF_M		
6	TDR2_W386	11/11/2014	X							
6	TDR2_W387	11/11/2014	X				TDR2_S105		R	
6	TDR2_W388	11/11/2014	X				TDR2_S106		R	
6	TDR2_W389	11/11/2014		X						
6	TDR2_W390	11/11/2014	X					VP_132CF_M		
6	TDR2_W391	11/12/2014	X				TDR2_S108		R	
6	TDR2_W392	11/12/2014		X						
6	TDR2_W393	11/12/2014	X							
6	TDR2_W394	11/12/2014	X							
31	TDR2_W115	8/26/2014	X							
31	TDR2_W116	8/26/2014	X					VP_D08VP19_M		
31	TDR2_W117	8/26/2014			X				H	Includes mapped IWWH
31	TDR2_W118	8/26/2014	X				TDR2_S046 TDR2_S115		R, E	Open water component influenced by beaver activity
31	TDR2_W119	8/26/2014	D			X		ABA_D08VP18_N	H, E	Includes mapped IWWH
31	TDR2_W120	8/26/2014		D	X				H, E	IWWH located ~ 10 feet beyond delineation limits
31	TDR2_W121	8/26/2014	X						E	Open water component influenced by beaver activity
31	TDR2_W122	8/26/2014			X					
31	TDR2_W123	8/26/2014			X					
32	TDR2_W124	7/30/2014			X			SVP_D08VP26_N	H	
32	TDR2_W125	7/30/2014	X					VP_69JL_M		
32	TDR2_W126	7/30/2014			X					
32	TDR2_W127	7/30/2014	X					SVP_D08VP48_N	H	
32	TDR2_W128	7/30/2014			X					
32	TDR2_W129	7/30/2014		D	X					
32	TDR2_W130	7/30/2014			X					
32	TDR2_W131	7/30/2014			X					
32	TDR2_W132	7/30/2014	D	X						
32	TDR2_W133	7/30/2014	X							
32	TDR2_W134	7/30/2014	X							
32	TDR2_W135	9/19/2014, 11/17/2014	X							
32	TDR2_W136	9/19/2014, 11/17/2014	X							
32	TDR2_W137	9/19/2014	X					SVP_C08VP11_N	H	
32	TDR2_W138	7/25/2014, 9/19/2014, 11/17/2014	D		X					
32	TDR2_W139	7/25/2014	X							

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
32	TDR2_W408	11/17/2014	X				TDR2_S114	VP_136CF_N	R	
33	TDR2_W165	8/21/2014, 11/6/2014			X					
33	TDR2_W167	8/21/2014, 11/6/2014			X		TDR2_S040 TDR2_S039 TDR2_S099		R	
33	TDR2_W168	8/21/2014, 11/6/2014			X		TDR2_S038		R	
33	TDR2_W169	8/21/2014, 11/6/2014			X					
33	TDR2_W170	8/21/2014	X							
33	TDR2_W171	8/21/2014, 11/6/2014			X			VP_123CF_M VP_124CF_M		
33	TDR2_W173	8/21/2014			X					
33	TDR2_W174	8/21/2014			X					
33	TDR2_W175	8/21/2014, 11/6/2014	X				TDR2_S044		R	
33	TDR2_W374	11/6/2014			X					
33	TDR2_W375	11/6/2014	X					VP_122CF_M		
33	TDR2_W376	11/6/2014			X					
33	TDR2_W378	11/6/2014			X					
34	TDR2_W145	8/26/2014	X				TDR2_S020		R	
34	TDR2_W146	8/26/2014		X						
34	TDR2_W147	8/26/2014		X						
34	TDR2_W148	8/26/2014			X					
34	TDR2_W149	8/26/2014	X							
34	TDR2_W150	8/26/2014	X							
34	TDR2_W151	8/26/2014	X				TDR2_S032			Stream is LUPC ephemeral
34	TDR2_W152	8/26/2014	X				TDR2_S033 TDR2_S036		R	
34	TDR2_W153	8/25/2014	X				TDR2_S036		R	
34	TDR2_W154	8/25/2014, 8/26/2014	X				TDR2_S035		R	
34	TDR2_W155	8/25/2014		X						
34	TDR2_W156	8/25/2014		X						
34	TDR2_W157	8/25/2014	X							
34	TDR2_W158	8/25/2014	X							
34	TDR2_W159	8/20/2014		X						
34	TDR2_W160	8/20/2014			X					
34	TDR2_W161	8/20/2014			X		TDR2_S042		R	
34	TDR2_W162	8/20/2014		X						
34	TDR2_W163	8/20/2014	X				TDR2_S042		R	
34	TDR2_W164	8/20/2014	X							
35	TDR2_W176	8/26/2014	X							
35	TDR2_W177	8/26/2014	X							
35	TDR2_W178	8/26/2014	X							
35	TDR2_W179	8/26/2014	D		X		TDR2_S048		R	
35	TDR2_W180	8/26/2014			X					
35	TDR2_W181	8/26/2014	X							
35	TDR2_W182	8/26/2014	X							
35	TDR2_W183	8/26/2014	D		X		TDR2_S051		R	
35	TDR2_W184	8/26/2014			X					
35	TDR2_W185	8/26/2014		X						
35	TDR2_W186	8/22/2014, 8/26/2014	X				T9R3_S011 TDR2_S053		R	
35	TDR2_W187	7/31/2014, 8/22/2014	X				T9R3_S011		R	
35	TDR2_W188	7/31/2014, 8/22/2014	X				T9R3_S011		R	
35	TDR2_W189	7/31/2014			X		TDR2_S055		R	
35	TDR2_W190	7/31/2014, 8/22/2014	X				T9R3_S011		R	

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
							TDR2_S055			
35	TDR2_W191	7/31/2014, 8/22/2014	D	X			T9R3_S011		R	
35	TDR2_W192	8/25/2014			X					
35	TDR2_W193	8/25/2014			X					
35	TDR2_W194	8/25/2014	X							
35	TDR2_W195	8/25/2014		X						
35	TDR2_W196	8/25/2014		X						
35	TDR2_W197	8/25/2014		X						
35	TDR2_W198	8/25/2014		X						
35	TDR2_W199	8/25/2014	X							
35	TDR2_W200	8/25/2014	X				TDR2_S049			Stream is LUPC ephemeral
35	TDR2_W201	8/25/2014			X					
35	TDR2_W202	7/31/2014			X					
35	TDR2_W203	7/31/2014			X					
35	TDR2_W204	7/31/2014		X						
35	TDR2_W214	8/20/2014			X					
35	TDR2_W215	8/20/2014			X		TDR2_S043		R	
35	TDR2_W377	11/6/2014		X					R	Stream TDR2_S104 small, intermittent stream located just south of reporting limits
38	TDR2_W205	9/17/2014			X			VP_A10VP02_N		
38	TDR2_W206	7/31/2014		D	D					
38	TDR2_W207	8/20/2014		X			TDR2_S056		R	
38	TDR2_W208	8/20/2014	X							
38	TDR2_W209	8/20/2014			X		TDR2_S056		R	
38	TDR2_W210	8/20/2014		X						
38	TDR2_W211	8/20/2014		X						
38	TDR2_W212	8/20/2014			X					
38	TDR2_W213	8/20/2014		X						
38	TDR2_W216	8/20/2014		D	X			VP_D08VP09_M		
38	TDR2_W217	8/20/2014	D		X			ABA_60JL_N	E	Open water component influenced by beaver activity
39	TDR2_W218	8/20/2014			X					
39	TDR2_W219	8/19/2014	X	D			TDR2_S057		R	
39	TDR2_W220	8/19/2014	X							
39	TDR2_W221	8/19/2014			X					
39	TDR2_W222	8/19/2014		X	D					
39	TDR2_W224	8/19/2014			X					
39	TDR2_W225	8/19/2014			X					
39	TDR2_W226	7/29/2014, 8/18/2014, 8/19/2014		X				VP_D08VP02_M		
39	TDR2_W227	7/29/2014		X						
39	TDR2_W228	7/29/2014			X					
39	TDR2_W229	7/29/2014	D		X					
39	TDR2_W230	7/29/2014			X					
39	TDR2_W231	7/29/2014			X			VP_C08VP04_M		
39	TDR2_W234	7/29/2014			X					
39	TDR2_W235	7/29/2014			X					
39	TDR2_W236	7/29/2014			X					
39	TDR2_W237	7/29/2014			X					
39	TDR2_W238	7/29/2014			X		TDR2_S058			Stream is LUPC ephemeral
39	TDR2_W239	7/29/2014		X						
39	TDR2_W240	7/29/2014			X			VP_01MD_M		
39	TDR2_W241	7/29/2014			X					
39	TDR2_W242	7/29/2014			X		TDR2_S059 TDR2_S061 TDR2_S060		R	Stream TDR2_S060 is LUPC ephemeral
39	TDR2_W243	7/29/2014	X				TDR2_S059	ABA_D08VP08_M	R	
39	TDR2_W244	7/29/2014	X							
39	TDR2_W245	7/29/2014			X		TDR2_S062		R	
39	TDR2_W246	7/29/2014			X		TDR2_S064		R	
39	TDR2_W247	7/29/2014		X						
39	TDR2_W248	7/29/2014	X				TDR2_S064		R	

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
39	TDR2_W249	7/30/2014			X					
39	TDR2_W250	7/30/2014	X		D					
39	TDR2_W251	7/30/2014		X			TDR2_S065		R	
39	TDR2_W252	7/30/2014		X						
39	TDR2_W253	7/30/2014			X					
39	TDR2_W254	7/30/2014			X					
39	TDR2_W255	7/30/2014			X					
39	TDR2_W256	7/30/2014			X		TDR2_S067			Stream is LUPC ephemeral
39	TDR2_W257	7/30/2014			X					
39	TDR2_W258	7/30/2014			X					
39	TDR2_W259	7/30/2014	X							
39	TDR2_W260	7/30/2014, 9/18/2014			X					
40	TDR2_W232	7/29/2014			X			VP_D08VP07_M		
40	TDR2_W233	7/29/2014			X			VP_D08VP07_M		
40	TDR2_W261	8/7/2014			X					
40	TDR2_W262	8/7/2014			X					
41	TDR2_W223	8/19/2014		X						
5	ETWP_W001	8/14/2014		X						
5	ETWP_W002	8/14/2014, 11/13/2014	D	X						
5	ETWP_W003	8/14/2014, 11/13/2014	X	X	D					
5	ETWP_W004	8/14/2014, 11/13/2014	X				ETWP_S002 ETWP_S031		R	
5	ETWP_W005	8/14/2014, 11/13/2014	D		D		ETWP_S002		R	
5	ETWP_W006	8/14/2014, 11/13/2014		X			ETWP_S003			Stream is LUPC ephemeral
5	ETWP_W007	8/14/2014, 11/12/2014	X					VP_135CF_N		
5	ETWP_W008	8/14/2014			X					
5	ETWP_W073	8/13/2014	X				ETWP_S004		R	
5	ETWP_W074	8/13/2014	X				ETWP_S004		R	
5	ETWP_W075	8/13/2014	D		X					
5	ETWP_W076	7/15/2014			X					
5	ETWP_W077	7/15/2014			X					
5	ETWP_W078	7/15/2014			X					
5	ETWP_W079	7/15/2014	X		D					
5	ETWP_W080	7/15/2014	D		X		ETWP_S005		R	
5	ETWP_W082	8/13/2014			X					
5	ETWP_W083	8/13/2014	X							
5	ETWP_W084	8/13/2014	D		X					
5	ETWP_W285	11/13/2014		X						
5	ETWP_W287	11/13/2014		X	D					
6	ETWP_W013	7/16/2014	X							
6	ETWP_W015	7/16/2014			X					
6	ETWP_W016	7/16/2014			X					
6	ETWP_W017	7/16/2014			X					
6	ETWP_W018	7/16/2014	X							
6	ETWP_W019	7/16/2014	X							
6	ETWP_W020	7/16/2014	X							
6	ETWP_W021	7/16/2014			X					
6	ETWP_W022	7/16/2014	X							
6	ETWP_W038	8/15/2014			X					
6	ETWP_W270	11/10/2014		X						
6	ETWP_W271	11/10/2014	X							
6	ETWP_W272	11/11/2014	D		X					
6	ETWP_W273	11/11/2014			X					
6	ETWP_W274	11/11/2014		X						
6	ETWP_W275	11/11/2014	X							
6	ETWP_W276	11/11/2014	X							
6	ETWP_W277	11/11/2014	X				ETWP_S029		R	
6	ETWP_W278	11/11/2014	X				ETWP_S029		R	

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
6	ETWP_W279	11/11/2014			X					
6	ETWP_W280	11/11/2014		X						
6	ETWP_W281	11/11/2014		X						
6	ETWP_W282	11/11/2014	X				ETWP_S030		R	
6	ETWP_W283	11/11/2014	X							
6	ETWP_W284	11/11/2014		X			ETWP_S030	VP_129CF_M	R	
7	ETWP_W023	7/16/2014	X							
7	ETWP_W024	7/16/2014			X					
7	ETWP_W025	7/16/2014	X							
7	ETWP_W026	7/16/2014			X					
7	ETWP_W027	7/16/2014			X					
7	ETWP_W028	7/16/2014			X					
7	ETWP_W029	7/16/2014			X					
7	ETWP_W030	7/16/2014			X					
7	ETWP_W039	8/15/2014			X					
7	ETWP_W040	8/15/2014		X				VP_46RK_M		
7	ETWP_W041	8/15/2014	X	X	D					
7	ETWP_W042	7/17/2014	X							
7	ETWP_W043	7/17/2014			X					
7	ETWP_W044	8/15/2014			X					
7	ETWP_W045	7/17/2014		X				VP_140DB_N		
7	ETWP_W046	7/17/2014	X				ETWP_S010		R	
7	ETWP_W047	8/15/2014	X							
7	ETWP_W048	8/15/2014	X				ETWP_S011		R	
7	ETWP_W049	8/15/2014			X					
7	ETWP_W050	8/15/2014		X						
7	ETWP_W051	8/15/2014		X						
7	ETWP_W052	8/15/2014	X				ETWP_S012		R	
7	ETWP_W053	8/15/2014	X							
8	ETWP_W054	8/15/2014	X							
8	ETWP_W055	8/15/2014	X							
8	ETWP_W056	8/15/2014, 9/11/2014	X					VP_D08VP40_M		
8	ETWP_W057	9/11/2014	X							
8	ETWP_W058	8/15/2014, 9/11/2014	X							
8	ETWP_W059	9/11/2014			X					
8	ETWP_W060	7/17/2014			X					
8	ETWP_W061	7/17/2014, 8/15/2014, 9/10/2014		D	X			VP_C08VP25_M		
8	ETWP_W062	7/17/2014			X					
8	ETWP_W063	7/17/2014			X					
8	ETWP_W064	7/17/2014, 9/11/2014	X							
8	ETWP_W065	9/11/2014	X							
8	ETWP_W066	7/17/2014		X						
8	ETWP_W067	7/17/2014, 9/11/2014	X	D	D					
8	ETWP_W068	9/11/2014			X					
8	ETWP_W069	7/17/2014	X							
8	ETWP_W070	7/17/2014	X							
8	ETWP_W071	7/17/2014		X						
8	ETWP_W072	7/17/2014			X					
9	ETWP_W009	8/14/2014, 11/12/2014	X							
9	ETWP_W010	8/14/2014, 11/12/2014	X							
9	ETWP_W011	8/14/2014, 11/13/2014	X	D						
9	ETWP_W012	8/14/2014, 11/12/2014	X							
9	ETWP_W085	8/13/2014	X				ETWP_S006		R	
9	ETWP_W086	8/13/2014	D	X			ETWP_S007 ETWP_S013		R	

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
9	ETWP_W087	8/13/2014			X				E	
9	ETWP_W088	8/13/2014	X							
9	ETWP_W089	8/13/2014, 11/13/2014	X	D	X					
9	ETWP_W090	8/13/2014	X							
9	ETWP_W091	8/13/2014	X							
9	ETWP_W092	8/13/2014	X							
9	ETWP_W093	8/13/2014			X					
9	ETWP_W094	8/13/2014			X					
9	ETWP_W095	8/13/2014			X					
9	ETWP_W096	8/13/2014			X					
9	ETWP_W097	9/11/2014			X					
9	ETWP_W098	8/13/2014		X						
9	ETWP_W099	8/13/2014		X						
9	ETWP_W100	8/13/2014	X							
9	ETWP_W101	8/13/2014			X					
9	ETWP_W267	11/4/2014		X						
9	ETWP_W268	11/4/2014	X							
9	ETWP_W269	11/4/2014			X					
9	ETWP_W288	11/12/2014	X						P	Black spruce bog
10	ETWP_W102	8/14/2014		X						
10	ETWP_W103	8/14/2014	X							
10	ETWP_W104	8/14/2014		X						
10	ETWP_W105	8/14/2014, 10/28/2014	X				ETWP_S014 ETWP_S015		R	Stream ETWP_S014 is LUPC ephemeral
10	ETWP_W107	8/14/2014		X						
10	ETWP_W108	8/18/2014	D		X					
10	ETWP_W109	8/18/2014			X					
10	ETWP_W110	8/18/2014	X							
10	ETWP_W111	8/18/2014		X	D			VP_D08VP35_M		
10	ETWP_W112	8/18/2014	X							
10	ETWP_W113	8/14/2014	X							
10	ETWP_W114	8/14/2014			X					
10	ETWP_W115	7/23/2014			X					
10	ETWP_W116	7/23/2014	X							
10	ETWP_W117	7/23/2014	X							
10	ETWP_W118	7/23/2014	X							
10	ETWP_W119	7/23/2014			X					
10	ETWP_W120	7/23/2014	X							
10	ETWP_W121	7/23/2014	X							
10	ETWP_W122	7/23/2014	X		D			VP_59RK_M		
10	ETWP_W123	7/23/2014			X					
10	ETWP_W124	7/23/2014	X							
10	ETWP_W125	7/23/2014	X							
10	ETWP_W126	7/23/2014	X							
10	ETWP_W127	7/23/2014	X							
10	ETWP_W128	7/23/2014			X					
10	ETWP_W129	7/23/2014	X							
10	ETWP_W130	7/23/2014			X					
10	ETWP_W131	7/23/2014			X					
10	ETWP_W132	7/23/2014			X					
10	ETWP_W133	8/14/2014			X					
10	ETWP_W134	8/14/2014		X						
10	ETWP_W135	8/14/2014		X						
10	ETWP_W136	8/14/2014	D		X					
10	ETWP_W137	8/14/2014			X					
10	ETWP_W138	8/14/2014	X							
10	ETWP_W139	8/18/2014			X					
10	ETWP_W140	8/18/2014, 11/14/2014	X							
10	ETWP_W289	11/13/2014			X					
11	ETWP_W174	8/18/2014	X				ETWP_S020		R	
11	ETWP_W175	8/18/2014			X			VP_D08VP34_M		
11	ETWP_W176	8/18/2014	X				ETWP_S021		R	

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
11	ETWP_W177	8/18/2014		X			ETWP_S021		R	
11	ETWP_W178	8/18/2014	X							
11	ETWP_W179	8/18/2014	D	X						
11	ETWP_W180	8/18/2014, 11/13/2014	X	D			ETWP_S022		R, E	
11	ETWP_W181	8/18/2014		X			ETWP_S022		R	
11	ETWP_W182	8/19/2014	X							
11	ETWP_W183	8/19/2014	X							
11	ETWP_W184	8/19/2014		X						
11	ETWP_W185	8/19/2014		X						
11	ETWP_W186	8/19/2014	X							
11	ETWP_W187	8/19/2014			X					
11	ETWP_W188	8/19/2014	X							
11	ETWP_W189	8/19/2014		X						
11	ETWP_W190	8/19/2014			X					
11	ETWP_W191	8/19/2014	X					SVP_D08VP31_N	H	
11	ETWP_W192	8/19/2014			X					
12	ETWP_W141	8/18/2014, 11/14/2014	D			X	ETWP_S016		R, E	
12	ETWP_W142	8/18/2014, 11/14/2014	X				ETWP_S017		R	
12	ETWP_W143	8/18/2014, 11/13/2014	X	D		X	ETWP_S016 ETWP_S017		R, E	
12	ETWP_W144	8/18/2014, 11/14/2014	D	D						
12	ETWP_W145	8/18/2014, 11/13/2014	X	D						
12	ETWP_W146	8/18/2014, 11/14/2014		X						
12	ETWP_W147	8/18/2014, 11/13/2014	X							
12	ETWP_W148	7/7/2014	X		D					
12	ETWP_W149	7/7/2014		X						
12	ETWP_W150	7/7/2014			X					
12	ETWP_W151	7/7/2014			X					
12	ETWP_W152	7/7/2014			X					
12	ETWP_W153	7/14/2014		X						
13	ETWP_W154	7/14/2014			X					
13	ETWP_W155	7/14/2014			X					
13	ETWP_W156	7/14/2014	X	D	X		ETWP_S018			Stream is LUPC ephemeral
13	ETWP_W157	7/14/2014			X					
13	ETWP_W158	7/14/2014			X					
13	ETWP_W159	7/14/2014	D	X	X		ETWP_S019		R	
13	ETWP_W160	7/14/2014			X					
13	ETWP_W161	7/14/2014			X					
13	ETWP_W162	7/14/2014		X						
13	ETWP_W254	7/11/2014	D							
13	ETWP_W255	7/10/2014		X						
13	ETWP_W256	7/11/2014		X	D					
13	ETWP_W257	7/10/2014	D		D			SVP_57RK_N	H	
14	ETWP_W193	8/21/2014		X						
14	ETWP_W194	8/21/2014		X				VP_85RK_N		
14	ETWP_W195	8/21/2014			X					
14	ETWP_W196	8/21/2014			X					
14	ETWP_W197	8/21/2014			X			VP_81RK_M		
14	ETWP_W198	8/21/2014			X					
14	ETWP_W199	8/20/2014, 8/21/2014			X			VP_82RK_M		
14	ETWP_W200	8/21/2014			X					
14	ETWP_W201	8/21/2014	D		X		ETWP_S023		R	
14	ETWP_W202	8/21/2014	D		X					
14	ETWP_W203	8/20/2014	X							
14	ETWP_W204	8/20/2014			X					
14	ETWP_W205	8/20/2014	X							

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
14	ETWP_W206	8/20/2014	X					ABA_02RK_N		
15	ETWP_W207	8/20/2014	X					VP_76RK_N VP_77RK_N		
15	ETWP_W208	8/20/2014	X							
15	ETWP_W209	8/20/2014		X						
15	ETWP_W210	8/20/2014			X					
15	ETWP_W211	8/20/2014			X			VP_79RK_M		
15	ETWP_W212	8/20/2014			X			VP_75RK_M		
15	ETWP_W213	8/20/2014			X					
15	ETWP_W214	8/20/2014			X					
15	ETWP_W215	8/20/2014			X					
15	ETWP_W216	8/20/2014	X							
15	ETWP_W217	8/20/2014	X							
15	ETWP_W218	8/20/2014	D		D			VP_A09VP05_M		
15	ETWP_W219	8/20/2014		X	D					
15	ETWP_W220	8/20/2014			X					
15	ETWP_W221	8/20/2014	X							
15	ETWP_W222	7/28/2014		X						
15	ETWP_W223	7/28/2014	X							
15	ETWP_W224	7/28/2014	D		X			VP_B10VP05_M VP_B10VP06_N		
15	ETWP_W225	7/28/2014	X							
15	ETWP_W226	7/28/2014	X							
15	ETWP_W227	7/28/2014	X							
15	ETWP_W228	7/28/2014	X							
15	ETWP_W229	7/28/2014	X							
16	ETWP_W230	8/19/2014		X	D					
16	ETWP_W231	8/19/2014		X			ETWP_S025		R	
16	ETWP_W232	8/19/2014	X							
16	ETWP_W233	8/19/2014	X							
16	ETWP_W234	8/19/2014		X						
16	ETWP_W235	8/19/2014			X					
16	ETWP_W236	8/19/2014			X					
16	ETWP_W237	8/19/2014			X			VP_15KR_M		
16	ETWP_W238	7/25/2014	X							
16	ETWP_W239	7/25/2014			X					
16	ETWP_W240	7/25/2014			X					
16	ETWP_W241	7/25/2014		X	D					
16	ETWP_W242	7/25/2014			X					
16	ETWP_W266	11/5/2014			X					
16	ETWP_W292	8/19/2014	X							
17	ETWP_W258	11/5/2014	X							
17	ETWP_W259	11/5/2014	D		X					
17	ETWP_W260	11/5/2014		X						
17	ETWP_W261	11/5/2014		X				VP_A08VP01_M		
17	ETWP_W262	11/5/2014	X							
17	ETWP_W263	11/5/2014			X					
17	ETWP_W264	11/5/2014			X					
17	ETWP_W265	11/5/2014			X					
17	T10R3_W008	7/10/2014, 11/5/2014	D		X					
18	T10R3_W003	7/9/2014, 9/9/2014		D	X					
18	T10R3_W004	7/7/2014	X							
18	T10R3_W005	7/9/2014	X							
18	T10R3_W006	7/9/2014		X	D			VP_75TT_M		
18	T10R3_W007	7/9/2014	D	X	D			VP_42DB_M		
18	T10R3_W009	7/10/2014	D							
18	T10R3_W010	7/10/2014	D		X			VP_138RK_M		
18	T10R3_W011	7/10/2014	D							
18	T10R3_W012	7/10/2014		D	D					
18	T10R3_W013	7/9/2014, 7/10/2014, 9/9/2014	D		X			VP_41DB_M		
18	T10R3_W014	7/9/2014			X					

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
18	T10R3_W015	7/9/2014	D		X					
18	T10R3_W016	7/9/2014		D	D					
18	T10R3_W017	7/9/2014		X						
18	T10R3_W018	7/9/2014	D		X					
18	T10R3_W020	7/9/2014		D	D			VP_74TT_M		
18	T10R3_W021	7/9/2014		X	D					
18	T10R3_W022	7/9/2014	X	D	D					
18	T10R3_W023	7/8/2014, 7/9/2014	D	D	D			VP_44DB_M		
18	T10R3_W024	7/8/2014			X					
18	T10R3_W025	7/8/2014			X					
18	T10R3_W026	7/8/2014		X	D					
18	T10R3_W027	7/8/2014			X					
18	T10R3_W028	7/8/2014	X	X	D					
18	T10R3_W029	7/8/2014		X						
18	T10R3_W030	7/8/2014	X							
18	T10R3_W031	7/8/2014	D		X		T10R3_S001	VP_43DB_N		
18	T10R3_W032	7/8/2014			X					
18	T10R3_W033	7/8/2014	D		X					
18	T10R3_W034	7/8/2014			X					
18	T10R3_W164	11/19/2014	X							
18	T10R3_W165	11/19/2014	X					VP_205TT_N		
18	T10R3_W166	11/19/2014			X					
18	T10R3_W167	11/19/2014	X							
19	T10R3_W035	7/8/2014			X					
19	T10R3_W036	7/8/2014			X			VP_79TT_M		
19	T10R3_W037	7/8/2014	X							
19	T10R3_W038	7/8/2014	X	X	D					
19	T10R3_W039	9/9/2014			X					
19	T10R3_W040	7/7/2014	D		X		T10R3_S004	VP_78TT_M		
20	T10R3_W168	6/1/2015	X							
20	T10R3_W169	6/1/2015		X						
20	T10R3_W170	6/1/2015	X							
20	T10R3_W171	6/1/2015	X					VP_146CF_N		
21	T10R3_W172	6/1/2015		X						
22	T10R3_W085	6/19/2014			X					
22	T10R3_W086	6/19/2014			X			VP_88TT_M		
22	T10R3_W087	6/19/2014	X				T10R3_S008		R	
22	T10R3_W088	9/10/2014	X							
23	T10R3_W089	9/10/2014	X							
23	T10R3_W090	6/19/2014, 9/10/2014	X		D			VP_53DB_M VP_90TT_M		
23	T10R3_W091	9/10/2014			X			VP_55DB_M		
23	T10R3_W092	6/19/2014, 9/10/2014	X					VP_91TT_M		
23	T10R3_W093	6/19/2014	D		X			VP_85TT_M VP_50DB_M		
23	T10R3_W094	6/19/2014			X					
23	T10R3_W095	6/19/2014			X			VP_77DB_M		
23	T10R3_W096	9/10/2014			X					
24	T10R3_W097	9/10/2014	D		X					
24	T10R3_W098	9/10/2014	X							
24	T10R3_W099	9/10/2014	X				T10R3_S009		R	
24	T10R3_W100	9/5/2014	X				T10R3_S009		R	
24	T10R3_W101	9/5/2014	X							
24	T10R3_W102	9/5/2014	X	D						
24	T10R3_W103	9/5/2014		X						
24	T10R3_W104	9/5/2014		X						
24	T10R3_W105	9/5/2014			X					
24	T10R3_W106	9/5/2014			X					
24	T10R3_W107	9/4/2014	X	D						
24	T10R3_W108	9/4/2014		X						
24	T10R3_W109	9/4/2014		X						
24	T10R3_W110	9/4/2014		X						

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
24	T10R3_W111	9/4/2014		X						
24	T10R3_W112	9/4/2014		X						
25	T10R3_W113	9/4/2014		X						
25	T10R3_W114	9/4/2014			X					
25	T10R3_W115	9/4/2014		X						
25	T10R3_W116	9/4/2014			X					
25	T10R3_W117	9/4/2014			X					
25	T10R3_W118	9/4/2014			X					
25	T10R3_W119	9/4/2014			X					
25	T10R3_W120	9/4/2014		X						
25	T10R3_W121	9/4/2014			X					
25	T10R3_W122	9/4/2014			X					
25	T10R3_W123	9/4/2014			X					
25	T10R3_W124	9/4/2014			X					
25	T10R3_W125	9/4/2014		X						
25	T10R3_W126	9/4/2014			X		T10R3_S010		R	
25	T10R3_W127	9/4/2014	D		X		T10R3_S010		R	
25	T10R3_W128	9/4/2014			X					
25	T10R3_W129	9/4/2014		X						
25	T10R3_W130	9/4/2014	X							
25	T10R3_W131	9/4/2014	D			X				
25	T10R3_W132	9/4/2014		X						
25	T10R3_W133	9/4/2014		X						
25	T10R3_W134	9/4/2014		X						
25	T10R3_W135	9/4/2014		X						
25	T10R3_W136	9/4/2014	X							
25	T10R3_W137	9/4/2014		X						
25	T10R3_W138	9/4/2014		X						
25	T10R3_W139	9/4/2014		X						
25	T10R3_W140	9/4/2014		X						
25	T10R3_W141	9/4/2014		X						
25	T10R3_W142	9/3/2014		X						
25	T10R3_W143	9/3/2014			X					
25	T10R3_W144	9/3/2014			X					
26	T10R3_W145	9/3/2014			X					
26	T10R3_W146	9/3/2014		X						
26	T10R3_W147	9/3/2014		X						
26	T10R3_W148	9/3/2014	X							
26	T10R3_W149	9/3/2014	X							
26	T10R3_W150	9/3/2014			X					
26	T10R3_W151	9/3/2014		X						
26	T10R3_W152	9/3/2014	X							
26	T10R3_W153	9/3/2014	D		X					
26	T10R3_W154	9/3/2014			X					
26	T10R3_W155	9/3/2014		X						
26	T10R3_W156	9/3/2014	X							
26	T10R3_W157	9/3/2014	X							
26	T10R3_W158	9/3/2014		X						
26	T10R3_W159	9/3/2014		X						
26	T10R3_W160	9/3/2014	X							
26	T10R3_W161	9/3/2014		X						
26	T10R3_W162	9/3/2014	X							
26	T10R3_W163	9/3/2014	X							
14	T9R3_W075	8/21/2014		X			T9R3_S001		R	
14	T9R3_W076	8/21/2014			X		T9R3_S001		R	
27	T9R3_W001	9/3/2014	X							
27	T9R3_W002	9/3/2014		X	D					
27	T9R3_W003	9/3/2014	X							
27	T9R3_W004	9/3/2014	X							
27	T9R3_W005	9/3/2014	X		D					
27	T9R3_W006	9/3/2014	X							
27	T9R3_W007	9/3/2014	X		D					
27	T9R3_W008	9/3/2014		X	D					
27	T9R3_W009	9/3/2014		X						
27	T9R3_W010	9/3/2014			X					

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28	T9R3_W011	9/3/2014	X							
28	T9R3_W012	9/3/2014	X							
28	T9R3_W013	9/3/2014	X							
28	T9R3_W014	9/2/2014		X			T9R3_S002		R	
28	T9R3_W015	9/2/2014		X	D			VP_37DB_M		
28	T9R3_W016	9/2/2014			X					
28	T9R3_W017	9/2/2014			X					
28	T9R3_W018	9/2/2014			X		T9R3_S003		R	
28	T9R3_W019	9/2/2014			X					
28	T9R3_W020	9/2/2014			X					
28	T9R3_W021	9/2/2014	X							
28	T9R3_W022	7/24/2014	X							
28	T9R3_W023	7/24/2014			X					
28	T9R3_W024	7/24/2014	X							
28	T9R3_W025	7/24/2014			X					
28	T9R3_W026	7/24/2014	D	X					P	
28	T9R3_W027	7/24/2014	D	X	X					
28	T9R3_W028	7/24/2014		X						
28	T9R3_W029	7/24/2014		X						
28	T9R3_W030	7/24/2014		D	X					
28	T9R3_W031	7/24/2014			X					
28	T9R3_W032	7/24/2014	X					VP_C10VP06_M		
28	T9R3_W033	7/24/2014			X					
28	T9R3_W034	7/24/2014			X					
28	T9R3_W035	7/24/2014			X					
28	T9R3_W036	7/24/2014			X					
28	T9R3_W047	7/24/2014	X							
28	T9R3_W048	7/24/2014	X		D			VP_D08VP21_M VP_C10VP02_N		
28	T9R3_W049	8/22/2014	X							
28	T9R3_W050	8/22/2014		X						
29	T9R3_W037	7/24/2014	X							
29	T9R3_W038	7/24/2014			X					
29	T9R3_W039	7/24/2014			X					
29	T9R3_W040	7/24/2014			X					
29	T9R3_W041	7/24/2014			X					
29	T9R3_W042	7/24/2014	X							
29	T9R3_W043	7/24/2014		X						
29	T9R3_W044	7/24/2014			X			VP_C10VP01_M		
29	T9R3_W045	7/24/2014			X					
29	T9R3_W046	7/24/2014			X					
30	T9R3_W051	8/22/2014	X							
30	T9R3_W052	8/22/2014	X				T9R3_S004		R	
30	T9R3_W053	8/22/2014			X					
30	T9R3_W054	8/22/2014			X					
30	T9R3_W055	8/21/2014			X					
30	T9R3_W056	8/21/2014		X				SVP_D08VP20_M	H	
30	T9R3_W057	8/21/2014		X						
30	T9R3_W058	8/21/2014			X					
30	T9R3_W059	8/21/2014			X					
30	T9R3_W060	8/21/2014	X					VP_C10VP20_N		
30	T9R3_W061	8/21/2014, 8/25/2014	D	X		X		SVP_95RK_N	H	
30	T9R3_W062	8/25/2014			X					
31	T9R3_W063	8/25/2014	X				T9R3_S005		R, E	Open water component influenced by beaver activity
31	T9R3_W064	8/25/2014	X				T9R3_S006		R	
31	T9R3_W065	8/25/2014	D		X		T9R3_S007		R, E	Open water component influenced by beaver activity
31	T9R3_W066	8/25/2014			X					
31	T9R3_W067	8/25/2014		X					E	Open water component influenced by beaver activity
31	T9R3_W068	8/25/2014	D	X			T9R3_S008		R	
31	T9R3_W069	8/25/2014	X				T9R3_S008		R	
31	T9R3_W070	8/25/2014	X							

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31	T9R3_W071	8/25/2014	X							
31	T9R3_W072	8/25/2014		X						
31	T9R3_W073	8/25/2014	D	X			T9R3_S010		R	
31	T9R3_W074	8/25/2014, 8/26/2014	X	D			T9R3_S010 T9R3_S009 TDR2_S047		R, E	Open water component influenced by beaver activity
35	T9R3_W077	7/18/2014	D		X					
35	T9R3_W078	7/18/2014, 6/2/2015	D		X			VP_141DB_M		
35	T9R3_W079	7/18/2014			X					
35	T9R3_W080	7/18/2014			X					
35	T9R3_W081	8/22/2014	X				T9R3_S013		R	
35	T9R3_W082	7/31/2014, 8/22/2014			X		T9R3_S011		R	
35	T9R3_W083	7/31/2014, 8/22/2014	X				T9R3_S011 T9R3_S012		R	
35	T9R3_W084	8/22/2014	X				T9R3_S012		R	
35	T9R3_W085	7/18/2014	X							
35	T9R3_W086	7/18/2014, 8/22/2014	D		X		T9R3_S014		R	
35	T9R3_W087	7/18/2014	D			X	T9R3_S015		R	
35	T9R3_W088	8/22/2014		X				VP_50JL_M		
35	T9R3_W089	7/18/2014, 8/21/2014	D	D						
35	T9R3_W358	6/2/2015	X							
36	T9R3_W090	8/21/2014	X							
36	T9R3_W091	8/21/2014	X				T9R3_S016		R	
36	T9R3_W092	8/21/2014			X					
36	T9R3_W093	8/21/2014		X			T9R3_S018		R	
36	T9R3_W094	8/21/2014	X				T9R3_S018		R	
36	T9R3_W095	7/22/2014	X					VP_33JL_N		
36	T9R3_W096	7/22/2014			X			VP_36JL_M		
36	T9R3_W097	8/21/2014		X						
36	T9R3_W098	8/21/2014			X					
36	T9R3_W099	7/22/2014		X			T9R3_S019		R, E	Open water component influenced by beaver activity
36	T9R3_W100	7/22/2014	X						E	Open water component influenced by beaver activity
36	T9R3_W101	7/21/2014			X					
36	T9R3_W102	7/22/2014	X						E	Open water component influenced by beaver activity
36	T9R3_W103	7/22/2014		X					E	Open water component influenced by beaver activity
36	T9R3_W104	7/21/2014	D		X				E	Open water component influenced by beaver activity
36	T9R3_W106	7/21/2014			X					
36	T9R3_W107	7/21/2014			X					
36	T9R3_W108	7/21/2014	X							
36	T9R3_W109	7/21/2014			X					
36	T9R3_W110	7/21/2014	X		D					
36	T9R3_W111	7/21/2014			X					
36	T9R3_W112	7/21/2014	X		D					
36	T9R3_W113	7/21/2014			X					
37	T9R3_W114	7/22/2014			X			VP_90RK_M		
37	T9R3_W115	7/22/2014			X					
37	T9R3_W116	7/21/2014, 7/22/2014	D		X			SVP_89RK_N VP_91RK_M	H	
37	T9R3_W117	7/21/2014	D	X						
37	T9R3_W118	7/18/2014	X							
37	T9R3_W119	9/18/2014			X					
37	T9R3_W120	9/18/2014			X					
37	T9R3_W121	9/18/2014			X			VP_01KN_M		

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37	T9R3_W122	7/18/2014			X					
37	T9R3_W123	7/18/2014			X					
37	T9R3_W124	9/18/2014			X					
37	T9R3_W125	8/19/2014	X							
37	T9R3_W126	8/19/2014		X						
37	T9R3_W127	8/19/2014		X						
37	T9R3_W128	8/19/2014		X						
37	T9R3_W129	8/19/2014		X						
37	T9R3_W130	8/19/2014			X					
37	T9R3_W131	8/19/2014			X					
37	T9R3_W132	8/19/2014		X						
37	T9R3_W133	8/19/2014		X						
37	T9R3_W134	8/19/2014	X							
37	T9R3_W135	8/19/2014		X						
37	T9R3_W136	8/19/2014		X						
39	T9R3_W219	8/18/2014		X						
39	T9R3_W220	8/18/2014		X						
39	T9R3_W222	8/18/2014		X	D					
39	T9R3_W223	8/18/2014		X						
40	T9R3_W214	8/14/2014		X				VP_20DB_M		
40	T9R3_W215	8/15/2014		X						
40	T9R3_W217	8/14/2014			X					
40	T9R3_W218	8/14/2014	X							
40	T9R3_W221	8/19/2014		X						
40	T9R3_W224	8/19/2014		X						
40	T9R3_W225	8/19/2014		X						
40	T9R3_W226	8/19/2014			X					
40	T9R3_W227	8/18/2014		X						
40	T9R3_W228	8/18/2014	X							
40	T9R3_W229	8/18/2014	X							
40	T9R3_W230	8/18/2014	X							
40	T9R3_W231	8/14/2014, 8/19/2014	X	D			T9R3_S048		R	
40	T9R3_W232	8/14/2014		X			T9R3_S044	VP_55TT_M	R, E	Open water component influenced by beaver activity
40	T9R3_W233	6/23/2014, 6/24/2014	D	X	X		T9R3_S042 T9R3_S043 T9R3_S045 T9R3_S046		R	
40	T9R3_W235	8/14/2014	X							
40	T9R3_W236	8/13/2014	X							
40	T9R3_W237	8/13/2014	X							
40	T9R3_W238	8/13/2014			X					
40	T9R3_W239	9/8/2014			X					
40	T9R3_W240	6/24/2014	X							
40	T9R3_W241	6/24/2014			X			VP_56JL_M VP_57JL_M		
40	T9R3_W242	6/24/2014			X					
40	T9R3_W244	6/24/2014			X					
40	T9R3_W245	6/24/2014			X					
40	T9R3_W246	6/24/2014			X			VP_54JL_M VP_55JL_M		
40	T9R3_W247	6/24/2014			X			VP_58JL_M		
40	T9R3_W248	6/24/2014			X					
40	T9R3_W250	6/24/2014			X					
40	T9R3_W251	6/24/2014	X							
40	T9R3_W253	6/24/2014			X					
40	T9R3_W254	6/24/2014		X	D					
40	T9R3_W255	6/24/2014			X					
40	T9R3_W256	6/24/2014		X	D					
40	T9R3_W257	6/24/2014			X					
40	T9R3_W258	6/24/2014			X					
40	T9R3_W259	8/13/2014	X					VP_53TT_M		
40	T9R3_W260	8/13/2014	X							

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40	T9R3_W261	8/13/2014	X							
40	T9R3_W262	8/13/2014	X							
40	T9R3_W263	6/24/2014			X					
40	T9R3_W264	6/24/2014			X					
40	T9R3_W265	6/24/2014		D	X					
40	T9R3_W266	6/24/2014			X					
40	T9R3_W267	6/24/2014			X			VP_81DB_M		
40	T9R3_W268	6/23/2014			X			VP_78DB_M VP_79DB_M VP_80DB_M		
40	T9R3_W269	6/23/2014			X					
40	T9R3_W270	9/8/2014			X			VP_48TT_M		
40	T9R3_W271	9/8/2014			X			VP_14DB_M		
40	T9R3_W276	8/13/2014			X					
40	T9R3_W277	8/13/2014, 11/17/2014	D	X						
40	T9R3_W278	8/13/2014	X				T9R3_S050		R	
40	T9R3_W279	8/13/2014, 11/17/2014	D		D		T9R3_S050		R	
40	T9R3_W280	8/13/2014			X			VP_15DB_M		
40	T9R3_W281	8/13/2014	X							
40	T9R3_W356	6/2/2015			X					
40	T9R3_W357	6/2/2015			X					
41	T9R3_W207	8/15/2014			X		T9R3_S040		R	
41	T9R3_W208	8/15/2014		X				VP_56TT_M		
41	T9R3_W209	8/15/2014	X	D						
41	T9R3_W210	8/14/2014		X						
41	T9R3_W211	8/14/2014, 8/15/2014	X				T9R3_S041		R	
41	T9R3_W212	8/15/2014	X				T9R3_S041 T9R3_S042		R	
41	T9R3_W213	8/19/2014		X						
41	T9R3_W216	8/19/2014		X						
42	T9R3_W137	8/19/2014	X							
42	T9R3_W138	8/19/2014	X				T9R3_S028		R	
42	T9R3_W139	8/19/2014		X						
42	T9R3_W140	8/19/2014		X			T9R3_S029		R	
42	T9R3_W141	8/19/2014	X				T9R3_S029		R	
42	T9R3_W142	8/19/2014			X		T9R3_S029		R	
42	T9R3_W143	8/19/2014	X				T9R3_S030		R	
42	T9R3_W144	8/19/2014	X				T9R3_S030		R	
42	T9R3_W145	8/18/2014		X						
42	T9R3_W146	8/18/2014	X				T9R3_S032		R	
42	T9R3_W147	8/18/2014	X					VP_D08VP17_M		
42	T9R3_W148	8/18/2014		X						
42	T9R3_W149	8/18/2014	X							
42	T9R3_W150	8/18/2014		X						
42	T9R3_W151	8/18/2014	X	D						
42	T9R3_W152	8/18/2014		X	D					
42	T9R3_W153	8/18/2014	X	D						
42	T9R3_W154	8/18/2014	X	D						
42	T9R3_W155	8/18/2014			X					
42	T9R3_W156	7/16/2014			X					
42	T9R3_W157	8/19/2014	X				T9R3_S035		R	
42	T9R3_W158	7/16/2014			X		T9R3_S036			Stream is LUPC ephemeral
42	T9R3_W159	7/16/2014		X			T9R3_S036			Stream is LUPC ephemeral
42	T9R3_W160	8/20/2014	X							
42	T9R3_W193	7/17/2014			X					
42	T9R3_W194	7/17/2014			X					
42	T9R3_W195	7/17/2014			X					
42	T9R3_W196	7/17/2014			X					
42	T9R3_W197	8/18/2014	X							
42	T9R3_W198	8/18/2014		X						
42	T9R3_W199	7/17/2014			X					
42	T9R3_W200	7/17/2014			D	X			E	

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
42	T9R3_W201	7/17/2014			X			VP_29JL_M		
42	T9R3_W202	7/17/2014	X							
42	T9R3_W203	7/17/2014			X			VP_30JL_M		
42	T9R3_W204	7/17/2014			X					
42	T9R3_W205	8/15/2014			X					
42	T9R3_W206	8/15/2014, 10/29/2014	D		D		T9R3_S039		R	
43	T9R3_W161	8/20/2014	X							
43	T9R3_W162	8/20/2014	X							
43	T9R3_W163	8/20/2014	X							
43	T9R3_W164	8/20/2014	X	D						
43	T9R3_W294	7/17/2014			X					
43	T9R3_W295	7/16/2014, 11/18/2014	X	D	X					
43	T9R3_W296	7/16/2014		X						
43	T9R3_W297	7/16/2014			X					
43	T9R3_W298	7/15/2014, 7/16/2014			X					
43	T9R3_W299	7/16/2014			X					
43	T9R3_W300	7/16/2014			X					
43	T9R3_W344	11/18/2014			X					
43	T9R3_W345	11/18/2014		X						
43	T9R3_W346	11/18/2014			X					
43	T9R3_W347	11/18/2014		X						
43	T9R3_W348	11/18/2014		X						
43	T9R3_W349	11/18/2014			X					
43	T9R3_W350	11/18/2014			X					
43	T9R3_W351	11/18/2014			X					
43	T9R3_W352	11/18/2014			X					
44	T9R3_W282	8/13/2014	X					VP_50TT_M		
44	T9R3_W283	8/13/2014			X		T9R3_S051		R	
44	T9R3_W284	8/13/2014		X			T9R3_S052	VP_17DB_M	R	
44	T9R3_W285	8/13/2014			X					
44	T9R3_W286	8/13/2014			X					
44	T9R3_W287	8/13/2014	X							
44	T9R3_W288	8/13/2014, 10/29/2014	X							
44	T9R3_W289	8/13/2014		X	D		T9R3_S053			Stream is LUPC ephemeral
44	T9R3_W290	7/21/2014			X					
44	T9R3_W291	7/21/2014			X					
44	T9R3_W292	7/21/2014	D	X	D					
44	T9R3_W293	7/21/2014			X					
44	T9R3_W321	8/27/2014			X		T9R3_S054		R	
44	T9R3_W322	8/27/2014			X		T9R3_S054		R	
44	T9R3_W323	8/27/2014	X				T9R3_S054		R	
44	T9R3_W324	8/27/2014	X							
44	T9R3_W325	8/27/2014			X					
45	T9R3_W301	8/7/2014, 9/5/2014	X							
45	T9R3_W302	9/5/2014			X		T9R3_S059			Stream is LUPC ephemeral
45	T9R3_W303	9/5/2014, 11/18/2014	X				T9R3_S058		R	
45	T9R3_W304	7/16/2014, 11/18/2014	X				T9R3_S058		R	
45	T9R3_W305	7/16/2014, 11/18/2014		D	X					
45	T9R3_W306	8/11/2014, 11/18/2014	X		D					
45	T9R3_W307	7/15/2014, 11/18/2014	X				T9R3_S057		R	
45	T9R3_W309	7/15/2014		D	D					
45	T9R3_W310	7/15/2014, 11/18/2014	D	X	X					
45	T9R3_W311	7/15/2014			X					
45	T9R3_W312	7/15/2014			X					

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
45	T9R3_W313	7/15/2014			X					
45	T9R3_W314	7/15/2014			X					
45	T9R3_W315	8/12/2014	X							
45	T9R3_W316	8/12/2014		X						
45	T9R3_W317	8/12/2014	X					VP_26JL_M		
45	T9R3_W318	8/12/2014		X		D	T9R3_S056		R	
45	T9R3_W319	8/12/2014	X				T9R3_S055	VP_19DB_M	R	
45	T9R3_W320	8/12/2014	X				T9R3_S055		R	
45	T9R3_W326	7/21/2014				X		VP_142DB_M		
45	T9R3_W327	7/21/2014	X					SVP_143DB_N	H	
45	T9R3_W328	7/21/2014				X		VP_181TT_M		
45	T9R3_W329	7/21/2014, 9/8/2014	D		X			VP_180TT_M		
45	T9R3_W342	11/18/2014			X					
45	T9R3_W343	11/18/2014			X					
58	T9R3_W165	8/20/2014	X							
58	T9R3_W166	8/20/2014	X							
58	T9R3_W167	8/20/2014	X							
58	T9R3_W168	8/20/2014	X							
58	T9R3_W169	8/20/2014		X						
58	T9R3_W170	8/20/2014			X					
58	T9R3_W171	8/20/2014	X				T9R3_S061		R	
58	T9R3_W172	8/20/2014	X				T9R3_S061		R	
58	T9R3_W173	8/20/2014	X							
58	T9R3_W174	8/20/2014	X							
59	T9R3_W175	8/20/2014	X							
59	T9R3_W176	8/20/2014			X					
59	T9R3_W177	8/20/2014	X							
59	T9R3_W178	8/20/2014		X	D					
59	T9R3_W179	8/20/2014			X					
59	T9R3_W180	8/20/2014			X					
59	T9R3_W181	8/20/2014	X				T9R3_S062		R	
59	T9R3_W182	8/20/2014	X				T9R3_S062		R	
45	T8R3_W018	8/12/2014			X					
45	T8R3_W019	8/12/2014		D		X				
45	T8R3_W020	8/12/2014	X				T8R3_S001		R	
45	T8R3_W029	7/22/2014			X					
45	T8R3_W030	7/22/2014			X					
45	T8R3_W031	7/22/2014, 9/18/2014		X	D					
45	T8R3_W032	7/22/2014	X							
45	T8R3_W033	7/22/2014, 9/18/2014	D	X	D					
46	T8R3_W021	8/12/2014			X					
46	T8R3_W022	8/12/2014	X				T8R3_S002		R	
46	T8R3_W023	8/12/2014	X							
46	T8R3_W024	8/12/2014	X							
46	T8R3_W025	8/12/2014			X					
46	T8R3_W026	8/12/2014	X							
46	T8R3_W027	8/12/2014	X							
46	T8R3_W028	8/12/2014	D	X			T8R3_S003		R	
46	T8R3_W034	7/22/2014			X					
46	T8R3_W035	7/22/2014			X					
46	T8R3_W036	7/22/2014			X					
46	T8R3_W037	7/22/2014	D		X		T8R3_S005			Stream is LUPC ephemeral
46	T8R3_W038	7/22/2014		X	D					
46	T8R3_W039	7/22/2014	X							
46	T8R3_W040	7/22/2014			X			VP_18HS_M		
46	T8R3_W041	7/22/2014			X			VP_16HS_M		
46	T8R3_W042	7/23/2014			X					
46	T8R3_W044	7/22/2014			X					
46	T8R3_W045	7/23/2014			X					
46	T8R3_W046	7/23/2014			X					
46	T8R3_W047	7/22/2014			X					
46	T8R3_W048	7/23/2014	X		D			VP_144DB_M		

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
46	T8R3_W049	7/23/2014			X			VP_A08VP07_N		
46	T8R3_W050	7/22/2014			X					
46	T8R3_W051	7/22/2014	X				T8R3_S006		R	
46	T8R3_W052	7/23/2014			X					
46	T8R3_W053	7/22/2014	X							
46	T8R3_W057	7/23/2014		D	X					
47	T8R3_W054	7/23/2014			X			VP_A08VP06_N		
47	T8R3_W055	7/23/2014			X					
47	T8R3_W056	7/23/2014, 9/12/2014			X					
47	T8R3_W058	7/22/2014, 11/18/2014	X					VP_13HS_M VP_14HS_M		
47	T8R3_W059	8/27/2014, 11/18/2014	D		X					
47	T8R3_W060	8/27/2014		D		X		VP_A10VP19_M		
47	T8R3_W061	8/27/2014		X						
47	T8R3_W062	8/27/2014	X							
47	T8R3_W108	8/7/2014	X							
47	T8R3_W109	8/7/2014	X							
47	T8R3_W110	8/7/2014	X							
47	T8R3_W111	8/7/2014, 11/18/2014	X							
47	T8R3_W112	8/7/2014	X							
47	T8R3_W113	8/7/2014		X			T8R3_S009	SVP_A10VP17_N	R, H	
47	T8R3_W115	8/7/2014	D		X			VP_A10VP18_N		
47	T8R3_W116	8/7/2014	X							
47	T8R3_W117	8/7/2014			X					
47	T8R3_W118	8/7/2014	X				T8R3_S007 T8R3_S008		R, H	Includes mapped IWWH
47	T8R3_W119	8/7/2014		X			T8R3_S007		R, E, H	Includes mapped IWWH
48	T8R3_W098	8/7/2014			X					
48	T8R3_W099	8/7/2014	X				T8R3_S015		R	
48	T8R3_W100	8/7/2014		X						
48	T8R3_W101	8/7/2014		X	D					
48	T8R3_W102	8/7/2014	X							
48	T8R3_W103	8/7/2014		X						
48	T8R3_W104	8/7/2014		X						
48	T8R3_W105	8/7/2014	X							
48	T8R3_W106	8/7/2014	X				T8R3_S012		R	Stream T8R3_S012 is LUPC ephemeral. Stream T8R3_S011 small, intermittent stream located just north of reporting limits
48	T8R3_W107	8/7/2014		X			T8R3_S013		R	
49	T8R3_W063	6/17/2014	X		D			VP_A08VP09_N		
49	T8R3_W064	6/17/2014	D		X					
49	T8R3_W065	6/17/2014	X				T8R3_S016		R	
49	T8R3_W066	6/17/2014			X					
49	T8R3_W067	6/17/2014		X						
49	T8R3_W068	6/17/2014	X							
49	T8R3_W069	6/17/2014			X					
49	T8R3_W634	11/19/2014	X							
50	T8R3_W070	6/17/2014	X							
50	T8R3_W071	6/17/2014	X		D		T8R3_S017	ABA_117TT_N	R, E	
50	T8R3_W072	6/17/2014			X			VP_74DB_M		
50	T8R3_W073	6/17/2014	X				T8R3_S017		R	
50	T8R3_W074	6/17/2014			X					
50	T8R3_W081	7/2/2014, 11/19/2014	X	X	D			VP_138DB_M		
50	T8R3_W082	6/17/2014	X					VP_124TT_N		
50	T8R3_W083	6/17/2014	X							
50	T8R3_W084	6/17/2014	X					VP_B09VP10_M		
50	T8R3_W085	6/17/2014			X					
50	T8R3_W086	6/17/2014			X					
50	T8R3_W087	6/17/2014	X							

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50	T8R3_W088	6/17/2014	X							
50	T8R3_W089	6/17/2014		X						
50	T8R3_W090	7/2/2014			X			VP_135DB_M		
50	T8R3_W091	6/17/2014	X							
50	T8R3_W092	6/17/2014			D	X		VP_75DB_M		
50	T8R3_W093	6/17/2014	X				T8R3_S020		R	
50	T8R3_W094	6/17/2014	X				T8R3_S020		R	
50	T8R3_W095	8/7/2014	X				T8R3_S019		R	
50	T8R3_W096	8/7/2014	X				T8R3_S019		R	
50	T8R3_W097	8/7/2014			X		T8R3_S018		R	
51	T8R3_W075	6/17/2014	X					VP_118TT_M		
51	T8R3_W076	6/17/2014	X							
51	T8R3_W077	6/17/2014	X							
51	T8R3_W078	7/2/2014		X	D					
51	T8R3_W079	6/17/2014	X							
51	T8R3_W080	6/17/2014		X						
51	T8R3_W515	8/6/2014	X				T8R3_S068		R	
51	T8R3_W516	8/6/2014	X				T8R3_S068		R	
51	T8R3_W517	8/6/2014	X							
51	T8R3_W518	8/6/2014	X							
51	T8R3_W519	8/6/2014		X						
51	T8R3_W520	8/6/2014	X					SVP_A08VP25_N	H	
51	T8R3_W521	8/6/2014	X							
51	T8R3_W522	8/6/2014	X				T8R3_S070		R	
51	T8R3_W523	8/7/2014	X							
51	T8R3_W527	8/6/2014	X					VP_97RK_M		
51	T8R3_W528	8/6/2014	X					VP_A08VP23_M		
51	T8R3_W529	9/19/2014	X							
51	T8R3_W530	8/28/2014, 9/19/2014, 10/30/2014	X				T8R3_S073 T8R3_S080		R	
52	T8R3_W446	8/21/2014	X							
52	T8R3_W447	8/5/2014			X					
52	T8R3_W448	8/5/2014	X							
52	T8R3_W449	8/6/2014	X							
52	T8R3_W450	8/5/2014	X				T8R3_S063		R, E, H	IWWH located ~ 200 feet beyond delineation limits
52	T8R3_W451	8/5/2014	X					SVP_A08VP33_N	H	
52	T8R3_W509	8/6/2014		X						
52	T8R3_W510	8/6/2014	D	X						
52	T8R3_W511	8/5/2014		X						
52	T8R3_W512	8/6/2014	X					SVP_A08VP26_N	H	
52	T8R3_W513	8/6/2014			X					
52	T8R3_W514	8/6/2014	X							
52	T8R3_W684	11/20/2014	X							
53	T8R3_W505	7/8/2014			X					
53	T8R3_W506	7/7/2014	X		D					
53	T8R3_W507	7/8/2014		X						
53	T8R3_W508	7/7/2014			X					
53	T8R3_W561	8/6/2014			X		T8R3_S067		R	
53	T8R3_W610	11/18/2014		X						
53	T8R3_W611	11/18/2014	X							
53	T8R3_W612	11/18/2014	X	D						
53	T8R3_W613	11/18/2014		X						
53	T8R3_W614	11/18/2014			X					
53	T8R3_W615	11/18/2014			X					
53	T8R3_W616	11/18/2014		X						
53	T8R3_W617	11/18/2014	X							
53	T8R3_W618	11/18/2014			X					
53	T8R3_W642	11/18/2014	X				T8R3_S101			Stream is LUPC ephemeral
54	T8R3_W497	8/1/2014	X							
54	T8R3_W498	8/1/2014			X					
54	T8R3_W499	7/31/2014			X					

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54	T8R3_W500	7/31/2014			X					
54	T8R3_W501	7/31/2014, 9/4/2014	X				T8R3_S065		R	
54	T8R3_W502	7/31/2014			X					
54	T8R3_W503	7/31/2014			X					
55	T8R3_W452	7/8/2014			X					
55	T8R3_W453	7/8/2014			X					
55	T8R3_W454	7/11/2014			X					
55	T8R3_W455	7/8/2014		X						
55	T8R3_W456	7/8/2014	X							
55	T8R3_W458	7/8/2014	X							
55	T8R3_W487	7/8/2014, 8/11/12014	X					VP_170TT_M VP_121DB_M VP_120DB_M ABA_169TT_N VP_A08VP28_M VP_A08VP29_M VP_02JL_M		
55	T8R3_W489	7/9/2014			X					
55	T8R3_W490	7/8/2014			X			VP_03JL_M		
56	T8R3_W662	11/20/2014	X							
56	T8R3_W663	11/20/2014	X							
56	T8R3_W664	11/20/2014			X					
56	T8R3_W665	11/20/2014			X					
56	T8R3_W666	11/20/2014			X					
56	T8R3_W667	11/20/2014	X				T8R3_S107		R	
56	T8R3_W668	11/20/2014	X				T8R3_S107		R	
56	T8R3_W669	11/20/2014			X					
56	T8R3_W670	11/20/2014	X							
56	T8R3_W671	11/20/2014			X					
56	T8R3_W672	11/20/2014	X				T8R3_S111		R	
56	T8R3_W673	11/20/2014			X		T8R3_S111		R	
56	T8R3_W674	11/20/2014	X							
56	T8R3_W674	11/20/2014	X							
56	T8R3_W675	11/20/2014	X							
56	T8R3_W689	11/21/2014		X						
56	T8R3_W690	11/21/2014			X					
56	T8R3_W691	11/21/2014		X						
56	T8R3_W692	11/21/2014	X							
57	T8R3_W459	8/7/2014			X					
57	T8R3_W460	8/7/2014	X							
57	T8R3_W461	8/7/2014			X			VP_123DB_M		
57	T8R3_W462	8/7/2014			X					
57	T8R3_W463	8/7/2014		X						
57	T8R3_W464	8/7/2014		X						
57	T8R3_W465	8/7/2014, 9/3/2014, 11/18/2014	D	D						
57	T8R3_W466	8/7/2014		X	D			VP_122DB_M		
57	T8R3_W467	8/7/2014			X					
57	T8R3_W468	8/8/2014		X						
57	T8R3_W469	8/8/2014			X					
57	T8R3_W470	8/8/2014		X						
57	T8R3_W471	8/8/2014		X						
57	T8R3_W472	9/3/2014		X						
57	T8R3_W473	8/8/2014	X							
57	T8R3_W474	8/8/2014			X					
57	T8R3_W475	8/8/2014			X					
57	T8R3_W477	8/8/2014	D	X	D					
57	T8R3_W478	8/8/2014	X							
57	T8R3_W479	8/8/2014		D	X					
57	T8R3_W480	8/8/2014		X						
57	T8R3_W481	8/8/2014			X					

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
57	T8R3_W482	8/11/2014	D		X				E	Open water component influenced by beaver activity
57	T8R3_W483	8/8/2014	X							
57	T8R3_W484	8/11/2014	X							
57	T8R3_W485	8/11/2014	X							
57	T8R3_W486	8/11/2014	X							
57	T8R3_W638	11/18/2014		X						
57	T8R3_W639	11/19/2014			X					
57	T8R3_W641	11/19/2014			X					
57	T8R3_W685	11/21/2014		X						
57	T8R3_W686	11/21/2014	X				T8R3_S113		R	
57	T8R3_W687	11/21/2014			X					
57	T8R3_W688	11/21/2014		X						
59	T8R3_W001	8/20/2014	X							
59	T8R3_W002	8/20/2014	X							
60	T8R3_W003	8/21/2014		X			T8R3_S021		R	
60	T8R3_W004	8/21/2014	X				T8R3_S021		R, H	IWWH located ~ 200 feet beyond delineation limits
60	T8R3_W005	8/21/2014	X				T8R3_S023		R, H	IWWH located ~ 60 feet beyond delineation limits
60	T8R3_W006	8/21/2014		X			T8R3_S023		R	
60	T8R3_W007	8/21/2014	X						H	IWWH located ~ 60 feet beyond delineation limits
60	T8R3_W008	8/21/2014		X			T8R3_S024		R	
60	T8R3_W009	8/21/2014	X				T8R3_S024		R, H	IWWH located ~ 190 feet beyond delineation limits
60	T8R3_W010	8/21/2014		X						
60	T8R3_W011	8/21/2014	X						H	IWWH located ~ 100 feet beyond delineation limits
60	T8R3_W012	8/21/2014	X							
60	T8R3_W014	8/21/2014		X						
60	T8R3_W015	8/21/2014	X						H	Includes mapped IWWH
60	T8R3_W016	8/21/2014	X							
61	T8R3_W120	8/7/2014, 8/8/2014	X				T8R3_S025	VP_A10VP20_M VP_A10VP21_M	R, E, H	Includes mapped IWWH
61	T8R3_W121	8/7/2014		X			T8R3_S025	VP_E10VP01_M	R, H	Includes mapped IWWH
61	T8R3_W122	8/7/2014, 11/18/2014	X						H	Includes mapped IWWH
61	T8R3_W123	8/8/2014	X							
61	T8R3_W124	8/8/2014		X						
61	T8R3_W125	8/8/2014			X			VP_A09VP04_M		
61	T8R3_W126	8/8/2014		X				SVP_E10VP05_N	H	
61	T8R3_W127	8/8/2014	X					SVP_E10VP02_N	H	
61	T8R3_W128	8/8/2014		X						
61	T8R3_W129	8/8/2014		D	X					
61	T8R3_W130	8/8/2014		X						
61	T8R3_W131	8/8/2014		X						
61	T8R3_W132	8/8/2014		X						
61	T8R3_W133	8/8/2014			X					
61	T8R3_W134	8/8/2014			X					
61	T8R3_W135	8/8/2014			X					
61	T8R3_W136	8/8/2014	X							
61	T8R3_W137	8/8/2014	D			X				
61	T8R3_W138	8/8/2014	X			D		VP_E10VP06_M		
61	T8R3_W139	8/8/2014			X	D		VP_E10VP07_M		
62	T8R3_W140	8/11/2014	X					VP_E10VP08_M		
62	T8R3_W141	8/11/2014	X				T8R3_S026		R	
62	T8R3_W142	8/11/2014			X					
62	T8R3_W143	8/11/2014	X							
62	T8R3_W144	8/11/2014		X			T8R3_S033		R	
62	T8R3_W145	8/11/2014	X				T8R3_S034 T8R3_S035		R	
62	T8R3_W146	8/11/2014		X						
62	T8R3_W213	8/6/2014		X						

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
62	T8R3_W214	8/6/2014	X		X					
62	T8R3_W215	8/6/2014			X					
62	T8R3_W216	8/6/2014	X				T8R3_S036	VP_E10VP11_M	R	
62	T8R3_W217	8/6/2014	X				T8R3_S036		R	
62	T8R3_W218	8/6/2014	X							
62	T8R3_W219	8/6/2014		X						
62	T8R3_W220	8/6/2014	X				T8R3_S037		R	
62	T8R3_W221	8/6/2014	X				T8R3_S037		R	
62	T8R3_W222	8/5/2014	D	D			T8R3_S039	VP_E10VP12_M	R	
62	T8R3_W223	8/5/2014	X							
63	T8R3_W224	8/5/2014	X							
63	T8R3_W225	8/5/2014	X							
63	T8R3_W226	8/5/2014			X					
63	T8R3_W227	8/5/2014		X						
63	T8R3_W228	7/10/2014			X					
63	T8R3_W229	7/10/2014			X					
63	T8R3_W230	7/10/2014			X					
63	T8R3_W231	7/10/2014			X					
63	T8R3_W232	7/10/2014			X					
63	T8R3_W236	8/5/2014		X						
63	T8R3_W237	8/6/2014	X		D					
63	T8R3_W238	7/10/2014, 8/5/2014, 9/3/2014	D	X						
63	T8R3_W239	8/6/2014	X							
63	T8R3_W240	8/4/2014			X					
63	T8R3_W242	8/4/2014		X	D					
63	T8R3_W243	8/4/2014			X					
63	T8R3_W244	8/4/2014			X				H	Includes mapped IWWH
63	T8R3_W245	8/4/2014			X			VP_A08VP22_M	H	Includes mapped IWWH
63	T8R3_W246	8/4/2014	X				T8R3_S040		R, E, H	Includes mapped IWWH
63	T8R3_W247	8/4/2014	X				T8R3_S040		R, H	Includes mapped IWWH
63	T8R3_W248	8/4/2014			X					
63	T8R3_W249	7/9/2014, 7/10/2014		X						
64	T8R3_W252	7/14/2014			X					
64	T8R3_W253	7/14/2014			X					
64	T8R3_W254	7/14/2014			X					
64	T8R3_W255	8/25/2014	X							
64	T8R3_W256	8/25/2014	X							
64	T8R3_W257	8/25/2014		X				VP_121RK_M		
64	T8R3_W258	8/25/2014	X					VP_126RK_M		
64	T8R3_W259	8/25/2014	D		X			VP_125RK_M		
64	T8R3_W260	8/26/2014	X							
64	T8R3_W261	8/4/2014			X					
64	T8R3_W262	8/4/2014		X						
64	T8R3_W263	8/4/2014, 11/20/2014		D	D					
64	T8R3_W264	8/26/2014			X			VP_140RK_M VP_139RK_M		
64	T8R3_W265	6/11/2014			X					
64	T8R3_W266	6/11/2014		D	D		T8R3_S038		R	
64	T8R3_W267	7/9/2014			X					
64	T8R3_W268	6/11/2014			X					
64	T8R3_W269	6/11/2014	D		X					
64	T8R3_W420	8/26/2014	X							
64	T8R3_W421	8/26/2014			X					
64	T8R3_W422	8/26/2014	X							
64	T8R3_W423	8/26/2014, 5/20/2015	D		X					
64	T8R3_W563	10/29/2014			X					
64	T8R3_W564	10/29/2014	X							
64	T8R3_W565	10/29/2014	X							
64	T8R3_W620	11/19/2014	X				T8R3_S099		R	
64	T8R3_W623	11/19/2014		X						

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
64	T8R3_W624	11/19/2014	X							
64	T8R3_W625	11/19/2014	X							
64	T8R3_W626	11/19/2014			X	D			E	Open water component influenced by beaver activity
64	T8R3_W628	11/19/2014	X							
64	T8R3_W693	5/20/2015			X					
64	T8R3_W694	5/20/2015		X						
64	T8R3_W695	5/20/2015			X					
64	T8R3_W696	5/20/2015			X					
64	T8R3_W728	5/21/2015			X					
64	T8R3_W730	5/20/2015	D		X					
64	T8R3_W424	8/26/2014	X							
64	T8R3_W425	8/26/2014, 5/21/2015			X					
64	T8R3_W733	7/9/2014	X							
65	T8R3_W427	8/26/2014	D		X					
65	T8R3_W428	8/26/2014	X							
65	T8R3_W430	8/26/2014	X							
65	T8R3_W431	8/26/2014			X			VP_135RK_M		
65	T8R3_W432	8/26/2014			X			VP_136RK_M		
65	T8R3_W433	8/26/2014	X							
65	T8R3_W434	8/26/2014	X							
65	T8R3_W435	8/26/2014	D		X					
65	T8R3_W436	8/26/2014		X	D					
65	T8R3_W680	11/20/2014	X							
65	T8R3_W681	11/20/2014		X						
65	T8R3_W698	5/21/2015		X						
65	T8R3_W699	5/21/2015	X							
65	T8R3_W731	8/26/2014, 5/21/2015		X						
66	T8R3_W437	8/22/2014	X				T8R3_S060		R	
66	T8R3_W438	8/22/2014	X				T8R3_S060		R	
66	T8R3_W439	8/22/2014, 5/21/2015	X				T8R3_S061		R	
66	T8R3_W440	8/22/2014	X				T8R3_S061		R	
66	T8R3_W441	8/22/2014			X					
66	T8R3_W442	8/22/2014				X				
66	T8R3_W443	8/22/2014			X					
66	T8R3_W444	8/4/2014	X		D					
66	T8R3_W445	8/21/2014				X				
66	T8R3_W697	5/21/2015		X						
66	T8R3_W719	8/22/2015, 5/12/2015	X							
66	T8R3_W732	7/19/2014, 5/21/2015	X							
67	T8R3_W270	6/11/2014			X					
67	T8R3_W271	7/11/2014			X					
67	T8R3_W272	7/11/2014			X			VP_01CF_M		
67	T8R3_W273	6/10/2014			X					
67	T8R3_W274	6/10/2014	D	X	X					
67	T8R3_W275	7/9/2014			X			VP_A08VP21_M		
67	T8R3_W279	6/10/2014	X							
67	T8R3_W280	6/10/2014	X		D					
67	T8R3_W282	6/9/2014			X					
67	T8R3_W283	6/9/2014			X					
67	T8R3_W284	6/10/2014			X					
67	T8R3_W285	6/10/2014			X					
67	T8R3_W286	6/9/2014			X					
67	T8R3_W287	6/9/2014			X					
67	T8R3_W288	6/10/2014			X					
67	T8R3_W289	6/10/2014	X		D					
67	T8R3_W290	6/9/2014			X					
67	T8R3_W291	6/9/2014			X					
67	T8R3_W292	6/10/2014			X					
67	T8R3_W293	6/11/2014			X					

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
67	T8R3_W294	6/11/2014			X					
67	T8R3_W295	6/11/2014		X			T8R3_S044		R, H	Includes mapped IWWH
67	T8R3_W296	6/11/2014			X					
67	T8R3_W297	6/11/2014			X					
67	T8R3_W298	6/11/2014			X					
67	T8R3_W299	6/11/2014			X					
67	T8R3_W300	6/11/2014			X					
67	T8R3_W301	6/11/2014			X					
67	T8R3_W302	6/11/2014			X					
67	T8R3_W303	6/11/2014	X							
67	T8R3_W304	6/11/2014	X							
67	T8R3_W305	6/11/2014			X					
67	T8R3_W354	6/11/2014			X					
67	T8R3_W619	11/19/2014	X							
67	T8R3_W621	11/19/2014	X				T8R3_S099		R	
67	T8R3_W622	11/19/2014		X						
67	T8R3_W627	11/19/2014	X						E	Open water component influenced by beaver activity
67	T8R3_W629	11/19/2014	D		X					
67	T8R3_W630	11/19/2014			X					
68	T8R3_W306	6/11/2014			X					
68	T8R3_W307	6/11/2014			X					
68	T8R3_W308	6/11/2014			X					
68	T8R3_W309	6/18/2014		X						
68	T8R3_W310	6/18/2014		X						
68	T8R3_W311	6/18/2014			X					
68	T8R3_W312	6/18/2014		D	D		T8R3_S048	VP_104RK_M		Stream is LUPC ephemeral
68	T8R3_W313	6/18/2014		D	D		T8R3_S048			Stream is LUPC ephemeral
68	T8R3_W314	6/18/2014			X					
68	T8R3_W315	6/18/2014	X	D	D					
68	T8R3_W316	6/18/2014, 6/19/2014	D	X	X					
68	T8R3_W317	6/18/2014	D		X					
68	T8R3_W318	6/18/2014, 8/5/2014	D	X	X			VP_105RK_M VP_106RK_M		
68	T8R3_W319	6/18/2014		X						
68	T8R3_W320	6/18/2014	D	X				VP_62TT_M		
68	T8R3_W321	6/18/2014	X					VP_26DB_M VP_27DB_M		
68	T8R3_W322	6/18/2014	X							
68	T8R3_W323	6/18/2014	D	X						
68	T8R3_W324	6/18/2014		X						
68	T8R3_W325	6/18/2014	X					VP_28DB_M		
68	T8R3_W326	6/18/2014			X					
68	T8R3_W327	6/18/2014		X						
68	T8R3_W328	6/18/2014		X						
68	T8R3_W329	6/18/2014	X				T8R3_S045	VP_63TT_M VP_29DB_M VP_30DB_M	R	
68	T8R3_W330	6/16/2014		X						
68	T8R3_W331	6/16/2014	X							
68	T8R3_W332	6/16/2014			X					
68	T8R3_W333	6/16/2014			X					
68	T8R3_W334	6/16/2014			X					
68	T8R3_W335	6/16/2014	X							
68	T8R3_W336	6/16/2014			X					
68	T8R3_W337	6/16/2014			X					
68	T8R3_W646	11/19/2014	X							
69	T8R3_W338	6/16/2014			X					
69	T8R3_W339	6/9/2014			X					
69	T8R3_W340	6/9/2014	X					VP_98RK_M VP_99RK_M		
69	T8R3_W341	6/9/2014	X				T8R3_S046	VP_70DB_M	R	
69	T8R3_W342	6/11/2014			X		T8R3_S047	VP_02MJ_M	R	

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69	T8R3_W343	6/11/2014	X					VP_01SM_M		
69	T8R3_W344	6/18/2014, 9/3/2014, 9/8/2014	D	X	X			VP_35DB_M VP_76DB_M VP_64TT_M VP_67TT_M		
69	T8R3_W682	11/20/2014	X							
69	T8R3_W683	11/20/2014			X					
70	T8R3_W352	8/5/2014, 11/19/2014	X				T8R3_S051 T8R3_S050		R	
70	T8R3_W353	8/5/2014, 11/20/2014	X	D			T8R3_S050 T8R3_S051		R	
70	T8R3_W360	8/5/2014, 11/20/2014	X	D						
70	T8R3_W361	8/5/2014, 11/20/2014			X					
70	T8R3_W363	6/19/2014			X					
70	T8R3_W364	6/19/2014		X	D					
70	T8R3_W365	8/5/2014		X						
70	T8R3_W366	6/9/2014	X							
70	T8R3_W367	6/9/2014	X							
70	T8R3_W368	6/9/2014	X							
70	T8R3_W369	6/9/2014			X					
70	T8R3_W370	6/9/2014	X							
70	T8R3_W371	6/9/2014	X				T8R3_S057		R	
70	T8R3_W372	6/9/2014	X							
70	T8R3_W373	6/9/2014, 6/10/2014	X							
70	T8R3_W374	6/9/2014			X					
70	T8R3_W375	6/10/2014			X					
70	T8R3_W376	6/10/2014	X				T8R3_S058		R	
70	T8R3_W377	6/10/2014			X					
70	T8R3_W378	6/10/2014	X							
70	T8R3_W379	6/9/2014		X						
70	T8R3_W380	6/9/2014			X					
70	T8R3_W381	6/9/2014			X					
70	T8R3_W382	6/9/2014	X							
70	T8R3_W562	10/29/2014	D		X		T8R3_S079		R	
70	T8R3_W645	11/19/2014	X							
70	T8R3_W647	11/19/2014			X					
70	T8R3_W648	11/19/2014			X					
70	T8R3_W649	11/19/2014			X					
70	T8R3_W650	11/19/2014	X				T8R3_S052		R	
70	T8R3_W676	11/20/2014	X							
70	T8R3_W677	8/5/2014, 11/20/2014	X				T8R3_S052		R	
70	T8R3_W678	11/20/2014			X					
71	T8R3_W383	6/9/2014			X					
71	T8R3_W384	6/9/2014			X					
71	T8R3_W385	6/9/2014		D	X					
71	T8R3_W386	6/9/2014	X							
71	T8R3_W387	6/8/2014			X					
71	T8R3_W388	6/8/2014			X					
71	T8R3_W389	6/8/2014			X					
71	T8R3_W391	6/8/2014	X					VP_13JL_M VP_14JL_M		
71	T8R3_W392	6/8/2014	X							
71	T8R3_W393	6/8/2014	X				T8R3_S059		R	
71	T8R3_W394	6/8/2014			X					
71	T8R3_W395	6/9/2014			X					
71	T8R3_W396	6/8/2014			X			VP_10JL_M		
71	T8R3_W643	11/19/2014	X							

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71	T8R3_W644	11/19/2014	D		X					
69	STCR_W001	6/9/2014			X					
69	STCR_W002	6/9/2014		X				VP_73DB_M		
69	STCR_W003	6/9/2014		X						
69	STCR_W004	6/9/2014		X				VP_72DB_M		
69	STCR_W005	6/9/2014		X				VP_71DB_M		
69	STCR_W006	6/9/2014		X			STCR_S001		R	
69	STCR_W007	6/9/2014		X			STCR_S001		R	
69	STCR_W008	6/9/2014		D		X		VP_102RK_M		
69	STCR_W009	6/9/2014	X							
69	STCR_W010	6/9/2014				X		VP_101RK_M		
69	STCR_W011	6/9/2014				X		VP_100RK_M		
69	STCR_W012	6/9/2014		X						
69	STCR_W013	6/9/2014		X						
69	STCR_W014	11/20/2014		X				VP_206TT_N		
69	STCR_W015	11/20/2014	X					VP_207TT_N		
69	STCR_W017	5/20/2015	X							
69	STCR_W018	5/20/2015	D	X	X					
69	STCR_W020	5/20/2015	X							
69	STCR_W021	5/20/2015			X			VP_155RK_N		

Table C-1b: Summary of wetland resources, including associated streams, vernal pools and amphibian breeding areas, identified within the North Generator Lead Line for the Number Nine Wind Farm. Identification of Wetlands of Special Significant (WSS) based upon definition in the Maine Natural Resource Protection Act: **E** = Wetlands that contain 20,000 sq. ft. or more of open water or emergent habitat; H = Wetlands that include Significant Wildlife Habitat; **R** = Wetlands within 25 feet of a river, stream or brook; **F** = Wetlands within a 100 year floodplain; P = Wetlands that contain a peatland.

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
1	T9R3_W330	11/5/2014			X					
1	T9R3_W331	11/5/2014	X				T9R3_S063		R	
1	T9R3_W332	11/5/2014	X				T9R3_S064		R	
1	T9R3_W333	11/5/2014			X			VP_49TT_M		
1	T9R3_W334	11/5/2014			X					
1	T9R3_W335	11/5/2014			X					
1	T9R3_W336	11/5/2014			X		T9R3_S065		R	
1	T9R3_W337	11/5/2014	X							
1	T9R3_W338	11/5/2014	X							
1	T9R3_W339	11/5/2014	D		D		T9R3_S066		R	
1	T9R3_W340	11/5/2014	D		X		T9R3_S067		R	
2	T9R3_W341	11/5/2014	D		D		T9R3_S067		R	
2	T8R3_W570	11/5/2014	X							
2	T8R3_W571	11/5/2014	D		X					
2	T8R3_W572	11/5/2014, 5/28/2015	X				T8R3_S081 T8R3_S082 T8R3_S083 T8R3_S084 T8R3_S085		R	
2	T8R3_W573	11/4/2014	X				T8R3_S086		R, F	
2	T8R3_W574	11/4/2014	X							
2	T8R3_W575	11/4/2014	X							
2	T8R3_W576	11/4/2014	D		X					
2	T8R3_W722	5/28/2015	X							
2	T8R3_W723	5/28/2015	X							
2	T8R3_W724	5/28/2015	X				T8R3_S115	VP_161RK_N	R	
2	T8R3_W725	5/22/2015	X					VP_158RK_N		
3	T8R3_W577	11/4/2014			X					
3	T8R3_W578	11/4/2014	X		D					
3	T8R3_W579	11/4/2014			X					
3	T8R3_W580	11/4/2014	X							
3	T8R3_W581	11/4/2014	D		X					
3	T8R3_W582	11/4/2014			X					
3	T8R3_W583	11/4/2014			X					
3	T8R3_W584	11/4/2014	D		X					
3	T8R3_W585	11/4/2014			X					
3	T8R3_W586	11/4/2014	D		X					
3	T8R3_W729	5/21/2015	X					SVP_157RK_N	H	
4	T8R3_W566	11/3/2014			X					
4	T8R3_W567	11/3/2014	X							
4	T8R3_W568	11/3/2014	X					SVP_201TT_N	H	
4	T8R3_W569	11/3/2014			X					
4	T8R3_W587	11/4/2014	X				T8R3_S090 T8R3_S089		R	
5	T8R3_W540	8/28/2014, 5/21/2015	X	X				VP_128TT_M		
5	T8R3_W588	11/6/2014			X					
5	T8R3_W590	11/6/2014	D		X		T8R3_S091		R	
5	T8R3_W591	11/6/2014	X		D					
5	T8R3_W592	11/6/2014	X				T8R3_S092		R	
5	T8R3_W593	11/6/2014	D		X		T8R3_S093		R	
5	T8R3_W594	11/6/2014	X				T8R3_S094 T8R3_S095		R	
5	T8R3_W595	11/6/2014	D	D						
5	T8R3_W596	11/6/2014	D		X					
5	T8R3_W597	11/6/2014	X				T8R3_S096		R	
5	T8R3_W601	11/6/2014		X						
5	T8R3_W720	5/21/2015	D	X				SVP_156RK_N	H	
5	T8R3_W721	5/21/2015			X					

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
5	T8R3_W726	5/21/2015			X					
5	T8R3_W727	5/21/2015			X					
6	T8R3_W551	8/29/2014	D		X					
6	T8R3_W554	8/28/2014, 11/7/1014	X				T8R3_S078		R	
6	T8R3_W598	11/6/2014	X							
6	T8R3_W599	11/6/2014	X				T8R3_S097		R	
6	T8R3_W600	11/6/2014	X							
6	T8R3_W602	11/10/2014	X							
6	T8R3_W603	11/10/2014	X				T8R3_S098		R	
6	T8R3_W604	11/10/2014	X							
6	T8R3_W605	11/10/2014	X							
6	T8R3_W606	11/10/2014		X						
6	T8R3_W607	11/10/2014	X							
7	T8R3_W558	8/28/2014, 11/10/2014		X	D			SVP_02BE_N	H	
7	T8R3_W559	8/28/2014, 11/10/2014		X						
7	T8R3_W560	8/28/2014, 11/10/2014	D	X	X			VP_90DB_N		
7	T8R3_W608	11/10/2014	X		D			SVP_01BE_N	H	
7	T8R3_W609	11/10/2014	X							
7	TCR2_W135	8/28/2014, 8/29/2014	D	X			TCR2_S013 TCR2_S012 TCR2_S014		R	
7	TCR2_W136	8/29/2014		X						
7	TCR2_W137	8/29/2014	D		X		TCR2_S015		R	
7	TCR2_W138	8/29/2014			X		TCR2_S016 TCR2_S017		R	
7	TCR2_W139	8/29/2014	X				TCR2_S016 TCR2_S017		R	
7	TCR2_W140	9/17/2014		X						
7	TCR2_W141	9/17/2014	X					VP_91DB_M VP_92DB_M		
8	TCR2_W142	9/17/2014		X						
8	TCR2_W143	9/17/2014		X						
8	TCR2_W144	9/17/2014		X						
8	TCR2_W145	9/17/2014			X					
8	TCR2_W146	9/17/2014		X						
8	TCR2_W147	9/17/2014		X						
8	TCR2_W148	9/17/2014			X					
8	TCR2_W149	9/17/2014			X					
8	TCR2_W150	9/17/2014			X					
8	TCR2_W151	9/17/2014		X						
8	TCR2_W152	9/17/2014	X							
8	TCR2_W153	9/16/2014			X					
8	TCR2_W154	9/16/2014		X						
8	TCR2_W155	9/16/2014			X					
8	TCR2_W156	9/16/2014	X							
8	TCR2_W157	9/16/2014	X							
8	TCR2_W158	9/16/2014		X						
8	TCR2_W159	9/16/2014			X					
8	TCR2_W160	9/16/2014, 11/11/2014	D	X						
8	TCR2_W161	11/11/2014		X						
8	HAMM_W001	9/16/2014	X							
8	HAMM_W002	9/16/2014	X							
8	HAMM_W003	9/16/2014, 11/11/2014	X							
8	HAMM_W004	9/16/2014, 11/11/2014	X							
8	HAMM_W005	9/16/2014, 11/11/2014			X					

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
8	HAMM_W006	9/16/2014, 11/11/2014	X							
8	HAMM_W104	11/11/2014	X							
9	HAMM_W007	9/16/2014	X							
9	HAMM_W008	9/16/2014		X			HAMM_S002 HAMM_S001		R	
9	HAMM_W009	9/12/2014, 9/15/2014	X							
9	HAMM_W010	9/15/2014	X							
9	HAMM_W011	9/12/2014			X					
9	HAMM_W012	9/11/2014			X					
10	HAMM_W013	9/11/2014	X	D	X			VP_112RK_M VP_114RK_M VP_115RK_M VP_02GP_M		
10	HAMM_W014	9/11/2014, 11/11/2014	D	X	X					
10	HAMM_W015	9/11/2014, 11/11/2014	D		X			VP_01GP_M		
10	HAMM_W128	9/11/2014, 11/11/2014	D		X					
10	HAMM_W129	9/11/2014, 11/11/2014	D		X			VP_03GP_M VP_113RK_M		
10	HAMM_W130	9/11/2014, 11/11/2014	D		X					
10	HAMM_W131	9/11/2014, 11/11/2014	D		X		HAMM_S021			Stream is LUPC ephemeral
10	HAMM_W132	9/11/2014, 11/11/2014	D		X					
11	HAMM_W016	9/11/2014, 11/11/2014			X					
11	HAMM_W017	9/10/2014		X						
11	HAMM_W018	9/10/2014		X						
11	HAMM_W019	9/10/2014			X					
11	HAMM_W020	9/10/2014			X			VP_116RK_M		
11	HAMM_W021	9/10/2014			X					
11	HAMM_W022	9/10/2014			X			VP_117RK_M		
11	HAMM_W023	9/10/2014			X			VP_04GP_M		
11	HAMM_W024	9/10/2014			X			VP_118RK_M		
11	HAMM_W025	9/10/2014, 11/11/2014			X					
11	HAMM_W026	9/10/2014	X							
11	HAMM_W027	9/10/2014		X						
11	HAMM_W028	9/10/2014		X						
11	HAMM_W029	9/10/2014, 11/11/2014		X						
11	HAMM_W030	9/10/2014	X				HAMM_S003			Stream is LUPC ephemeral
11	HAMM_W031	9/9/2014, 11/11/2014	X	D			HAMM_S005		R	
11	HAMM_W105	11/11/2014			X		HAMM_S021			Stream is LUPC ephemeral
11	HAMM_W106	11/11/2014	X				HAMM_S023		R	
11	HAMM_W107	11/11/2014	D	X			HAMM_S032	VP_04BE_M	R	
11	HAMM_W108	11/11/2014			X					
11	HAMM_W109	11/11/2014	X							
11	HAMM_W110	11/11/2014			X			VP_135TT_M		
12	HAMM_W032	9/10/2014			X			VP_100DB_M		
12	HAMM_W033	9/10/2014			X					
12	HAMM_W034	9/10/2014, 11/12/2014	X		D					
12	HAMM_W035	9/10/2014			X					
12	HAMM_W036	9/10/2014			X					
12	HAMM_W037	9/9/2014	D		D		HAMM_S024		R	
12	HAMM_W038	9/10/2014			X					
12	HAMM_W039	9/10/2014			X					

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
12	HAMM_W040	9/10/2014			X					
12	HAMM_W041	9/9/2014, 11/12/2014	D	X			HAMM_S009		R	
12	HAMM_W042	9/10/2014			X			VP_133TT_M		
12	HAMM_W043	9/9/2014, 11/12/2014	D	X			HAMM_S028		R	
12	HAMM_W044	9/8/2014		D	D					
12	HAMM_W045	9/8/2014			X			VP_99DB_M		
12	HAMM_W046	9/8/2014			X			VP_98DB_N VP_97DB_M		
12	HAMM_W047	9/8/2014		X						
12	HAMM_W048	9/8/2014		X						
12	HAMM_W111	11/11/2014			X					
12	HAMM_W112	11/12/2014			X					
12	HAMM_W113	11/12/2014	X				HAMM_S024		R	
12	HAMM_W114	11/12/2014		X						
12	HAMM_W115	11/12/2014			X					
12	HAMM_W116	11/12/2014			X					
12	HAMM_W117	11/12/2014		X						
12	HAMM_W118	11/12/2014		X	D					
13	HAMM_W049	9/8/2014	X							
13	HAMM_W050	9/5/2014	X	D				VP_95DB_M		
13	HAMM_W051	9/5/2014		X						
13	HAMM_W052	9/5/2014		X						
13	HAMM_W053	9/5/2014	D		X		HAMM_S012	ABA_94DB_N	R	
13	HAMM_W054	9/5/2014			X					
13	HAMM_W055	9/4/2014	X	D	X		HAMM_S013	VP_93DB_M VP_132TT_M	R, E	
13	HAMM_W119	11/12/2014	X							
13	HAMM_W120	11/12/2014	X							
14	HAMM_W056	9/4/2014		X						
14	HAMM_W057	9/4/2014			X					
14	HAMM_W058	9/4/2014	X		D					
14	HAMM_W059	9/4/2014	X							
14	HAMM_W061	9/4/2014, 11/12/2014	D		X		HAMM_S014 HAMM_S015		R	
14	HAMM_W062	9/4/2014	X				HAMM_S016		R	
14	HAMM_W063	9/4/2014	D		X					
14	HAMM_W064	9/4/2014	X							
14	HAMM_W065	9/4/2014	X							
14	HAMM_W066	9/4/2014	X				HAMM_S017		R	
14	HAMM_W067	9/3/2014	X							
14	HAMM_W068	9/3/2014	D	X			HAMM_S018	ABA_136TT_M	R	
14	HAMM_W143	6/3/2015	X						H	Mapped DWA located approximately 240 feet south of delineation limit
14	HAMM_W144	6/3/2015				X		VP_07ED_M		
14	HAMM_W149	6/3/2015	D			X		VP_01ED_M		
14	HAMM_W167	6/3/2015	X				HAMM_S033		R	
14	HAMM_W168	6/3/2015	X					VP_02ED_M		
14	HAMM_W169	6/3/2015			X			VP_03ED_M		
14	HAMM_W170	6/3/2015			X					
14	HAMM_W171	6/3/2015			X			VP_04ED_M VP_05ED_M VP_08ED_M		
14	HAMM_W172	6/3/2015			X					
14	HAMM_W173	6/3/2015	X			D				
14	HAMM_W174	6/3/2015			X					
15	HAMM_W069	9/3/2014	X							
15	HAMM_W070	9/3/2014		X						
15	HAMM_W071	9/3/2014	D	X	X					
15	HAMM_W072	9/2/2014	D	X				VP_102DB_N	P	
15	HAMM_W073	9/2/2014		D	D					
15	HAMM_W075	8/29/2014, 9/2/9014	D	X	X					

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
15	HAMM_W076	8/29/2014		X						
15	HAMM_W077	9/2/2014		X	D			VP_137TT_M		
15	HAMM_W079	8/29/2014		X						
15	HAMM_W080	8/29/2014	X							
15	HAMM_W081	8/29/2014		D	X					
15	HAMM_W082	8/29/2014	X							
15	HAMM_W133	8/29/2014		X	D					
15	HAMM_W148	6/2/2015		D	X					
15	HAMM_W157	6/2/2015		D	X			HAMM_S034		Stream is LUPC ephemeral
15	HAMM_W158	6/3/2015		X	D					
15	HAMM_W159	6/3/2015			X			HAMM_S034		Stream is LUPC ephemeral
15	HAMM_W160	6/3/2015	D		X				H	Includes mapped IWWH
15	HAMM_W161	6/3/2015	D		X				H	Includes mapped IWWH
16	HAMM_W083	8/29/2014			X					
16	HAMM_W084	8/29/2014			X					
16	HAMM_W085	8/29/2014	X							
16	HAMM_W086	8/29/2014			X					
16	HAMM_W087	8/29/2014	X							
16	HAMM_W088	8/28/2014	X							
16	HAMM_W089	8/28/2014	X							
16	HAMM_W090	8/28/2014	X					VP_138TT_M		
16	HAMM_W091	8/28/2014, 6/3/2015	X							
16	HAMM_W092	8/28/2014, 6/3/2015	X							
16	HAMM_W093	8/28/2014	X							
16	HAMM_W137	6/4/2015	D			X		VP_02MA_M	E	Possibly influenced by beaver activity.
16	HAMM_W138	6/4/2015	X							
16	HAMM_W139	6/4/2015			D				E	Possibly influence by beaver activity.
16	HAMM_W140	6/4/2015	X							
16	HAMM_W141	6/4/2015	X							
16	HAMM_W150	6/4/2015		X					E	Possibly influenced by beaver activity.
16	HAMM_W153	6/4/2015		X						
16	HAMM_W154	6/4/2015		D	X			VP_03MA_M	E	
16	HAMM_W162	6/3/2015	X							
16	HAMM_W163	6/3/2015	X							
16	HAMM_W166	6/4/2015		X						
17	HAMM_W094	8/28/2014	X							
17	HAMM_W095	8/28/2014		X			HAMM_S019		R	
17	HAMM_W096	8/28/2014			X		HAMM_S019		R	
17	HAMM_W097	8/28/2014	X							
17	HAMM_W098	8/28/2014	X							
17	HAMM_W099	8/28/2014		X	D		HAMM_S020		R	
17	HAMM_W100	8/28/2014	X							
17	HAMM_W101	8/28/2014	X							
17	HAMM_W102	8/28/2014	X							
17	HAMM_W103	8/28/2014	X							
17	HAMM_W121	11/12/2014, 6/3/2015	D		X					
17	HAMM_W122	11/12/2014	X							
17	HAMM_W123	11/12/2014, 6/3/2015	D		X			VP_103DB_M VP_139TT_M		
17	HAMM_W124	11/12/2014, 6/3/2015	X				HAMM_S030 HAMM_S031		R	
17	HAMM_W135	6/3/2015	X				HAMM_S036		R	Twin Brook
17	HAMM_W136	6/3/2015	X				HAMM_S036		R	Twin Brook
17	HAMM_W146	6/3/2015	X				HAMM_S035		R, F	
17	HAMM_W147	6/3/2015		X			HAMM_S035		R, F	
17	HAMM_W151	6/3/2015		X			HAMM_S036		R	Twin Brook
17	HAMM_W152	6/3/2015	X				HAMM_S036		R	Twin Brook
17	HAMM_W155	6/3/2015		X			HAMM_S035		R, F	
17	HAMM_W156	6/3/2015		X			HAMM_S035		R, F	
17	HAMM_W164	6/3/2015	X					VP_01MA_M		

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
17	HAMM_W165	6/3/2015	X							
18	HAMM_W125	11/13/2014, 6/3/2015	X							
18	HAMM_W126	11/13/2014	X							
18	LITT_W001	11/13/2014	X							
18	LITT_W002	11/13/2014, 6/3/2015	X							
18	LITT_W003	11/13/2014, 6/3/2015		X			LITT_S003 LITT_S001 LITT_S002		R	
18	LITT_W004	11/13/2014	X							
18	LITT_W005	11/13/2014	X				LITT_S004 LITT_S005		R	
18	LITT_W006	11/13/2014	X							
19	LITT_W007	6/3/2015		X						
19	LITT_W008	6/3/2015		X			LITT_S009			Stream is LUPC ephemeral
19	LITT_W009	6/3/2015			X					
19	LITT_W010	6/3/2015	X							
19	LITT_W011	6/3/2015	X							
19	LITT_W012	6/3/2015		X			LITT_S007 LITT_S008		R	
19	LITT_W014	6/3/2015	X							
19	LITT_W015	6/3/2015	X							
19	LITT_W016	6/3/2015	X				LITT_S007		R	
20	LITT_W030	6/3/2015	X							
20	HOUL_W023	10/1/2014, 6/2/2015	X					VP_21JL_M		
20	HOUL_W025	11/13/2014, 6/3/2015	X							
20	HOUL_W026	11/13/2014	X				HOUL_S003		R, E	Small yellow crowfoot documented just north of project corridor in this wetland
20	HOUL_W027	10/2/2014	X							Wetland located in Littleton
20	HOUL_W028	10/2/2014, 6/3/2015	X				LITT_S006		R	Wetland located in Littleton
20	HOUL_W032	6/2/2015	X							
20	HOUL_W033	6/2/2015	X							
20	HOUL_W034	6/2/2015	X							
20	HOUL_W035	6/2/2015	X							
20	HOUL_W039	6/2/2015	X						E	
20	HOUL_W041	6/2/2015	X							
21	HOUL_W018	9/17/2014, 10/1/2014	X				HOUL_S007 HOUL_S008		R	
21	HOUL_W020	10/1/2014	X							
21	HOUL_W021	10/1/2014	X				HOUL_S009		R	
21	HOUL_W022	10/1/2014	X					VP_01KR_M		
21	HOUL_W036	6/2/2015	X							
21	HOUL_W037	6/2/2015	X					VP_01BE_M		
21	HOUL_W042	6/2/2015		X			HOUL_S010		R	
22	HOUL_W001	8/14/2014, 9/14/2014		D	X			VP_28RK_M	F	Mapped floodplain
22	HOUL_W017	11/14/2014	X	D				VP_204TT_N	F	Mapped floodplain
22	HOUL_W031	9/17/2014, 6/2/2015		X			HOUL_S002		R, F	Mapped floodplain
22	HOUL_W038	9/17/2014, 11/14/2014, 6/2/2015	X				HOUL_S002		R, F	Mapped floodplain

Table C-1c: Summary of wetland resources, including associated streams, vernal pools and amphibian breeding areas, identified within the Bridal Path Generator Lead Line for the Number Nine Wind Farm. Identification of Wetlands of Special Significant (WSS) based upon definition in the Maine Natural Resource Protection Act: **E** = Wetlands that contain 20,000 sq. ft. or more of open water or emergent habitat; H = Wetlands that include Significant Wildlife Habitat; **R** = Wetlands within 25 feet of a river, stream or brook; **F** = Wetlands within a 100 year floodplain; P = Wetlands that contain a peatland.

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
1	HOUL_W002	8/14/2014, 9/22/2014, 6/2/2015	D	X	X		HOUL_S004 HOUL_S005 HOUL_S006		F, R	Mapped floodplain
1	HOUL_W003	8/14/2014, 9/22/2014	X	D						
1	HOUL_W004	9/22/2014	X							
1	HOUL_W005	9/22/2014	X							
1	HOUL_W006	8/14/2014, 10/3/2014		X	D			VP_25RK_M		
1	HOUL_W007	8/14/2014, 10/3/2014		X						
2	HOUL_W008	8/14/2014, 9/25/2014, 9/30/2014, 10/3/2014	X	D	X			VP_32TT_M		
2	HOUL_W009	8/14/2014		X				VP_31TT_M		
2	HOUL_W010	8/14/2014, 9/25/2014	X	D	X			SVP_29TT_N VP_30TT_N	H, E, P	
3	HOUL_W011	9/26/2004	D	D						
3	HOUL_W012	9/26/2004	D	D						
3	HOUL_W013	8/14/2014, 9/25/2015			X		HOUL_S001		R, F	Mapped floodplain
3	HOUL_W015	9/25/2014	X	D					R, F	Along banks of Meduxnekeag River, which is located just outside project corridor.
4	HODG_W001	8/14/2014, 9/25/2014, 6/4/2015	D	D	X			VP_26TT_M VP_27TT_M VP_28TT_N		
4	HODG_W002	8/14/2014, 9/25/2014, 6/4/2015	X	D			HODG_S001		R, F	Mapped floodplain
4	HODG_W003	9/25/2014	X							
5	HODG_W004	9/25/2014	X							
5	LINN_W001	8/14/2014, 9/25/2014	D		D					
5	LINN_W002	8/14/2014, 9/25/2014, 6/4/2015	D		X		LINN_S001	SVP_25TT_N	R, H	
5	LINN_W003	8/14/2014, 9/25/2014, 6/4/2015	D		X			VP_24TT_M		
6	LINN_W004	8/14/2014, 9/25/2014, 6/4/2015		X						
6	LINN_W005	8/14/2014, 9/25/2014	X					VP_148RK_M		
6	LINN_W006	8/14/2014, 9/25/2014, 6/4/2015	D	X	D					
6	LINN_W007	8/14/2014, 9/25/2014, 6/4/2015		D	D		LINN_S002		R	

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
6	LINN_W008	8/14/2014, 9/25/2014, 6/4/2015	X	D			LINN_S003 LINN_S004 LINN_S002	VP_24RK_M	R	
6	LINN_W040	6/4/2015		D	X					
7	LINN_W009	8/14/2014, 9/25/2014	X							
7	LINN_W011	8/14/2014, 9/25/2014, 6/4/2015	X							
7	LINN_W013	8/14/2014, 9/25/2014, 6/4/2015	X		D			VP_16RK_M VP_17RK_M VP_18RK_M		
7	LINN_W035	6/4/2015	X					VP_04MA_M		
7	LINN_W036	6/4/2015		X						
8	LINN_W015	8/14/2014, 9/25/2014	D		X					
8	LINN_W016	8/14/2014, 9/25/2014, 6/4/2015	D		D			SVP_17TT_N VP_15RK_M	H	
8	LINN_W017	8/14/2014, 9/25/2014	X				LINN_S005		R	
9	LINN_W018	8/13/2014	X					VP_23TT_M		
9	LINN_W019	8/13/2014	X					VP_22TT_M		
9	LINN_W020	8/13/2014, 6/4/2015	X					VP_21TT_M		
10	LINN_W021	8/13/2014, 9/25/2014, 6/4/2015		X						
10	LINN_W022	8/13/2014, 9/25/2014	D		X					
10	LINN_W023	8/13/2014, 9/25/2014, 6/4/2015	X					VP_18TT_M VP_19TT_M VP_20TT_M	F	Mapped floodplain
11	LINN_W024	8/13/2014		X						
11	LINN_W025	9/25/2014		X						
11	LINN_W026	8/13/2014, 9/25/2014, 6/1/2015	X	D	X					
11	LINN_W027	8/13/2014, 9/25/2014, 6/1/2015	X	D	X					
11	LINN_W028	8/13/2014, 9/25/2014		X						
11	LINN_W029	8/13/2014, 9/25/2014	X	D				SVP_16TT_N VP_15TT_M VP_112CF_N	H	
12	LINN_W030	8/13/2014, 9/25/2014	D	D						
12	LINN_W031	8/13/2014		X						
12	LINN_W032	9/25/2014	X							
12	LINN_W033	8/13/2014, 9/25/2014, 6/1/2015	X	D			LINN_S006		P, R, H	Includes mapped IWWH
12	TAR2_W001	8/13/2014, 9/24/2014, 6/1/2015		X			TAR2_S002 TAR2_S001		R, H	Includes mapped IWWH

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
13	TAR2_W002	8/13/2014, 9/24/2014	X						P	
13	TAR2_W003	8/13/2014, 9/24/2014, 10/3/2014, 6/1/2015	D	X	D					
13	TAR2_W004	8/13/2014, 9/24/2014		D	X					
13	TAR2_W005	8/13/2014, 10/3/2014	D	X	X		TAR2_S003		R, H	Includes mapped IWWH
14	TAR2_W006	8/14/2014, 9/24/2014, 6/1/2015	X	X	D		TAR2_S003		R, H	Includes mapped IWWH
14	TAR2_W007	8/14/2014, 9/24/2014, 6/1/2015	X	D						
14	TAR2_W008	8/14/2014		X						
14	TAR2_W009	8/14/2014, 9/24/2014		X						
14	TAR2_W010	8/13/2014, 9/24/2014, 6/1/2015	X	D						
15	TAR2_W011	8/13/2014, 9/24/2014, 6/1/2015		X				VP_13RK_M		
15	TAR2_W012	8/13/2014, 9/24/2014		D	D				R	Small intermittent stream located just east of project corridor
15	TAR2_W013	8/13/2014, 9/24/2014	D	D						
15	TAR2_W014	8/13/2014, 9/24/2014		D	D			VP_14RK_M		
15	TAR2_W015	8/13/2014, 9/24/2014		X						
15	FORK_W001	8/13/2014, 9/24/2014		X	D			VP_14TT_M		
16	FORK_W002	8/12/2014, 9/23/2014	X	X	D					
16	FORK_W003	9/23/2014	X							
16	FORK_W004	8/12/2014, 9/23/2014	D		X			VP_12TT_M ABA_13TT_N	E	
16	FORK_W005	8/12/2014, 9/23/2014	X					VP_11TT_N	H	Includes mapped IWWH
17	FORK_W006	8/12/2014, 9/24/2014	X	D				VP_09TT_M VP_10TT_M		
17	FORK_W007	8/12/2014, 9/24/2014, 10/8/2014	D		X		FORK_S001	VP_07TT_N VP_08TT_M	R	
18	FORK_W008	8/12/2014, 9/24/2014	D	D						
18	FORK_W009	8/12/2014, 9/24/2014	X	D	X					
18	FORK_W010	9/24/2014	X							
18	FORK_W011	8/12/2014, 9/23/2014	X	D						
19	FORK_W012	9/23/2014	X							
19	FORK_W013	8/12/2014, 9/23/2014	X	X	D					
19	FORK_W014	9/23/2014			X					
19	FORK_W015	8/12/2014		X						
19	FORK_W016	8/12/2014, 9/23/2014			X					

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
19	FORK_W017	8/12/2014, 9/23/2014	X	D						
19	FORK_W018	8/12/2014			X					
19	FORK_W019	8/12/2014, 9/23/2014	X	D						
19	FORK_W020	8/12/2014, 9/23/2014	D		X			VP_12RK_M		
20	FORK_W021	8/12/2014, 9/23/2014	X							
20	FORK_W022	8/12/2014, 9/23/2014, 10/8/2014	D			X		VP_08RK_M VP_09RK_M	E	
20	FORK_W023	8/12/2014	D		X					
20	FORK_W024	8/12/2014	X							
20	FORK_W025	8/12/2014	D		X					
20	FORK_W026	8/12/2014, 9/23/2014	D		X					
21	FORK_W027	8/12/2014, 9/23/2014	D		X					
21	FORK_W028	8/12/2014, 9/23/2014	X	D						
21	FORK_W029	8/12/2014, 9/23/2014	X							
21	FORK_W030	8/12/2014, 10/8/2014	D	X			FORK_S002		R, F	
21	FORK_W031	8/12/2014, 9/23/2014		X			FORK_S002	ABA_06TT_N	R, F	
21	FORK_W032	8/12/2014		X						
21	FORK_W033	8/12/2014, 9/23/2014	X							
22	HAYN_W001	8/12/2014, 9/23/2014	X						F, H	Includes mapped DWA. Mapped floodplain
22	HAYN_W002	8/12/2014, 9/23/2014	X		D				H	Includes mapped DWA
22	HAYN_W003	8/12/2014, 9/23/2014	X						H	Includes mapped DWA
22	HAYN_W004	8/12/2014, 9/22/2014	D		X				H	Includes mapped DWA.
23	HAYN_W005	8/12/2014			X				H	Includes mapped DWA
23	HAYN_W006	8/12/2014, 9/22/2014	X					VP_02TT_M VP_03TT_M VP_04TT_M VP_05TT_M	H	Includes mapped DWA
23	HAYN_W007	8/12/2014	D	X					H, F	Includes mapped DWA. Mapped floodplain
23	HAYN_W008	8/12/2014		X	D				H, F	Includes mapped DWA. Mapped floodplain
23	HAYN_W009	8/12/2014, 9/22/2014		X				VP_01TT_N	H, F	Includes mapped DWA. Mapped floodplain
23	HAYN_W010	8/11/2014	X						H, F	Includes mapped DWA. Mapped floodplain
23	HAYN_W011	8/11/2014			X			VP_07RK_M	H	Includes mapped DWA
23	HAYN_W012	9/26/2004	X						H	Includes mapped DWA
23	HAYN_W013	9/26/2004	X						H	Includes mapped DWA
23	HAYN_W014	8/11/2014, 9/22/2014, 9/26/2014, 10/7/2014	X				HAYN_S002	VP_05RK_M VP_06RK_M	R, H, F	Includes mapped DWA. Mapped floodplain
24	HAYN_W015	8/11/2014			X					
24	HAYN_W016	9/22/2014		X						
24	HAYN_W017	8/11/2014		X						

NR Map Number	Wetland Resource ID	Delineation Date	PFO	PSS	PEM	PUB	Stream Resource ID	VP/ABA ID	WSS	Notes
24	HAYN_W018	8/11/2014, 9/26/2014	X							
24	HAYN_W019	8/11/2014			X					
24	HAYN_W020	8/11/2014, 9/22/2014	X	D				VP_02RK_N VP_03RK_N VP_04RK_N		
24	HAYN_W021	8/11/2014, 9/22/2014			X					
25	HAYN_W022	8/11/2014, 9/22/2014	X					VP_01RK_N		
25	HAYN_W023	8/11/2014, 9/22/2014	D	X					H	Includes mapped IWWH and DWA
25	HAYN_W024	9/22/2014	X						H	Includes mapped DWA
25	HAYN_W025	8/11/2014, 9/22/2014	X	D					H	Includes mapped DWA
25	HAYN_W026	8/11/2014, 9/22/2014	X	D					H	Includes mapped DWA
25	HAYN_W027	8/11/2014, 9/22/2014, 6/1/2015	D	X	X		HAYN_S003		R, H, F	Includes mapped DWA. Mapped floodplain
25	HAYN_W029	12/5/2014	X						F	Wetland delineated under winter conditions
25	HAYN_W030	6/1/2015			X					
25	M-2	11/2013		X						Delineated by TRC Engineers, LLC
26	M-1	11/2013		X						Delineated by TRC Engineers, LLC

Table C-2a: Summary of stream resources identified within the Turbine Area reporting limits for the Number Nine Wind Farm.
Jurisdiction indicates if the resource meets the Maine Department of Environmental Protection (MDEP) definition of a river, stream or brook, or if it only meets the Land Use Planning Commission (LUPC) definition of a stream based upon field observations.

NR Map Number	Stream ID	Associated Wetland ID	Jurisdiction	Flow Regime	USGS Blue Line	Channel Substrate	Top of Bank (Ft.)	Ordinary Highwater Width (Ft.)	Additional Notes
2	TDR2_S109	TDR2_W396	MDEP	Intermittent	NA	gravel	6	4	
2	TDR2_S110	TDR2_W398	MDEP	Intermittent	NA	gravel, cobble	6	3	
2	TDR2_S111	TDR2_W399	MDEP	Perennial	NA	gravel, cobble	6	3	
2	TDR2_S112	TDR2_W400	MDEP	Perennial	NA	silt, sand	5	3	
3	TDR2_S001	TDR2_W064	MDEP	Perennial	NA	cobble, muck, gravel, mud, boulder	1-14	7.5	Stream is also associated with wetland TDR2_W065
3	TDR2_S003	TDR2_W053	MDEP	Intermittent	NA	cobble, gravel, bedrock	5-9	6.6	
3	TDR2_S004	No associated wetland	LUPC	Ephemeral	NA	gravel, cobble	2-6	4	
3	TDR2_S005	TDR2_W018	MDEP	Intermittent	NA	gravel, cobble	3-4	3.5	
3	TDR2_S006	TDR2_W009	LUPC	Ephemeral	NA	cobble, gravel, silt, sand	6-10	7.6	Stream is also associated with wetland TDR2_W016
3	TDR2_S007	TDR2_W025	LUPC	Ephemeral	NA	muck, gravel	1	1	
3	TDR2_S008	TDR2_W025	MDEP	Intermittent	NA	cobble	5	5	Stream is also associated with wetland TDR2_W026
3	TDR2_S009	TDR2_W027	MDEP	Intermittent	NA	cobble, gravel	5	5	Stream is also associated with wetland TDR2_W028
3	TDR2_S010	TDR2_W029	MDEP	Intermittent	NA	cobble, gravel	3	3	Stream is also associated with wetland TDR2_W028
3	TDR2_S011	TDR2_W031	LUPC	Ephemeral	NA	cobble, muck, gravel, silt, sand	2-4	2.8	Stream is also associated with wetland TDR2_W032
3	TDR2_S012	TDR2_W033	MDEP	Intermittent	NA	cobble, gravel	3	3	Stream is also associated with wetland TDR2_W034
4	TDR2_S013	TDR2_W037	MDEP	Intermittent/ Perennial	unnamed	gravel, cobble	5-8	6.5	
4	TDR2_S014	No associated wetland	MDEP	Intermittent/ Perennial	unnamed	gravel, cobble	7-10	8.5	
4	TDR2_S015	TDR2_W043	MDEP	Intermittent/ Perennial	NA	gravel, cobble	5	5	
4	TDR2_S016	TDR2_W044	MDEP	Perennial	Number Nine Stream	gravel, cobble	40	40	Stream is also associated with wetlands TDR2_W046, TDR2_W047, TDR2_W048
5	TDR2_S017	TDR2_W101	MDEP	Intermittent	NA	cobble, silt	2	2	
6	TDR2_S105	TDR2_W387	MDEP	Perennial	NA	gravel, cobble	6	4	
6	TDR2_S106	TDR2_W388	MDEP	Perennial	NA	gravel, cobble	4	3	
6	TDR2_S107	No associated wetland	MDEP	Intermittent	NA	gravel	6	4	
6	TDR2_S108	TDR2_W391	MDEP	Intermittent	NA	gravel	5	3	
6	TDR2_S113	No associated wetland	MDEP	Perennial	NA	gravel, cobble	15	8	

NR Map Number	Stream ID	Associated Wetland ID	Jurisdiction	Flow Regime	USGS Blue Line	Channel Substrate	Top of Bank (Ft.)	Ordinary Highwater Width (Ft.)	Additional Notes
31	TDR2_S045	No associated wetland	MDEP	Intermittent	NA	gravel, cobble	3-4	3.5	
31	TDR2_S046	TDR2_W118	MDEP	Perennial	East Branch Presque Isle Stream	muck, sand, gravel	5-6	5.5	
31	TDR2_S115	TDR2_W118	MDEP	Perennial	NA				
32	TDR2_S114	TDR2_W408	MDEP	Intermittent	NA	muck, boulder	4-6	4	
33	TDR2_S038	TDR2_W168	MDEP	Intermittent	NA	gravel, cobble	8	8	
33	TDR2_S039	TDR2_W167	MDEP	Intermittent	unnamed	gravel, cobble	12	8	
33	TDR2_S040	TDR2_W167	MDEP	Intermittent	NA	sand, gravel, cobble	4-20	5.5	
33	TDR2_S044	TDR2_W175	MDEP	Intermittent	NA	sand, silt	5	5	
33	TDR2_S099	TDR2_W167	MDEP	Intermittent	NA	gravel, cobble	8	3	
33	TDR2_S103	No associated wetland	LUPC	Ephemeral	NA	gravel, cobble	4	2	
34	TDR2_S020	TDR2_W145	MDEP	Intermittent	NA	muck	1.5	1.5	
34	TDR2_S021	TDR2_W143	MDEP	Perennial	NA	gravel, sand, cobble	5	5	
34	TDR2_S022	TDR2_W143	MDEP	Perennial	NA	gravel	5	5	
34	TDR2_S023	TDR2_W143	MDEP	Perennial	NA	silt, gravel	3	3	
34	TDR2_S030	No associated wetland	MDEP	Intermittent	NA	silt, sand	3	2.9	
34	TDR2_S031	No associated wetland	MDEP	Perennial	unnamed	cobble, boulder	3-12	7.5	
34	TDR2_S032	TDR2_W151	LUPC	Ephemeral	NA	cobble, gravel, sand	3	3.4	
34	TDR2_S033	TDR2_W152	MDEP	Intermittent	NA	cobble, gravel	3-6	4.5	
34	TDR2_S035	TDR2_W154	MDEP	Intermittent/ Perennial	unnamed	cobble, gravel	5-7	5.5	
34	TDR2_S036	TDR2_W152	MDEP	Perennial	unnamed	cobble, gravel	2-6	4	Stream is also associated with wetland TDR2_W153
34	TDR2_S037	No associated wetland	LUPC	Ephemeral	NA	gravel, sand	3-4	3.4	
34	TDR2_S041	No associated wetland	LUPC	Ephemeral	unnamed	gravel, cobble	10	10	
34	TDR2_S042	TDR2_W161	MDEP	Intermittent	NA	muck, gravel	2-6	4	Stream is also associated with wetland TDR2_W163
34	TDR2_S043	TDR2_W215	MDEP	Intermittent	NA	gravel, cobble	4-6	5	
35	TDR2_S048	TDR2_W179	MDEP	Perennial	NA	gravel, cobble	1-2	1.5	
35	TDR2_S049	TDR2_W200	LUPC	Ephemeral	NA	gravel, sand	3	2.8	
35	TDR2_S050	No associated wetland	LUPC	Ephemeral	NA	cobble, gravel, sand	3-5	3.8	
35	TDR2_S051	TDR2_W183	MDEP	Perennial	NA	cobble, gravel	1-3	2	
35	TDR2_S052	No associated wetland	LUPC	Ephemeral	NA	silt, muck, gravel	3	2.8	
35	TDR2_S053	TDR2_W186	MDEP	Perennial	Number Nine Stream	cobble	20	20	
35	TDR2_S055	TDR2_W189	MDEP	Intermittent	NA	gravel, boulder	1-3	2	Stream is also associated with wetland TDR2_W190
38	TDR2_S056	TDR2_W207	MDEP	Perennial	unnamed	gravel, cobble	30	30	Stream is also associated with wetland TDR2_W209
39	TDR2_S057	TDR2_W219	MDEP	Intermittent	NA	cobble, muck	1-5	3	

NR Map Number	Stream ID	Associated Wetland ID	Jurisdiction	Flow Regime	USGS Blue Line	Channel Substrate	Top of Bank (Ft.)	Ordinary Highwater Width (Ft.)	Additional Notes
39	TDR2_S058	TDR2_W238	LUPC	Ephemeral	NA	gravel, silt, sand	1	1	
39	TDR2_S059	TDR2_W242	MDEP	Intermittent	NA	gravel	4	3	Stream is also associated with wetland TDR2_W243
39	TDR2_S060	TDR2_W242	LUPC	Ephemeral	NA	silt, sand	1	1	
39	TDR2_S061	TDR2_W242	MDEP	Intermittent	NA	silt, sand, gravel, cobbles	1-5	3	
39	TDR2_S062	TDR2_W245	MDEP	Intermittent	NA	gravel, cobble	5-8	6.5	
39	TDR2_S063	No associated wetland	MDEP	Intermittent	NA	gravel, cobble	10-20	15	
39	TDR2_S064	TDR2_W246	MDEP	Perennial	Hill Brook	gravel, cobble	15-20	17.5	Stream is also associated with wetland TDR2_W248
39	TDR2_S065	TDR2_W251	MDEP	Intermittent	NA	sand, gravel, cobble	5	2	
39	TDR2_S066	No associated wetland	LUPC	Ephemeral	NA	gravel	4	4	Crayfish observed
39	TDR2_S067	TDR2_W256	LUPC	Ephemeral	NA	gravel	4	4	
39	TDR2_S068	No associated wetland	MDEP	Perennial	NA	rock, cobble, gravel, sand, silt	2-4	1.5	
5	ETWP_S001	No associated wetland	LUPC	Ephemeral	NA	gravel	4	4	
5	ETWP_S002	ETWP_W004	MDEP	Intermittent/ Perennial	NA	sand	6	6	Stream is also associated with wetland ETWP_W005
5	ETWP_S003	ETWP_W006	LUPC	Ephemeral	NA	gravel	2	2	
5	ETWP_S004	ETWP_W073	MDEP	Intermittent/ Perennial	NA	mucky, gravel, cobble	8	8	Stream is also associated with wetland ETWP_W074
5	ETWP_S005	ETWP_W080	MDEP	Intermittent	NA	gravel	1-3	1.5	
5	ETWP_S031	ETWP_W004	MDEP	Intermittent	NA	silt, sand, cobble	4	2	
6	ETWP_S029	ETWP_W277	MDEP	Perennial	NA	gravel, cobble	8	6	Stream is also associated with wetland ETWP_W278
6	ETWP_S030	ETWP_W282	MDEP	Perennial	NA	gravel, cobble	10	6	Stream is also associated with wetland ETWP_W284
7	ETWP_S010	ETWP_W046	MDEP	Ephemeral/I ntermittent	NA	muck	1	0.75	
7	ETWP_S011	ETWP_W048	MDEP	Intermittent	NA	gravel	3	2	
7	ETWP_S012	ETWP_W052	MDEP	Intermittent	NA	gravel	4	2	
9	ETWP_S006	ETWP_W085	MDEP	Perennial	NA	gravel, cobble	12	12	
9	ETWP_S007	ETWP_W086	MDEP	Intermittent	NA	gravel, cobble	6	4	
9	ETWP_S013	ETWP_W086	MDEP	Perennial	Three Brooks	gravel	8	8	
10	ETWP_S014	ETWP_W105	LUPC	Ephemeral	NA	mud	2	1.5	
10	ETWP_S015	ETWP_W105	MDEP	Intermittent	NA	gravel	2	1.5	
11	ETWP_S020	ETWP_W174	MDEP	Intermittent	unnamed	gravel, cobble, muck	3	3	
11	ETWP_S021	ETWP_W176	MDEP	Intermittent	NA	cobble, muck, boulder	4-5	4.5	Stream is also associated with wetland ETWP_W177

NR Map Number	Stream ID	Associated Wetland ID	Jurisdiction	Flow Regime	USGS Blue Line	Channel Substrate	Top of Bank (Ft.)	Ordinary Highwater Width (Ft.)	Additional Notes
11	ETWP_S022	ETWP_W180	MDEP	Perennial	Burnt Land Brook	cobble, gravel, boulder	18-20	19	Stream is also associated with wetland ETWP_W181
12	ETWP_S016	ETWP_W141	MDEP	Perennial	NA	gravel, sand, silt	6-7	6.5	Stream is also associated with wetland ETWP_W143
12	ETWP_S017	ETWP_W142	MDEP	Perennial	NA	gravel, silt	6-7	6.5	Stream is also associated with wetland ETWP_W143
13	ETWP_S018	ETWP_W156	LUPC	Ephemeral	NA	mud	2	1.75	
13	ETWP_S019	ETWP_W159	MDEP	Intermittent	NA	cobble, gravel	2-3	2.5	
14	ETWP_S023	ETWP_W201	MDEP	Intermittent	NA	gravel	3	3	
15	ETWP_S024	No associated wetland	LUPC	Ephemeral	NA	gravel, mineral soil	2	2	
16	ETWP_S025	ETWP_W231	MDEP	Intermittent	NA	cobble, gravel	2	2	
18	T10R3_S001	T10R3_W031	LUPC	Ephemeral	NA	silt, cobble	2	2	
19	T10R3_S004	T10R3_W040	LUPC	Ephemeral	NA	silt	1-2	1.5	
22	T10R3_S008	T10R3_W087	MDEP	Intermittent	unnamed	rock, gravel, sand	6	6	
24	T10R3_S009	T10R3_W099	MDEP	Perennial	West Branch Presque Isle Stream	boulder, cobble, gravel, silt	35	35	Stream is also associated with wetland T10R3_W100
25	T10R3_S010	T10R3_W126	MDEP	Intermittent	NA	cobble	4	4	Stream is also associated with wetland T10R3_W127
14	T9R3_S001	T9R3_W075	MDEP	Perennial	East Branch Presque Isle Stream	gravel, cobble	20	20	Stream is also associated with wetland T9R3_W076
28	T9R3_S002	T9R3_W014	MDEP	Perennial	NA	cobble, gravel, silt, muck	3-4	3.5	
28	T9R3_S003	T9R3_W018	MDEP	Intermittent	NA	cobble, gravel, silt, muck	3	3	
30	T9R3_S004	T9R3_W052	MDEP	Perennial	unnamed	cobble, gravel, sand	3	3	
31	T9R3_S005	T9R3_W063	MDEP	Perennial	NA	cobble, boulder, gravel	10-12	11	
31	T9R3_S006	T9R3_W064	MDEP	Perennial	NA	sand, gravel	6	6	
31	T9R3_S007	T9R3_W065	MDEP	Perennial	NA	muck, silt	6-7	6.5	
31	T9R3_S008	T9R3_W068	MDEP	Perennial	unnamed	sand, gravel, cobble	6-12	9	Stream is also associated with wetland T9R3_W069
31	T9R3_S009	T9R3_W074	MDEP	Perennial	NA	gravel, cobble	3-4	3.5	
31	T9R3_S010	T9R3_W073	MDEP	Perennial	unnamed	muck, sand	9-10	9.5	Stream is also associated with wetland T9R3_W074
31	TDR2_S047	T9R3_W074	MDEP	Perennial	NA	muck	10	10	
35	T9R3_S011	T9R3_W082	MDEP	Perennial	Number Nine Stream	gravel, cobble	8-40	25	Stream is also associated with wetlands T9R3_W083, T9R3_W084, TDR2_W186, TDR2_W187, TDR2_W188, TDR2_W190, and TDR2_W191
35	T9R3_S012	T9R3_W084	MDEP	Intermittent	NA	cobble, gravel	5	5	

NR Map Number	Stream ID	Associated Wetland ID	Jurisdiction	Flow Regime	USGS Blue Line	Channel Substrate	Top of Bank (Ft.)	Ordinary Highwater Width (Ft.)	Additional Notes
35	T9R3_S013	T9R3_W081	MDEP	Perennial	unnamed	sand, gravel, cobble	12	12	
35	T9R3_S014	T9R3_W086	MDEP	Perennial	unnamed	sand, gravel	3-6	4.5	
35	T9R3_S015	T9R3_W087	MDEP	Perennial	unnamed	gravel, cobble	6	6	
35	T9R3_S016	T9R3_W091	MDEP	Perennial	unnamed	cobble, gravel, boulder	4-50	25	
36	T9R3_S017	No associated wetland	MDEP	Intermittent	NA	cobble, gravel	4-5	4.5	
36	T9R3_S018	T9R3_W093	MDEP	Perennial	unnamed	cobble, gravel, boulder	20-30	25	Stream is also associated with wetland T9R3_W094
36	T9R3_S019	T9R3_W099	MDEP	Perennial	NA	cobble, gravel, woody debris	4-6	5	
37	T9R3_S020	No associated wetland	LUPC	Ephemeral	NA	gravel, cobble, silt	1	0.7	
37	T9R3_S021	No associated wetland	LUPC	Ephemeral	NA	gravel, silt, cobble	1	0.3	
37	T9R3_S022	No associated wetland	LUPC	Ephemeral	NA	vegetative	3	3	
37	T9R3_S023	No associated wetland	LUPC	Ephemeral	NA	gravel, cobble	3	3	
40	T9R3_S042	T9R3_W233	MDEP	Intermittent	unnamed	gravel, sand, cobble, silt	5	5	
40	T9R3_S043	T9R3_W233	MDEP	Intermittent	NA	gravel, cobble, silt	4	4	
40	T9R3_S044	T9R3_W232	MDEP	Intermittent	NA	gravel, silt, cobble	1	0.3	
40	T9R3_S045	T9R3_W233	MDEP	Intermittent	NA	silt	2-4	3	
40	T9R3_S046	T9R3_W233	MDEP	Perennial	NA	silt	3-4	3.5	
40	T9R3_S048	T9R3_W231	MDEP	Intermittent	NA	cobble, gravel, muck	2-6	4	
40	T9R3_S050	T9R3_W278	MDEP	Intermittent	unnamed	cobble, gravel, silt	2	1.5	Stream is also associated with wetland T9R3_W279
41	T9R3_S040	T9R3_W207	MDEP	Intermittent	NA	gravel, cobble	2	2	
41	T9R3_S041	T9R3_W211	MDEP	Intermittent/ Perennial	unnamed	gravel, cobble	6	6	Stream is also associated with wetland T9R3_W212
42	T9R3_S028	T9R3_W138	MDEP	Intermittent	NA	gravel, cobble	4	4	
42	T9R3_S029	T9R3_W140	MDEP	Intermittent	NA	cobble, gravel	4	4	Stream is also associated with wetlands T9R3, W141 and T9R3_W142
42	T9R3_S030	T9R3_W143	MDEP	Intermittent	unnamed	gravel, cobble	6	6	Stream is also associated with wetland T9R3_W144
42	T9R3_S031	No associated wetland	MDEP	Intermittent	unnamed	cobble, gravel	4	4	
42	T9R3_S032	T9R3_W146	MDEP	Intermittent	NA	gravel, silt, cobble	1	0.4	
42	T9R3_S033	No associated wetland	LUPC	Ephemeral	NA	gravel, silt, cobble	1	0.3	
42	T9R3_S034	No associated wetland	MDEP	Intermittent	NA	silt, cobble	1	0.4	
42	T9R3_S035	T9R3_W157	MDEP	Intermittent	NA	sand, gravel	1	1	

NR Map Number	Stream ID	Associated Wetland ID	Jurisdiction	Flow Regime	USGS Blue Line	Channel Substrate	Top of Bank (Ft.)	Ordinary Highwater Width (Ft.)	Additional Notes
42	T9R3_S036	T9R3_W158	LUPC	Ephemeral	NA	gravel, silt	2	1.5	Stream is also associated with wetland T9R3_W159
42	T9R3_S037	No associated wetland	MDEP	Intermittent	NA	silt, cobble	1	0.5	
42	T9R3_S038	No associated wetland	LUPC	Ephemeral	NA	cobble, gravel, silt	1	0.3	
42	T9R3_S039	T9R3_W206	MDEP	Ephemeral/Intermittent	NA	gravel, cobble, sand	2-3	2.5	
44	T9R3_S051	T9R3_W283	MDEP	Intermittent	NA	gravel, cobble	2	2	
44	T9R3_S052	T9R3_W284	MDEP	Intermittent	NA	gravel, cobble	3	3	
44	T9R3_S053	T9R3_W289	LUPC	Ephemeral	NA	gravel, vegetation	2	2	
44	T9R3_S054	T9R3_W321	MDEP	Intermittent	unnamed	cobble, gravel, boulder	2-5	3.5	Stream is also associated with wetlands T9R3_W322 and T9R3_W323
45	T9R3_S055	T9R3_W319	MDEP	Intermittent	unnamed	sands, gravel	4	4	Stream is also associated with wetland T9R3_W320
45	T9R3_S056	T9R3_W318	MDEP	Perennial	Hovey Brook	cobble, gravel	2-4	2.75	
45	T9R3_S057	T9R3_W307	MDEP	Ephemeral/Intermittent	NA	stone, gravel	3	3	
45	T9R3_S058	T9R3_W303	MDEP	Intermittent	unnamed	cobble, gravel, silt	7-8	4.5	Stream is also associated with wetland T9R3_W304
45	T9R3_S059	T9R3_W302	LUPC	Ephemeral	NA	cobble, gravel, ledge	2-3	2.5	
45	T9R3_S060	No associated wetland	LUPC	Ephemeral	NA	cobble, gravel, muck	3	3	
58	T9R3_S061	T9R3_W171	MDEP	Intermittent	NA	mud	2	2	Stream is also associated with wetland T9R3_W172
59	T9R3_S062	T9R3_W181	MDEP	Perennial	NA	gravel, cobble	8	8	Stream is also associated with wetland T9R3_W182
45	T8R3_S001	T8R3_W020	MDEP	Intermittent	NA	silt, gravel, cobble	1	0.5	
46	T8R3_S002	T8R3_W022	MDEP	Intermittent	NA	gravel, silt, cobble	1	0.3	
46	T8R3_S003	T8R3_W028	MDEP	Intermittent	NA	sand, cobble	3	3	
46	T8R3_S004	No associated wetland	MDEP	Intermittent	NA	gravel, silt, cobble	1	0.5	
46	T8R3_S005	T8R3_W037	LUPC	Ephemeral	NA	silt, sand, gravel, cobble	2	2	
46	T8R3_S006	T8R3_W051	MDEP	Intermittent	NA	cobble	1-4	2.5	
47	T8R3_S007	T8R3_W118	MDEP	Intermittent/ Perennial	NA	silt	1	0.8	Stream is also associated with wetland T8R3_W119
47	T8R3_S008	T8R3_W118	MDEP	Intermittent	NA	silt	1	0.3	
47	T8R3_S009	T8R3_W113	MDEP	Perennial	Hovey Brook	silt	2	2	
47	T8R3_S010	No associated wetland	MDEP	Intermittent	NA	mud	5	5	
48	T8R3_S012	T8R3_W106	LUPC	Ephemeral	NA	silt	1	0.3	
48	T8R3_S013	T8R3_W107	MDEP	Intermittent	NA	gravel	3	3	

NR Map Number	Stream ID	Associated Wetland ID	Jurisdiction	Flow Regime	USGS Blue Line	Channel Substrate	Top of Bank (Ft.)	Ordinary Highwater Width (Ft.)	Additional Notes
48	T8R3_S014	No associated wetland	MDEP	Perennial	unnamed	gravel	5	5	
48	T8R3_S015	T8R3_W099	MDEP	Intermittent	unnamed	cobble, boulder, gravel	1	1	
49	T8R3_S016	T8R3_W065	MDEP	Intermittent	NA	silt, cobble, gravel	2	2	
50	T8R3_S017	T8R3_W071	MDEP	Intermittent	Gould Brook	silt, cobble, gravel	3-5	4	Stream is also associated with wetland T8R3_W073
50	T8R3_S018	T8R3_W097	MDEP	Intermittent	NA	muck, gravel	3	3	
50	T8R3_S019	T8R3_W095	MDEP	Intermittent	NA	gravel, silt, cobble	1	0.9	Stream is also associated with wetland T8R3_W096
50	T8R3_S020	T8R3_W093	MDEP	Intermittent	NA	silt, cobble, gravel	3	3	Stream is also associated with wetland T8R3_W094
51	T8R3_S068	T8R3_W515	MDEP	Intermittent	NA	muck	3	3	Stream is also associated with wetland T8R3_W516
51	T8R3_S069	No associated wetland	MDEP	Perennial	South Brook	boulder, bedrock, gravel	2	2	
51	T8R3_S070	T8R3_W522	MDEP	Intermittent	NA	cobble	3	3	
51	T8R3_S073	T8R3_W530	MDEP	Perennial	NA	muck, gravel, cobble	2-4	3	
51	T8R3_S080	T8R3_W530	MDEP	Perennial	NA	gravel, sand, muck, silt	4-5	4.5	
52	T8R3_S063	T8R3_W450	MDEP	Perennial	Gulch Brook	cobble, gravel, sand	8-10	9	
53	T8R3_S066	No associated wetland	MDEP	Intermittent	NA	cobble, gravel	3	3	
53	T8R3_S067	T8R3_W561	MDEP	Intermittent	NA	rock, gravel	2	2	
53	T8R3_S101	T8R3_W642	LUPC	Ephemeral	NA	muck, leaf litter, cobble	2	1.5	
53	T8R3_S102	No associated wetland	LUPC	Ephemeral	NA	gravel, sand, leaf litter	3	2	
53	T8R3_S103	No associated wetland	MDEP	Perennial	NA	boulder, cobble, sand	4	4	
53	T8R3_S104	No associated wetland	MDEP	Intermittent	NA	cobble, gravel, muck	2	2	
53	T8R3_S105	No associated wetland	MDEP	Ephemeral/Intermittent	NA	sand, leaf litter, muck	4	3	
54	T8R3_S065	T8R3_W501	MDEP	Perennial	NA	cobble, gravel	3-4	3.5	
56	T8R3_S106	No associated wetland	MDEP	Perennial	NA	gravel	5	3	
56	T8R3_S107	T8R3_W667	MDEP	Perennial	NA	gravel, cobble	2-4	2	Stream is also associated with wetland T8R3_W668
56	T8R3_S108	No associated wetland	MDEP	Intermittent/ Perennial	NA	gravel, cobble	3-5	3.5	
56	T8R3_S111	T8R3_W672	MDEP	Intermittent	NA	gravel, cobble	2	1	Stream is also associated with wetland T8R3_W673

NR Map Number	Stream ID	Associated Wetland ID	Jurisdiction	Flow Regime	USGS Blue Line	Channel Substrate	Top of Bank (Ft.)	Ordinary Highwater Width (Ft.)	Additional Notes
56	T8R3_S112	No associated wetland	MDEP	Intermittent	NA	gravel, cobble	3-4	2.5	
57	T8R3_S113	T8R3_W686	MDEP	Perennial	North Brook	gravel, cobble	8-9	6.5	
60	T8R3_S021	T8R3_W003	MDEP	Perennial	NA	cobble, gravel	8	8	Stream is also associated with wetland T8R3_W004
60	T8R3_S022	No associated wetland	MDEP	Perennial	NA	gravel, silt	1	0.7	
60	T8R3_S023	T8R3_W005	MDEP	Perennial	unnamed	cobble, boulder	15	15	Stream is also associated with wetland T8R3_W006
60	T8R3_S024	T8R3_W008	MDEP	Intermittent	NA	gravel, boulder	4	4	Stream is also associated with wetland T8R3_W009
61	T8R3_S025	T8R3_W120	MDEP	Perennial	South Brook	boulder, cobble, gravel	2	1.5	Stream is also associated with wetland T8R3_W121
62	T8R3_S026	T8R3_W141	MDEP	Perennial	East Branch Howe Brook	mud	8	8	
62	T8R3_S033	T8R3_W144	MDEP	Intermittent	NA	silt, gravel, cobble	1	0.5	
62	T8R3_S034	T8R3_W145	MDEP	Intermittent	NA	gravel, cobble	6	6	
62	T8R3_S035	T8R3_W145	MDEP	Intermittent	NA	mud	5	5	
62	T8R3_S036	T8R3_W216	MDEP	Intermittent	NA	cobble, gravel, boulder	4-6	5	Stream is also associated with wetland T8R3_W217
62	T8R3_S037	T8R3_W220	MDEP	Perennial	NA	cobble, gravel, boulder	6-7	6.5	Stream is also associated with wetland T8R3_W221
62	T8R3_S039	T8R3_W222	MDEP	Perennial	East Branch Howe Brook	cobble, boulder, gravel	12-15	13.5	
63	T8R3_S040	T8R3_W246	MDEP	Perennial	unnamed	cobble, boulder, gravel	8-10	9	Stream is also associated with wetland T8R3_W247
64	T8R3_S038	T8R3_W266	MDEP	Intermittent	NA	silt, cobble, gravel	1	1	
64	T8R3_S099	T8R3_W620	MDEP	Intermittent	NA	gravel, cobble	6	3	Stream is also associated with wetland T8R3_W621
66	T8R3_S060	T8R3_W437	MDEP	Perennial	NA	sand	8	8	Stream is also associated with wetland T8R3_W438
66	T8R3_S061	T8R3_W439	MDEP	Perennial	unnamed	sand	8	8	Stream is also associated with wetland T8R3_W440
67	T8R3_S042	No associated wetland	LUPC	Ephemeral	NA	silt	2	2	
67	T8R3_S043	No associated wetland	MDEP	Perennial	unnamed	cobble, gravel, silt	10	10	
67	T8R3_S044	T8R3_W295	MDEP	Intermittent	NA	bedrock, gravel, silt, sand	3	2.5	
68	T8R3_S045	T8R3_W329	MDEP	Perennial	NA	silt	3-5	4	

NR Map Number	Stream ID	Associated Wetland ID	Jurisdiction	Flow Regime	USGS Blue Line	Channel Substrate	Top of Bank (Ft.)	Ordinary Highwater Width (Ft.)	Additional Notes
68	T8R3_S048	T8R3_W312	LUPC	Ephemeral	NA	silt, mineral, sand, gravel	3-10	6.5	Stream is also associated with wetland T8R3_W313
68	T8R3_S049	No associated wetland	MDEP	Ephemeral	NA	muck	3	3	Stream is also associated with wetland T8R3_W352
69	T8R3_S046	T8R3_W341	MDEP	Intermittent	NA	mucky mineral	2	2	
69	T8R3_S047	T8R3_W342	MDEP	Intermittent	NA	silt, gravel, cobble, bedrock	1-5	3	
70	T8R3_S050	T8R3_W353	MDEP	Intermittent/ Perennial	Long Brook	cobble, gravel	8	8	Stream is also associated with wetland T8R3_W352
70	T8R3_S051	T8R3_W353	MDEP	Perennial	Long Brook	cobble, gravel	6	6	
70	T8R3_S052	T8R3_W650	MDEP	Intermittent/ Perennial	NA	gravel	4	4	Stream is also associated with wetland T8R3_W677
70	T8R3_S057	T8R3_W371	MDEP	Perennial	NA	cobble, muck	5	5	
70	T8R3_S058	T8R3_W376	MDEP	Intermittent	NA	silt	1	1	
70	T8R3_S079	T8R3_W562	MDEP	Intermittent	NA	gravel, cobble, sand	2-3	2.5	
70	T8R3_S114	No associated wetland	LUPC	Ephemeral	NA	gravel	5	3	
71	T8R3_S059	T8R3_W393	MDEP	Intermittent	NA	cobble, muck, gravel	3-4	3.5	
69	STCR_S001	STCR_W006	MDEP	Intermittent	NA	mud	3	3	Stream is also associated with wetland STCR_W007

Table C-2b: Summary of stream resources identified within the North Generator Lead Line for the Number Nine Wind Farm.
Jurisdiction indicates if the resource meets the Maine Department of Environmental Protection (MDEP) definition of a river, stream, or brook, or if it only meets the Land Use Planning Commission (LUPC) definition of a stream based upon field observations.

NR Map Number	Stream ID	Associated Wetland ID	Jurisdiction	Flow Regime	USGS Blue Line	Channel Substrate	Top of Bank (Ft.)	Average Bank Full Width (Ft.)	Additional Notes
1	T9R3_S063	T9R3_W331	MDEP	Intermittent	NA	gravel, silt, leaves	4	1.5	
1	T9R3_S064	T9R3_W332	MDEP	Intermittent	NA	gravel, boulder, muck	3-6	4	
1	T9R3_S065	T9R3_W336	MDEP	Intermittent	NA	gravel, cobble, silt, muck, leaves	3-8	2	
1	T9R3_S066	T9R3_W339	MDEP	Intermittent	NA	sand, gravel, cobble, muck	3-4	3.5	
1	T9R3_S067	T9R3_W340	MDEP	Intermittent	NA	cobble, gravel, muck	2-3	2.5	Stream also associated with wetland T9R3_W341
2	T8R3_S081	T8R3_W572	MDEP	Perennial	NA	gravel, sand, silt	2-5	2	
2	T8R3_S082	T8R3_W572	MDEP	Perennial	NA	gravel, cobble, sand, silt	2-5	3.5	
2	T8R3_S083	T8R3_W572	MDEP	Perennial	unnamed	cobble, gravel	10-15	11	
2	T8R3_S084	T8R3_W572	MDEP	Perennial	NA	cobble	4-5	4.5	
2	T8R3_S085	T8R3_W572	MDEP	Perennial	NA	sand, muck	3-4	3.5	
2	T8R3_S086	T8R3_W573	MDEP	Perennial	North Branch Meduxnekeag River	cobble, gravel	12-15	13.5	
2	T8R3_S087	No associated wetland	MDEP	Intermittent	NA	muck, cobble, gravel	2	2	
2	T8R3_S115	T8R3_W724	MDEP	Intermittent	NA	sand, gravel	2	0.5	
3	T8R3_S088	No associated wetland	LUPC	Ephemeral	NA	muck, boulder, cobble, gravel	2	2	
4	T8R3_S089	T8R3_W587	MDEP	Perennial	unnamed	sand, gravel	3	3	
4	T8R3_S090	T8R3_W587	MDEP	Perennial	unnamed	gravel, cobble, sand, muck	4-15	7	
5	T8R3_S091	T8R3_W590	MDEP	Intermittent	NA	boulder, cobble, muck	3-5	3	
5	T8R3_S092	T8R3_W592	MDEP	Perennial	NA	muck, boulder	2-3	2.5	
5	T8R3_S093	T8R3_W593	MDEP	Perennial	NA	silt, gravel, cobble	2-7	4	
5	T8R3_S094	T8R3_W594	MDEP	Perennial	NA	sand, gravel, boulder	5-8	6.5	
5	T8R3_S095	T8R3_W594	MDEP	Perennial	NA	sand, gravel, boulder	3-5	4	
5	T8R3_S096	T8R3_W597	MDEP	Perennial	NA	sand, gravel, boulder, cobble	5-6	4	
6	T8R3_S078	T8R3_W554	MDEP	Perennial	South Brook	cobble, gravel, boulder	40-75	57.5	
6	T8R3_S097	T8R3_W599	MDEP	Perennial	NA	cobble, gravel, boulder, muck	3-6	4.5	
6	T8R3_S098	T8R3_W603	MDEP	Intermittent	NA	boulder, cobble, muck	5-7	4.5	
7	TCR2_S012	TCR2_W135	MDEP	Intermittent/ Perennial	NA	cobble, muck	2-30	8	
7	TCR2_S013	TCR2_W135	MDEP	Intermittent	NA	sand, cobble, gravel, boulder	6-10	8	
7	TCR2_S014	TCR2_W135	MDEP	Intermittent	NA	gravel	5-8	6.5	

NR Map Number	Stream ID	Associated Wetland ID	Jurisdiction	Flow Regime	USGS Blue Line	Channel Substrate	Top of Bank (Ft.)	Average Bank Full Width (Ft.)	Additional Notes
7	TCR2_S015	TCR2_W137	MDEP	Perennial	Bear Brook	gravel, sand, cobble	17	17.4	
7	TCR2_S016	TCR2_W138	MDEP	Perennial	NA	gravel, boulder	8-10	9	Stream also associated with wetland TCR2_W139
7	TCR2_S017	TCR2_W138	MDEP	Intermittent	NA	gravel	7	7	Stream also associated with wetland TCR2_W139
9	HAMM_S001	HAMM_W008	MDEP	Perennial	Howard Brook	gravel, cobble	20	20	
9	HAMM_S002	HAMM_W008	MDEP	Perennial	Howard Brook	gravel, cobble	8-12	10	
10	HAMM_S021	HAMM_W105	LUPC	Ephemeral	NA	gravel, cobble, gravel	1-2	1.5	Stream is also associated with wetland HAMM_W131
11	HAMM_S003	HAMM_W030	LUPC	Ephemeral	NA	muck, cobble	2	2	
11	HAMM_S004	No associated wetland	LUPC	Ephemeral	NA	gravel, cobble	5	5	
11	HAMM_S005	HAMM_W031	MDEP	Perennial	Fork Brook	cobble, boulder	16	16	
11	HAMM_S022	No associated wetland	LUPC	Ephemeral	NA	gravel, cobble	3	2	
11	HAMM_S023	HAMM_W106	MDEP	Intermittent	NA	gravel, cobble, sand	8	5	
11	HAMM_S032	HAMM_W107	MDEP	Intermittent	NA	boulder, cobble, gravel	5	2	
12	HAMM_S006	No associated wetland	MDEP	Perennial	NA	gravel, cobble	6	6	
12	HAMM_S007	No associated wetland	MDEP	Intermittent	NA	gravel, cobble	8	8	
12	HAMM_S008	No associated wetland	MDEP	Perennial	NA	cobble, boulder	8	8	
12	HAMM_S009	HAMM_W041	MDEP	Ephemeral/Intermittent	NA	gravel, cobble	3	3	
12	HAMM_S010	No associated wetland	MDEP	Perennial	Mansur Brook	cobble, boulder	15	15	
12	HAMM_S011	No associated wetland	MDEP	Intermittent	NA	gravel, cobble	10	10	
12	HAMM_S024	HAMM_W037	MDEP	Intermittent	NA	gravel, cobble, sand	8	4	Stream is also associated with wetland HAMM_W113
12	HAMM_S025	No associated wetland	MDEP	Intermittent	NA	boulder, cobble	6-8	5.5	
12	HAMM_S026	No associated wetland	MDEP	Intermittent	NA	boulder, cobble	5-7	4	
12	HAMM_S028	HAMM_W043	MDEP	Intermittent	NA	cobble, silt, muck	5-7	4.5	
12	HAMM_S029	No associated wetland	LUPC	Ephemeral	NA	silt, sand	5	2	
13	HAMM_S012	HAMM_W053	MDEP	Perennial	unnamed	gravel, cobble, sand	12	8	
13	HAMM_S013	HAMM_W055	MDEP	Perennial	Webster Brook	boulder, cobble, gravel, silt	12	12	

NR Map Number	Stream ID	Associated Wetland ID	Jurisdiction	Flow Regime	USGS Blue Line	Channel Substrate	Top of Bank (Ft.)	Average Bank Full Width (Ft.)	Additional Notes
14	HAMM_S014	HAMM_W061	MDEP	Intermittent/ Perennial	NA	gravel, cobble, muck	1-3	2	
14	HAMM_S015	HAMM_W061	MDEP	Perennial	NA	cobble, gravel	5	5	
14	HAMM_S016	HAMM_W062	MDEP	Perennial	NA	cobble, gravel	5	5	
14	HAMM_S017	HAMM_W066	MDEP	Perennial	unnamed	cobble, gravel, silt	10	10	
14	HAMM_S018	HAMM_W068	MDEP	Perennial	NA	cobble, silt, muck	15	15	Fish and frogs observed
14	HAMM_S033	HAMM_W167	MDEP	Perennial	Twin Brook	bedrock, sand, gravel	4-8	3	Small to medium wood debris
15	HAMM_S034	HAMM_W157	LUPC	Ephemeral	NA	cobble, gravel, silt	3	2	Stream is also associated with wetland HAMM_W159
17	HAMM_S019	HAMM_W095	MDEP	Perennial	B Stream	cobble, boulder	45	45	Stream is also associated with wetland HAMM_W096
17	HAMM_S020	HAMM_W099	MDEP	Perennial	B Stream	cobble, boulder	50	50	
17	HAMM_S030	HAMM_W124	MDEP	Perennial	NA	gravel, boulder, muck	4-6	4	
17	HAMM_S031	HAMM_W124	MDEP	Perennial	unnamed	gravel, boulder, muck	4-6	4	
17	HAMM_S035	HAMM_W146	MDEP	Perennial	Larry Brook	cobble, gravel, sand	25	22	Stream is also associated with wetland HAMM_W147, HAMM_W155 and HAMM_W156
17	HAMM_S036	HAMM_W135	MDEP	Perennial	Twin Brook	rock, cobble, gravel, sand	35	30	Stream is also associated with HAMM_W136, HAMM_W151 and HAMM_W152
18	LITT_S001	LITT_W003	MDEP	Intermittent	unnamed	cobble, gravel	3-4	3.5	
18	LITT_S002	LITT_W003	MDEP	Intermittent	unnamed	cobble, gravel	3-4	3.5	
18	LITT_S003	LITT_W003	MDEP	Ephemeral/ Intermittent	unnamed	cobble, sand, boulder, silt, muck	5	2	
18	LITT_S004	LITT_W005	MDEP	Perennial	unnamed	sand, gravel	8	5	
18	LITT_S005	LITT_W005	MDEP	Perennial	unnamed	sand, gravel, cobble	8-15	7.5	
19	LITT_S007	LITT_W012	MDEP	Perennial	unnamed	cobble, gravel, sand	3-20	6.5	Stream is also associated with wetland LITT_W016
19	LITT_S008	LITT_W012	MDEP	Intermittent	unnamed	cobble, gravel	6	4	
19	LITT_S009	LITT_W008	LUPC	Ephemeral	NA	gravel, sand, silt	2-3	1.5	
20	LITT_S006	HOUL_W028	MDEP	Perennial	unnamed	muck	4-8	6	
20	HOUL_S003	HOUL_W026	MDEP	Perennial	unnamed	silt, gravel	15-30	22.5	
21	HOUL_S007	HOUL_W018	MDEP	Perennial	unnamed	muck	3	0.5	
21	HOUL_S008	HOUL_W018	MDEP	Perennial	unnamed	muck	3	1	
21	HOUL_S009	HOUL_W021	MDEP	Perennial	NA	muck	3	1	
21	HOUL_S010	HOUL_W042	MDEP	Perennial	unnamed	rock, cobble, gravel, sand	30	25	Stream is also associated with wetland HOUL_W043

NR Map Number	Stream ID	Associated Wetland ID	Jurisdiction	Flow Regime	USGS Blue Line	Channel Substrate	Top of Bank (Ft.)	Average Bank Full Width (Ft.)	Additional Notes
22	HOUL_S002	HOUL_W031	MDEP	Perennial	B stream	bedrock	70	70	Stream is also associated with wetland HOUL_W038

Table C-2c: Summary of stream resources identified within the Bridal Path Generator Lead Line for the Number Nine Wind Farm.
Jurisdiction indicates if the resource meets the Maine Department of Environmental Protection (MDEP) definition of a river, stream, or brook, or if it only meets the Land Use Planning Commission (LUPC) definition of a stream based upon field observations.

NR Map Number	Stream ID	Associated Wetland ID	Jurisdiction	Flow Regime	USGS Blue Line	Channel Substrate	Top of Bank (Ft.)	Average Bank Full Width (Ft.)	Additional Notes
1	HOUL_S004	HOUL_W002	MDEP	Perennial	B Stream	cobble, gravel	45-100	37.5	
1	HOUL_S005	HOUL_W002	MDEP	Intermittent	unnamed	cobble, gravel	8	6	
1	HOUL_S006	HOUL_W002	MDEP	Intermittent	NA	gravel, cobble	8	4	
3	HOUL_S001	HOUL_W013	MDEP	Perennial	Meduxnekeag River	cobble	80	80	
4	HODG_S001	HODG_W002	MDEP	Perennial	Oliver Brook	gravel, cobble	15	15	
5	LINN_S001	LINN_W002	MDEP	Perennial	unnamed	silt, unknown	2	2	
6	LINN_S002	LINN_W007	MDEP	Perennial	unnamed	unknown	3-7	5	Stream also associated with wetland LINN_W008
6	LINN_S003	LINN_W008	MDEP	Perennial	Bither Brook	sand, gravel	12-20	16	
6	LINN_S004	LINN_W008	MDEP	Perennial	Bither Brook	gravel, cobble	7	7	
8	LINN_S005	LINN_W017	MDEP	Perennial	NA	gravel, cobble	4	4	
12	LINN_S006	LINN_W033	MDEP	Perennial	NA	silt	6	6	Within Atlantic Salmon Critical Habitat
12	TAR2_S001	TAR2_W001	MDEP	Perennial	Yellow Brook	gravel, cobble	5	5	Within Atlantic Salmon Critical Habitat
12	TAR2_S002	TAR2_W001	MDEP	Perennial	NA	gravel, cobble	9	9	Within Atlantic Salmon Critical Habitat
14	TAR2_S003	TAR2_W005	MDEP	Perennial	Tenmile Brook	silt	40	40	Within Atlantic Salmon Critical Habitat, Stream also associated with wetland TAR2_W006
18	FORK_S001	FORK_W007	MDEP	Perennial	unnamed	cobble	10	10	Within Atlantic Salmon Critical Habitat
21	FORK_S002	FORK_W030	MDEP	Perennial	East Branch Mattawamkeag River	cobble, gravel, rock	100	100	Within Atlantic Salmon Critical Habitat, Stream also associated with wetland FORK_W031
23	HAYN_S002	HAYN_W014	MDEP	Perennial	NA	silt, cobble, rock, gravel	2-4	3	Within Atlantic Salmon Critical Habitat
23	HAYN_S001	No associated wetland	MDEP	Perennial	West Branch Mattawamkeag River	rock, cobble, gravel	80	80	Within Atlantic Salmon Critical Habitat
25	HAYN_S003	HAYN_W027	MDEP	Perennial	unnamed	muck	10	10	Within Atlantic Salmon Critical Habitat

Table C-3a: Summary of vernal pools and amphibian breeding areas identified within the Turbine Area reporting limits of the Number Nine Wind Farm.

Amphibian breeding areas are pools where amphibian breeding was observed, but the resource did not meet the definition of a vernal pool. Maine State Vernal Pool Assessment forms were submitted to the Maine Department of Inland Fisheries and Wildlife (MDIFW) for those high functioning pools identified prior to August 8, 2014.

The pool ID assigned by MDIFW is provided as part of this table.

						Egg Mass Counts							
						Wood Frog		Spotted Salamander		Blue-spotted Salamander			
NR Map Number	Stantec Vernal Pool/ ABA ID	MDIFW Pool ID	Associated Wetland ID	SVP	High Functioning Corps Pool	1st Visit	2nd Visit	1st Visit	2nd Visit	1st Visit	2nd Visit	Fairy Shrimp	Notes
1	SVP_147CF_N		BRID_W001	X	X	84	NS	3	NS	44	NS	No	
1	VP_159RK_M		TDR2_W412			0	NS	8	NS	0	NS	No	
1	VP_160RK_M		TDR2_W412			?	NS	1	NS	0	NS	No	Wood frog tadpoles observed
2	VP_05KR_M	2473	No associated wetland (no delineation)			11	?	14	7	16	?	No	No apparent change water depth on 2nd visit. Several spotted salamander egg masses observed, but total counts incomplete due to murky water conditions
2	ABA_06KR_M		No associated wetland (no delineation)			0	0	10	32	1	0	No	Long linear pool by road. Permanent hydrology (4+ feet deep). Little change in water depth at 2nd visit
2	VP_33RK_M		No associated wetland (no delineation)			4	NS	4	NS	0	NS	No	Wood frog tadpoles also observed.
2	VP_34RK_M		No associated wetland (no delineation)			4	NS	0	NS	0	NS	No	Wood frog tadpoles also observed.
2	ABA_35RK_N		No associated wetland (no delineation)			4	NS	24	NS	0	NS	No	Active beaver impoundment with permanent inlet and outlet. Pickerel frog egg masses observed. Beaver removed and culvert cleared prior to 2nd visit.
2	VP_36RK_M		No associated wetland (no delineation)			7	NS	0	NS	0	NS	No	
2	ABA_37RK_M		No associated wetland (no delineation)			1	NS	1	NS	0	NS	No	Pool in ditch connected to a stream.

						Egg Mass Counts							
						Wood Frog		Spotted Salamander		Blue-spotted Salamander			
NR Map Number	Stantec Vernal Pool/ ABA ID	MDIFW Pool ID	Associated Wetland ID	SVP	High Functioning Corps Pool	1st Visit	2nd Visit	1st Visit	2nd Visit	1st Visit	2nd Visit	Fairy Shrimp	Notes
3	ABA_C10VP11_M		No associated wetland			0	NS	0	NS	0	NS	No	Pool documented in 2010. Based on 2014 site visit no longer functioning as VP, but kept in data set. 2" flowing surface water over organic. No indicators.
3	VP_09KR_M		TDR2_W015			1	NS	9	NS	0	NS	No	Ditch on side of road
3	VP_D08VP30_M		TDR2_W052			?	NS	6	NS	0	NS	No	75+ wood frog tadpoles observed.
3	SVP_C08VP19_N	2472	TDR2_W053	X	X	0	NS	23	NS	0	NS	No	Pool documented in 2008. Wood frog egg masses and tadpoles and spotted salamander egg masses observed during 5/29/2014 site visit.
3	VP_88RK_M	2477	TDR2_W053		X	?	NS	88	NS	0	NS	No	Skidder Ruts. Many wood frog tadpoles.
3	VP_D08VP27_M		TDR2_W058			0	NS	11	NS	0	NS	No	
3	VP_119CF_M		TDR2_W363			1	NS	3	NS	0	NS	No	
3	VP_117CF_M		TDR2_W364		X	45	NS	53	NS	0	NS	No	Cluster pool
3	VP_118CF_M		TDR2_W364			4	NS	1	NS	0	NS	No	
3	VP_116CF_M		TDR2_W365		X	6	NS	5	NS	0	NS	No	Cluster pool
3	VP_120CF_M		TDR2_W366			0	0	2	3	0	0	No	
4	VP_177TT_M		TDR2_W050			?	NS	?	NS	0	NS	No	Wood frog tadpoles and spotted salamander egg masses observed.
5	VP_135CF_N		ETWP_W007			9	9	12	12	0	0	NS	
5	SVP_C08VP15_N	2425	TDR2_W112	X	X	25	NS	29	NS	0	NS	No	Pool documented in 2008. Wood frog egg masses and tadpoles and spotted salamander egg masses observed during 5/29/2014 site visit. Cluster pool
5	VP_C08VP13_M		TDR2_W113			2	NS	10	NS	0	NS	No	
5	VP_C08VP14_M	2435	TDR2_W113		X	0	NS	47	NS	0	NS	No	Cluster pool
6	VP_129CF_M		ETWP_W284			10	NS	0	NS	0	NS	No	
6	VP_179TT_M		TDR2_W097			?	NS	0	NS	0	NS	No	Wood frog tadpoles observed
6	VP_126CF_M		TDR2_W385			?	—	1	—	0	—	No	A single wood frog tadpole observed
6	VP_132CF_M		TDR2_W390			3	NS	0	NS	0	NS	No	

						Egg Mass Counts							
						Wood Frog		Spotted Salamander		Blue-spotted Salamander			
NR Map Number	Stantec Vernal Pool/ ABA ID	MDIFW Pool ID	Associated Wetland ID	SVP	High Functioning Corps Pool	1st Visit	2nd Visit	1st Visit	2nd Visit	1st Visit	2nd Visit	Fairy Shrimp	Notes
7	VP_46RK_M	2445	ETWP_W040			?	0	13	7	0	0	No	Wood frog tadpoles - no egg masses visible at 1st visit. Borrow area/roadside ditch. Wood frog and salamander larvae observed on 2nd visit
7	VP_140DB_N		ETWP_W045			2	NS	0	NS	0	NS	No	No evidence of breeding activity observed
8	VP_D08VP40_M	2410	ETWP_W056		X	?	NS	30	NS	0	NS	No	100+ wood frog tadpoles and 100+ salamander larvae observed.
8	VP_C08VP25_M		ETWP_W061			7	NS	1	NS	0	NS	No	
9	SVP_71JL_N	2428	No associated wetland (no delineation)	X	X	15	NS	28	NS	0	NS	No	Natural pool in wetland complex modified by skidder ruts and berming.
10	VP_D08VP35_M		ETWP_W111			?	NS	0	NS	0	NS	No	200+ wood frog tadpoles observed.
10	VP_59RK_M		ETWP_W122			2	0	12	12	0	0	No	
11	VP_D08VP34_M	2404	ETWP_W175			6	NS	20	NS	0	NS	No	Pool documented in 2008. Spotted salamander egg mass observed during 5/29/2014 site visit.
11	SVP_D08VP33_N	2389	No associated wetland (no delineation)	X	X	?	NS	25	NS	0	NS	No	2008 ~250+ wood frog tadpoles observed. Wood frog egg masses and tadpoles and spotted salamander egg masses observed during 5/29/2014 site visit.
11	SVP_D08VP31_N	2388	No associated wetland (no delineation)	X	X	?	NS	23	NS	0	NS	No	Pool documented in 2008 with ~200+ wood frog tadpoles observed. Wood frog tadpoles and spotted salamander egg masses observed during 5/29/2014 site visit.
13	SVP_57RK_N	2384	ETWP_W257	X	X	1	0	53	45	0	0	No	Wood frog tadpoles also observed. ~500 wood frog tadpoles observed on 2nd visit

						Egg Mass Counts							
						Wood Frog		Spotted Salamander		Blue-spotted Salamander			
NR Map Number	Stantec Vernal Pool/ ABA ID	MDIFW Pool ID	Associated Wetland ID	SVP	High Functioning Corps Pool	1st Visit	2nd Visit	1st Visit	2nd Visit	1st Visit	2nd Visit	Fairy Shrimp	Notes
14	VP_81RK_M		ETWP_W197			?	NS	4	NS	0	NS	No	Ditch. Few wood frog tadpoles observed.
14	VP_82RK_M	2431	ETWP_W199			?	NS	2	NS	0	NS	No	Ditch. Many wood frog tadpoles observed
14	ABA_02RK_N		ETWP_W206			NR	NS	2	NS	NR	NS	NR	Beaver pond, Not fully surveyed. Spotted salamander egg masses recorded as incidental observation
14	ABA_83RK_M	2432	No associated wetland			?	NS	30	NS	0	NS	No	Ditch. Many, large wood frog tadpoles observed.
14	VP_84RK_M	2433	No associated wetland		X	?	NS	9	NS	0	NS	No	Ditch.
14	VP_85RK_N	2434	No associated wetland			?	NS	6	NS	0	NS	No	Inactive beaver flowage. Five of spotted salamander egg masses dry
15	VP_76RK_N	2423	ETWP_W207		X	7	0	16	16	0	0	No	On August 8, 2014, pool mostly dry with < 1" surface water. Cluster pool
15	VP_77RK_N	2430	ETWP_W207		X	0	NS	5	NS	0	NS	No	Cluster pool
15	VP_79RK_M	2398	ETWP_W211		X	?	NS	27	NS	0	NS	No	Borrow area. Many wood frog tadpoles observed. Cluster pool.
15	VP_75RK_M	2397	ETWP_W212		X	?	NS	7	NS	0	NS	No	Ditch. Wood frog tadpoles also observed. Cluster pool.
15	VP_A09VP05_M	2399	ETWP_W218			27	NS	32	NS	0	NS	No	
15	VP_B10VP05_M	2400	ETWP_W224		X	8	NS	54	NS	0	NS	No	Wood frog tadpoles also observed. Cluster pool.
15	VP_B10VP06_N	2401	ETWP_W224		X	0	NS	12	NS	0	NS	No	Cluster pool
15	VP_15KR_M		ETWP_W237			?	NS	12	NS	0	NS	No	Wood frog tadpoles observed - no egg masses visible. Small pool created by gravel road impounding wetland
17	VP_A08VP01_M		ETWP_W261			2	NS	4	NS	0	NS	No	Pool documented in 2008. Wood frog and spotted salamander egg masses observed during 5/29/2014 site visit.

						Egg Mass Counts							
						Wood Frog		Spotted Salamander		Blue-spotted Salamander			
NR Map Number	Stantec Vernal Pool/ ABA ID	MDIFW Pool ID	Associated Wetland ID	SVP	High Functioning Corps Pool	1st Visit	2nd Visit	1st Visit	2nd Visit	1st Visit	2nd Visit	Fairy Shrimp	Notes
18	VP_75TT_M	2380	T10R3_W006		X	?	NS	15	NS	0	NS	No	Borrow pit next to road. 100's of wood frog tadpoles observed. Cluster pool.
18	VP_42DB_M	2376	T10R3_W007		X	0	NS	12	NS	0	NS	No	Borrow pit. Cluster pool.
18	VP_138RK_M		T10R3_W010			?	NS	3	NS	0	NS	No	
18	VP_41DB_M		T10R3_W013			0	NS	13	NS	0	NS	No	Skidder ruts
18	VP_74TT_M		T10R3_W020			?	NS	5	NS	0	NS	No	Roadside borrow pit/excavation. Wood frog tadpoles observed.
18	VP_44DB_M	2378	T10R3_W023		X	0	NS	28	NS	0	NS	No	Ruts in an old road
18	VP_43DB_N	2377	T10R3_W031			0	NS	2	NS	0	NS	No	
18	VP_205TT_N		T10R3_W165			0	0	6	0	0	0	No	
19	VP_79TT_M	2382	T10R3_W036		X	0	NS	26	NS	0	NS	No	Pool almost dry (<1"). Egg masses dying.
19	VP_78TT_M		T10R3_W040			?	NS	4	NS	0	NS	No	Wood frog tadpoles observed
20	VP_146CF_N		T10R3_W171			11	11	6	6	0	0	No	
22	SVP_89TT_N	2358	No associated wetland (no delineation)	X	X	65	NS	18	18	0	NS	No	Pool was nearly dry on 6/1/2015. Only 2-3" of water remained along edges of pool.
22	VP_88TT_M	2373	T10R3_W086		X	0	NS	17	NS	0	NS	No	<1" of water all egg masses stranded out of water.
23	ABA_92TT_M		No associated wetland			0	NS	7	NS	0	NS	No	Skidder rut 3-43" deep
23	VP_93TT_M	2375	No associated wetland		X	?	NS	18	NS	0	NS	No	One small group of wood frog tadpoles.
23	VP_53DB_M	2365	T10R3_W090		X	2	NS	47	NS	0	NS	No	Wood frog tadpoles also observed. Cluster pool.
23	VP_90TT_M	2374	T10R3_W090		X	?	NS	25	NS	0	NS	No	Roadside ditch/excavation. 1000's of wood frog tadpoles observed. Cluster pool.
23	VP_55DB_M	2367	T10R3_W091		X	?	NS	39	NS	0	NS	No	1000's of wood frog tadpoles also observed
23	VP_91TT_M		T10R3_W092			0	NS	2	NS	0	NS	No	Skidder rut 2-3" deep
23	VP_50DB_M	2363	T10R3_W093		X	?	NS	3	NS	0	NS	No	10's wood frog tadpoles observed. Cluster pool.

						Egg Mass Counts							
						Wood Frog		Spotted Salamander		Blue-spotted Salamander			
NR Map Number	Stantec Vernal Pool/ ABA ID	MDIFW Pool ID	Associated Wetland ID	SVP	High Functioning Corps Pool	1st Visit	2nd Visit	1st Visit	2nd Visit	1st Visit	2nd Visit	Fairy Shrimp	Notes
23	VP_85TT_M	2371	T10R3_W093		X	?	NS	18	NS	0	NS	No	Roadside ditch/excavation. 1000's of wood frog tadpoles observed. Cluster pool.
23	VP_77DB_M	2368	T10R3_W095		X	?	NS	12	NS	0	NS	No	Skidder ruts. 100's of wood frog tadpoles observed.
28	VP_37DB_M	2413	T9R3_W015			0	NS	9	NS	3	NS	No	Skidder ruts. No wood frog tadpoles observed.
28	VP_C10VP06_M		T9R3_W032			?	NS	0	NS	0	NS	No	Skidder ruts through PFO. 200-300 wood frog tadpoles observed.
28	VP_D08VP21_M	2421	T9R3_W048		X	0	NS	123	NS	5	NS	No	Pool documented in 2008. Wood frog egg masses and tadpoles, and spotted salamander egg masses observed during 5/29/2014 site visit. Cluster pool.
28	VP_C10VP02_N	2417	T9R3_W048		X	0	NS	0	NS	0	NS	No	Pool documented in 2010. In 2014, pool was observed to be dry at time of site visit and no indicator species were observed. Cluster pool
29	VP_C10VP01_M	2412	T9R3_W044		X	6	6	40	40	0	0	No	Pool entirely located with logging trail through wetland
30	SVP_92RK_N	2411	No associated wetland (no delineation)	X	X	150	NS	340	NS	0	NS	No	Apparent pond - likely permanent hydrology
30	SVP_D08VP20_M	2420	T9R3_W056	X	X	?	NS	73	NS	0	NS	No	200+ wood frog tadpoles observed. Changed to SVP based on MDIFW determination
30	VP_C10VP20_N	2419	T9R3_W060			4	0	3	3	0	0	No	Wood frog tadpoles observed on second visit.
30	SVP_95RK_N	2424	T9R3_W061	X	X	0	NS	83	NS	0	NS	No	Inactive beaver flowage

						Egg Mass Counts							
						Wood Frog		Spotted Salamander		Blue-spotted Salamander			
NR Map Number	Stantec Vernal Pool/ ABA ID	MDIFW Pool ID	Associated Wetland ID	SVP	High Functioning Corps Pool	1st Visit	2nd Visit	1st Visit	2nd Visit	1st Visit	2nd Visit	Fairy Shrimp	Notes
31	VP_D08VP19_M	2469	TDR2_W116		X	?	NS	143	NS	0	NS	No	Pool documented in 2008. Wood frog tadpoles, spotted salamander and blue spotted salamander egg masses observed during 5/29/2014 site visit. On August 8, 2014, pool held 4-8" of water in an area 20' x 20'.
31	ABA_D08VP18_N		TDR2_W119			?	NS	27	NS	5	NS	No	Vernal pool documented in 2008; low confidence in the identification of blue spotted salamander egg masses. Pool was encompassed by an active beaver pond in 2014 and considered an ABA.
32	SVP_D08VP26_N	2454	TDR2_W124	X	X	?	NS	200	NS	0	NS	Yes	Pool documented in 2008 with ~ 500+ wood frog tadpoles observed. Wood frog tadpoles, spotted salamander and blue spotted salamander egg masses observed during 5/29/2014 site visit. Pool was dry on August 8, 2014.
32	VP_69JL_M		TDR2_W125			0	0	5	13	0	0	No	Roadside pit. Many wood frog tadpoles observed on 2nd visit
32	SVP_D08VP48_N	2455	TDR2_W127	X	X	5	NS	33	NS	7	NS	Yes	Pool documented in 2008. Wood frog and salamander larvae, and fairy shrimp observed during 5/29/2014 site visit. Poll was dry on August 8, 2014.

						Egg Mass Counts							
						Wood Frog		Spotted Salamander		Blue-spotted Salamander			
NR Map Number	Stantec Vernal Pool/ ABA ID	MDIFW Pool ID	Associated Wetland ID	SVP	High Functioning Corps Pool	1st Visit	2nd Visit	1st Visit	2nd Visit	1st Visit	2nd Visit	Fairy Shrimp	Notes
32	SVP_C08VP11_N	2453	TDR2_W137	X	X	28	NS	116	NS	4	NS	No	Pool documented in 2008. Wood frog tadpoles, spotted salamander and blue spotted salamander egg masses observed during 5/29/2014 site visit. Pool was dry on August 8, 2014.
32	VP_136CF_N		TDR2_W408			2	2	4	4	0	0	No	
33	SVP_B08VP22_N	2471	No associated wetland (no delineation)	X	X	0	NS	30	NS	0	NS	No	Pool documented in 2008. Spotted salamander egg masses observed during 5/28/2014 site visit.
33	VP_123CF_M		TDR2_W171		X	0	0	6	6	0	0	No	Cluster pool
33	VP_124CF_M		TDR2_W171		X	15	0	3	24	0	0	No	Cluster pool
33	VP_122CF_M		TDR2_W375		X	0	0	5	5	0	0	No	Cluster pool
35	VP_50JL_M	2458	T9R3_W088		X	?	NS	69	NS	0	NS	No	Roadside pit. Many egg masses suspended or sitting on damp leaf litter. Wood frog tadpoles observed.
36	VP_34JL_M		No associated wetland			8	NS	8	NS	0	NS	No	Ditch turnout
36	VP_47JL_M		No associated wetland			0	NS	4	NS	0	NS	No	Ditch. Egg masses almost suspended out of water.
36	VP_48JL_M		No associated wetland			0	NS	10	NS	0	NS	No	Ditch
36	VP_141DB_M		T9R3_W078			?	NS	0	NS	0	NS	No	100's of wood frog tadpoles observed.
36	VP_33JL_N	2456	T9R3_W095			0	NS	2	NS	0	NS	No	Pool created by tip-up.
36	VP_36JL_M		T9R3_W096			?	NS	13	NS	0	NS	No	Skidder rut. Wood frog tadpoles observed.
37	VP_90RK_M		T9R3_W114			?	NS	0	NS	0	NS	No	Skidder ruts. Many wood frog tadpoles.
37	SVP_89RK_N	2481	T9R3_W116	X	X	?	NS	47	NS	0	NS	No	Natural pool modified by skidder ruts. Many wood frog tadpoles.
37	VP_91RK_M		T9R3_W116			?	NS	1	NS	0	NS	No	Skidder ruts. Wood frog tadpoles observed
37	VP_01KN_M		T9R3_W121			0	0	14	6	0	0	No	
38	VP_A10VP02_N	2464	TDR2_W205			0	NS	0	NS	0	NS	No	
38	VP_D08VP09_M	2488	TDR2_W216		X	?	NS	34	NS	0	NS	No	50+ wood frog tadpoles observed.

						Egg Mass Counts							
						Wood Frog		Spotted Salamander		Blue-spotted Salamander			
NR Map Number	Stantec Vernal Pool/ ABA ID	MDIFW Pool ID	Associated Wetland ID	SVP	High Functioning Corps Pool	1st Visit	2nd Visit	1st Visit	2nd Visit	1st Visit	2nd Visit	Fairy Shrimp	Notes
38	ABA_60JL_N		TDR2_W217			?	NS	164	NS	0	NS	No	Abandoned beaver pond. Fish present.
39	VP_D08VP02_M	2487	TDR2_W226		X	45	NS	32	NS	2	NS	No	Pool documented in 2008. Wood frog egg masses and tadpoles and spotted salamander egg masses observed during 5/28/2014 site visit.
39	VP_C08VP04_M		TDR2_W231			1	NS	2	NS	0	NS	No	
39	VP_01MD_M		TDR2_W240		X	5	0	42	42	0	0	No	
39	ABA_D08VP08_M		TDR2_W243			?	NS	52	NS	1	NS	No	100+ wood frog tadpoles observed.
40	ABA_C08VP03_M		No associated wetland			6	NS	7	NS	0	NS	No	
40	VP_54TT_M		No associated wetland			2	NS	3	NS	0	NS	No	Excavation
40	VP_20DB_M		T9R3_W214			0	NS	9	NS	0	NS	No	Ditch
40	VP_55TT_M		T9R3_W232			13	NS	0	NS	0	NS	No	Excavation
40	VP_56JL_M		T9R3_W241			?	NS	0	NS	0	NS	No	Skidder rut. >50 wood frog tadpoles observed.
40	VP_57JL_M		T9R3_W241			0	NS	5	NS	0	NS	No	Skidder rut
40	VP_54JL_M		T9R3_W246			1	NS	10	NS	0	NS	No	Skidder rut. Wood frog tadpoles observed.
40	VP_55JL_M		T9R3_W246			0	NS	10	NS	0	NS	No	Skidder rut
40	VP_58JL_M		T9R3_W247			?	NS	0	NS	0	NS	No	Skidder rut. 50-100 wood frog tadpoles
40	VP_53TT_M		T9R3_W259			12	12	17	17	0	0	No	
40	VP_81DB_M		T9R3_W267			?	NS	4	NS	0	NS	No	100's of wood frog tadpoles observed
40	VP_78DB_M		T9R3_W268			?	NS	0	NS	0	NS	No	Skidder ruts. 100's of wood frog tadpoles observed
40	VP_79DB_M		T9R3_W268			?	NS	0	NS	0	NS	No	Skidder ruts. 100's of wood frog tadpoles observed
40	VP_80DB_M		T9R3_W268			?	NS	0	NS	0	NS	No	Skidder ruts. 100's of wood frog tadpoles observed
40	VP_48TT_M		T9R3_W270			5	NS	2	NS	0	NS	No	Skidder ruts
40	VP_14DB_M		T9R3_W271			23	NS	0	NS	0	NS	No	Skidder ruts
40	VP_15DB_M	2490	T9R3_W280		X	80	NR	92	NR	2	NR	No	Borrow pit. Wood frog egg masses hatched; estimated.

						Egg Mass Counts							
						Wood Frog		Spotted Salamander		Blue-spotted Salamander			
NR Map Number	Stantec Vernal Pool/ ABA ID	MDIFW Pool ID	Associated Wetland ID	SVP	High Functioning Corps Pool	1st Visit	2nd Visit	1st Visit	2nd Visit	1st Visit	2nd Visit	Fairy Shrimp	Notes
40	VP_D08VP07_M	2501	TDR2_W232		X	?	NS	110	NS	0	NS	No	200+ wood frog tadpoles observed. Pool bridges wetlands TDR2_W232 and TDR2_W233.
41	VP_56TT_M		T9R3_W208			6	NS	5	NS	0	NS	No	Ditch
42	VP_D08VP17_M		T9R3_W147			?	NS	8	NS	0	NS	No	100+ wood frog tadpoles observed.
42	VP_29JL_M	2482	T9R3_W201			3	NS	11	NS	4	NS	No	Pool located in skidder rut and almost dry . Wood frog egg masses dry on mud and tadpoles in water; spotted salamander egg masses out of water.
42	VP_30JL_M	2483	T9R3_W203			?	NS	0	NS	0	NS	No	Wide and deep skidder rut. Wood frog tadpoles observed.
44	VP_50TT_M		T9R3_W282		X	0	NS	16	NS	0	NS	No	Ditch along road. Cluster pool.
44	VP_17DB_M	2491	T9R3_W284		X	1	NS	4	NS	0	NS	No	Skidder ruts. Cluster pool.
45	VP_26JL_M	2495	T9R3_W317			14	NS	19	NS	1	NS	No	
45	VP_19DB_M	2493	T9R3_W319		X	0	NS	17	NS	8	NS	No	Skidder ruts.
45	VP_142DB_M		T9R3_W326			?	NS	0	NS	0	NS	No	Wood frog tadpoles observed.
45	SVP_143DB_N	2489	T9R3_W327	X	X	56	NS	0	NS	1	NS	No	Pool observed dry on July 21, 2014. Cluster pool
45	VP_181TT_M		T9R3_W328		X	?	NS	0	NS	0	NS	No	1000's of wood frog tadpoles observed. Cluster pool
45	VP_180TT_M		T9R3_W329			?	NS	0	NS	0	NS	No	Many wood frog tadpoles observed.
46	VP_18HS_M		T8R3_W040			9	NS	4	NS	0	NS	No	
46	VP_16HS_M		T8R3_W041			1	NS	9	NS	0	NS	No	
46	VP_144DB_M		T8R3_W048			?	NS	0	NS	0	NS	No	30-50 wood frog tadpoles observed
46	VP_A08VP07_N	2512	T8R3_W049			9	NS	0	NS	0	NS	No	
47	SVP_A10VP16_N	2538	No associated wetland (no delineation)	X	X	20	0	1	36	0	0	No	Wood frog tadpoles observed on 1st visit

						Egg Mass Counts							
						Wood Frog		Spotted Salamander		Blue-spotted Salamander			
NR Map Number	Stantec Vernal Pool/ ABA ID	MDIFW Pool ID	Associated Wetland ID	SVP	High Functioning Corps Pool	1st Visit	2nd Visit	1st Visit	2nd Visit	1st Visit	2nd Visit	Fairy Shrimp	Notes
47	VP_A08VP06_N	2511	T8R3_W054			11	NS	6	NS	0	NS	No	Pool documented in 2008. Wood frog egg masses and tadpoles and spotted salamander egg masses observed during 5/28/2014 site visit.
47	VP_13HS_M		T8R3_W058			0	NS	2	NS	0	NS	No	
47	VP_14HS_M	2509	T8R3_W058		X	0	0	20	20	0	0	No	
47	VP_A10VP19_M	2516	T8R3_W060		X	?	NS	379	NS	0	NS	No	1000's of wood frog tadpoles observed
47	SVP_A10VP17_N	2508	T8R3_W113	X	X	?	NS	203	NS	0	NS	No	1000's of wood frog tadpoles observed
47	VP_A10VP18_N	2515	T8R3_W115			0	NS	0	NS	0	NS	No	
49	SVP_A08VP10_N	2537	No associated wetland (no delineation)	X	X	38	NS	30	NS	0	NS	No	Pool documented in 2008. Wood frog tadpoles and spotted salamander egg masses observed during 5/28/2014 site visit.
49	VP_A08VP09_N	2514	T8R3_W063			13	NS	1	NS	0	NS	No	
50	ABA_117TT_N		T8R3_W071			?	NS	33	NS	0	NS	No	Abandoned beaver pond with permanent outlet. 1000's of wood frog tadpoles observed.
50	VP_74DB_M		T8R3_W072			?	NS	8	NS	0	NS	No	100's of wood frog tadpoles observed
50	VP_138DB_M		T8R3_W081			?	NS	?	NS	0	NS	No	Unnatural - skid ruts. 100's of wood frog tadpoles observed. 100's of spotted salamander larvae observed.
50	VP_124TT_N		T8R3_W082			0	0	0	1	0	0	No	On August 8, 2014, pool was dry.
50	VP_B09VP10_M		T8R3_W084			16	NS	15	NS	0	NS	No	
50	VP_135DB_M		T8R3_W090			?	NS	0	NS	0	NS	No	Ditch. 100's of wood frog tadpoles observed
50	VP_75DB_M		T8R3_W092			?	NS	5	NS	0	NS	No	Borrow pit. 1000's of wood frog tadpoles observed
51	SVP_01HS_N	2554	No associated wetland (no delineation)	X	X	3	0	2	10	0	0	Yes	Wood frog egg masses hatched

						Egg Mass Counts							
						Wood Frog		Spotted Salamander		Blue-spotted Salamander			
NR Map Number	Stantec Vernal Pool/ ABA ID	MDIFW Pool ID	Associated Wetland ID	SVP	High Functioning Corps Pool	1st Visit	2nd Visit	1st Visit	2nd Visit	1st Visit	2nd Visit	Fairy Shrimp	Notes
51	SVP_C08VP32_N	2559	No associated wetland (no delineation)	X	X	0	NS	27	NS	0	NS	No	
51	VP_118TT_M		T8R3_W075			?	NS	11	NS	0	NS	No	200-300 wood frog tadpoles observed
51	VP_97RK_M		T8R3_W527			?	NS	6	NS	0	NS	No	Roadside borrow. Wood frog tadpoles observed
51	VP_A08VP23_M	2563	T8R3_W528			22	NR	12	14	0	0	No	
52	SVP_04HS_N	2555	No associated wetland (no delineation)	X	X	17	0	30	71	12	0	No	Wood frogs hatched out. Pool partially excavated and includes beaver sign. Pool extends out of project area so only partially surveyed
52	SVP_A08VP33_N	2558	No associated wetland (no delineation)	X	X	34	NS	72	NS	6	NS	No	Pool documented in 2008. Wood frog and spotted salamander egg masses observed during 5/28/2014 site visit.
52	SVP_A08VP26_N	2557	T8R3_W512	X	X	33	NS	28	NS	3	NS	No	Pool documented in 2008. Wood frog and spotted salamander egg masses observed during 5/28/2014 site visit.
52	SVP_A08VP25_N	2556	T8R3_W520	X	X	0	NS	3	NS	0	NS	Yes	Pool documented in 2008. No breeding activity observed during 5/28/2014 site visit, but fairy shrimp seen.
55	ABA_01JL_M		No associated wetland			1	NS	1	NS	0	NS	No	Not located in wetland
55	VP_02JL_M		T8R3_W487		X	8	NS	8	NS	0	NS	No	Cluster pool
55	VP_A08VP28_M	2584	T8R3_W487		X	33	NS	22	NS	0	NS	No	Pool documented in 2008. Wood frog and spotted salamander egg masses observed during 5/28/2014 site visit. Cluster pool
55	VP_121DB_M		T8R3_W487			?	NS	0	NS	0	NS	No	Ruts in road. 100's of wood frog tadpoles observed

						Egg Mass Counts							
						Wood Frog		Spotted Salamander		Blue-spotted Salamander			
NR Map Number	Stantec Vernal Pool/ ABA ID	MDIFW Pool ID	Associated Wetland ID	SVP	High Functioning Corps Pool	1st Visit	2nd Visit	1st Visit	2nd Visit	1st Visit	2nd Visit	Fairy Shrimp	Notes
55	ABA_169TT_N		T8R3_W487			0	NS	2	NS	0	NS	No	No tadpoles observed. Minnows and stickleback observed
55	VP_170TT_M		T8R3_W487			?	NS	1	NS	0	NS	No	~200-300 wood frog tadpoles observed
55	VP_A08VP29_M	2585	T8R3_W487		X	6	NS	7	NS	0	NS	No	Cluster pool.
55	VP_03JL_M		T8R3_W490			0		7		0		No	
57	ABA_122RKB_M		No associated wetland			?	NS	0	NS	0	NS	No	Skidder rut complex in upland. Wood frog tadpoles observed.
57	VP_123DB_M		T8R3_W461			?	NS	0	NS	0	NS	No	Skidder ruts. 100's of wood frog tadpoles observed
57	VP_122DB_M		T8R3_W466			?	NS	0	NS	0	NS	No	Ditch. ~50 wood frog tadpoles observed
57	VP_120DB_M		T8R3_W487			?	NS	0	NS	0	NS	No	Borrow pit. 100's of wood frog tadpoles observed.
61	VP_A10VP20_M		T8R3_W120			?	NS	0	NS	0	NS	No	100's of wood frog tadpoles observed
61	VP_A10VP21_M	2506	T8R3_W120		X	0	NS	26	NS	32	NS	No	No wood frog tadpoles observed
61	VP_E10VP01_M		T8R3_W121			0	NS	11	NS	0	NS	No	No wood frog tadpoles observed. 100's of fish observed
61	VP_A09VP04_M	2505	T8R3_W125			26	NS	37	NS	8	NS	No	Pool documented in 2009. Wood frog tadpoles and spotted salamander egg masses observed during 5/28/2014 site visit.
61	SVP_E10VP05_N	2503	T8R3_W126	X	X	?	0	8	25	0	0	No	1000's of wood frog tadpoles observed
61	SVP_E10VP02_N	2523	T8R3_W127	X	X	0	NS	20	NS	2	NS	No	No wood frog tadpoles observed
61	VP_E10VP06_M	2535	T8R3_W138		X	0	NS	31	NS	0	NS	No	No wood frog tadpoles observed. Hydrology likely permanent. Cluster pool
61	VP_E10VP07_M		T8R3_W139		X	0	NS	0	NS	0	NS	No	Cluster pool.
62	VP_E10VP08_M		T8R3_W140			0	NS	2	NS	0	NS	No	Very silty roadside borrow used as moose wallow
62	VP_E10VP11_M		T8R3_W216			?	NS	4	NS	0	NS	No	100's of wood frog tadpoles observed
62	VP_E10VP12_M	2536	T8R3_W222		X	?	NS	53	NS	0	NS	No	Wood frog tadpoles observed

						Egg Mass Counts							
						Wood Frog		Spotted Salamander		Blue-spotted Salamander			
NR Map Number	Stantec Vernal Pool/ ABA ID	MDIFW Pool ID	Associated Wetland ID	SVP	High Functioning Corps Pool	1st Visit	2nd Visit	1st Visit	2nd Visit	1st Visit	2nd Visit	Fairy Shrimp	Notes
63	VP_A08VP22_M	2529	T8R3_W245		X	42	NS	83	NS	0	NS	No	Pool documented in 2008. Wood frog and spotted salamander egg masses observed during 5/28/2014 site visit.
64	SVP_119RK_N	2545	No associated wetland (no delineation)	X	X	42	NS	10	10	2	NS	No	Skidder trail through wetland and apparently natural pool. Wood frog tadpoles observed.
64	VP_121RK_M		T8R3_W257			0	NS	7	NS	0	NS	No	Roadside borrow and ditch
64	VP_126RK_M		T8R3_W258			0	NS	2	NS	0	NS	No	Roadside borrow and ditch
64	VP_125RK_M		T8R3_W259			?	NS	0	NS	0	NS	No	Roadside borrow and ditch
64	VP_139RK_M		T8R3_W264			?	NS	?	NS	0	NS	No	Permanent hydrology
64	VP_140RK_M		T8R3_W264			?	NS	?	NS	0	NS	No	Permanent hydrology
65	ABA_127RK_M		No associated wetland			?	NS	0	NS	0	NS	No	Ditch. Wood frog tadpoles observed.
65	SVP_134RK_N	2547	No associated wetland (no delineation)	X	X	45	NS	89	NS	9	NS	No	Natural pool modified by skidder ruts. Wood frog tadpoles and salamander larvae observed.
65	VP_135RK_M		T8R3_W431			?	NS	0	NS	0	NS	No	Ditch. Wood frog tadpoles observed.
65	VP_136RK_M		T8R3_W432			?	NS	?	NS	0	NS	No	Ditch/borrow. Wood frog tadpoles and salamander larvae observed.
67	VP_01CF_M		T8R3_W272			?	NS	0	NS	0	NS	No	Wood frog tadpoles observed
67	VP_A08VP21_M		T8R3_W275			0	NS	7	NS	0	NS	No	
68	ABA_31DB_M		No associated wetland			36	NS	3	NS	0	NS	No	Ditch
68	VP_104RK_M		T8R3_W312			?	NS	2	NS	0	NS	No	Roadside ditch turnout. Few wood frog tadpoles observed. Spotted salamander egg masses apparently non-viable.
68	VP_105RK_M	2571	T8R3_W318			?	NS	0	NS	0	NS	No	Roadside ditch and turnout. Many wood frog tadpoles observed.

						Egg Mass Counts							
						Wood Frog		Spotted Salamander		Blue-spotted Salamander			
NR Map Number	Stantec Vernal Pool/ ABA ID	MDIFW Pool ID	Associated Wetland ID	SVP	High Functioning Corps Pool	1st Visit	2nd Visit	1st Visit	2nd Visit	1st Visit	2nd Visit	Fairy Shrimp	Notes
68	VP_106RK_M		T8R3_W318			?	NS	1	NS	0	NS	No	Roadside ditch and turnout. Wood frog tadpoles observed. Spotted salamander egg mass apparently non-viable.
68	VP_62TT_M		T8R3_W320			27	NS	6	NS	0	NS	No	
68	VP_26DB_M		T8R3_W321			10	NS	0	NS	0	NS	No	Skidder ruts
68	VP_27DB_M		T8R3_W321			2	0	3	1	0	0	No	Ditch. Many wood frog tadpoles observed on 2nd visit
68	VP_28DB_M	2572	T8R3_W325		X	51	0	30	32	61	0	No	Cluster pool
68	VP_29DB_M	2573	T8R3_W329		X	0	0	0	7	7	1	No	Borrow pit. Cluster pool.
68	VP_30DB_M	2574	T8R3_W329			0	0	0	0	9	0	No	Ditch. No indicators observed on 2nd visit
68	VP_63TT_M		T8R3_W329			4	NS	4	NS	0	NS	No	
69	ABA_103RK_M		No associated wetland			0	NS	7	NS	0	NS	No	Roadside borrow. No associated wetland.
69	VP_73DB_M		STCR_W002			?	NS	5	NS	0	NS	No	Impounded ditch. 100's of wood frog tadpoles observed
69	VP_72DB_M		STCR_W004		X	?	NS	11	NS	0	NS	No	Borrow pit. 100's of wood frog tadpoles observed. Cluster pool
69	VP_71DB_M	2579	STCR_W005		X	0	NS	27	NS	0	NS	No	Borrow pit. No wood frog tadpoles observed. Cluster pool
69	VP_102RK_M	2570	STCR_W008		X	?	NS	23	NS	0	NS	No	Roadside borrow. Many wood frog tadpoles observed.
69	VP_101RK_M	2569	STCR_W010		X	?	NS	23	NS	0	NS	No	Roadside borrow. Wood frog tadpoles observed. Cluster pool
69	VP_100RK_M	2568	STCR_W011		X	?	NS	47	NS	0	NS	No	Roadside borrow and ditch. Wood frog tadpoles observed. Cluster pool
69	VP_206TT_N		STCR_W014			0	0	4	5	0	0	No	Pool was nearly dry at second visit with all, but one egg mass stranded out of the water.
69	VP_207TT_N		STCR_W015			0	0	4	4	0	0	No	At second visit, egg masses were stranded out of the water and desiccated.

						Egg Mass Counts							
						Wood Frog		Spotted Salamander		Blue-spotted Salamander			
NR Map Number	Stantec Vernal Pool/ ABA ID	MDIFW Pool ID	Associated Wetland ID	SVP	High Functioning Corps Pool	1st Visit	2nd Visit	1st Visit	2nd Visit	1st Visit	2nd Visit	Fairy Shrimp	Notes
69	VP_155RK_N		STCR_W021			0	NS	3	NS	0	NS	No	Pool almost dry at time of visit (2" of water).
69	VP_98RK_M	2580	T8R3_W340		X	?	NS	79	NS	0	NS	No	Roadside borrow. Many wood frog tadpoles observed. Cluster pool
69	VP_99RK_M	2581	T8R3_W340		X	?	NS	104	NS	0	NS	No	Roadside borrow and ditch. Many wood frog tadpoles observed. Cluster pool
69	VP_70DB_M	2577	T8R3_W341		X	0	NS	84	NS	0	NS	No	Borrow pit. No wood frog tadpoles observed. Cluster pool
69	VP_02MJ_M		T8R3_W342			0	NS	13	NS	0	NS	No	Old borrow pit
69	VP_01SM_M		T8R3_W343			?	NS	5	NS	0	NS	No	~100 wood frog tadpoles observed
69	VP_35DB_M		T8R3_W344			1	NS	9	NS	0	NS	No	Skidder ruts
69	VP_76DB_M		T8R3_W344		X	?	NS	8	NS	0	NS	No	Skidder ruts. 10's of wood frog tadpoles observed. Cluster pool
69	VP_64TT_M		T8R3_W344		X	6	NS	8	NS	0	NS	No	Cluster pool
69	VP_67TT_M	2575	T8R3_W344		X	1	0	15	27	0	0	No	Wood frog tadpoles observed on 2nd visit. Cluster pool
70	VP_07JL_M		No associated wetland			0	NS	5	NS	0	NS	No	
70	ABA_139CF_M		No associated wetland			1	NS	5	NS	0	NS	No	
71	ABA_11JL_M		No associated wetland			0	NS	12	NS	0	NS	No	Located outside wetland boundary.
71	ABA_12JL_M		No associated wetland			0	NS	3	NS	0	NS	No	Located outside wetland boundary.
71	VP_13JL_M		T8R3_W391			3	NS	16	NS	0	NS	No	
71	VP_10JL_M		T8R3_W396			0	NS	6	NS	0	NS	No	

Table C-3b: Summary of vernal pools and amphibian breeding areas identified within the North Generator Lead Line of the Number Nine Wind Farm. Amphibian breeding areas are pools where amphibian breeding was observed, but the resource did not meet the the definition of a vernal pool.

NR Map Number	Stantec VP/ABA ID	Associated Wetland ID	SVP	High Functioning Corps Pool	Wood Frog	Spotted Salamander	Blue-spotted salamander	Fairy Shrimp	Notes
1	VP_49TT_M	T9R3_W333			3	10	0	No	Skidder ruts
2	VP_161RK_N	T8R3_W724			?	0	0	No	Fewer than 250 wood frog tadpoles.
2	VP_158RK_N	T8R3_W725			0	6	0	No	Number of spotted salamander egg masses increased from 3 to 6 between survey visits
3	SVP_157RK_N	T8R3_W729	X	X	?	41	0	No	Spotted salamander egg mass numbers increased from 34 to 41 between survey visits.
4	SVP_201TT_N	T8R3_W568	X	X	57	8	3	No	
5	VP_128TT_M	T8R3_W541			?	0	0	No	~100 wood frog tadpoles observed
5	SVP_156RK_N	T8R3_W720	X	X	3	20	0	No	Wood frog tadpoles observed
7	SVP_02BE_N	T8R3_W558	X	X	40	39	2	No	Spotted salamander egg mass numbers increased from 16 to 39 between survey visits. Cluster pool
7	SVP_01BE_N	T8R3_W608	X	X	96	62	25	No	Cluster pool
7	VP_91DB_M	TCR2_W141			0	4	0	No	Unnatural - skid ruts
8	VP_92DB_M	TCR2_W141			?	0	0	No	Unnatural - skid ruts. 100's of wood frog tadpoles observed
10	VP_02GP_M	HAMM_W013			0	2	0	No	Skidder ruts
10	VP_112RK_M	HAMM_W013			?	2	0	No	Ditch. Wood frog tadpoles observed

NR Map Number	Stantec VP/ABA ID	Associated Wetland ID	SVP	High Functioning Corps Pool	Wood Frog	Spotted Salamander	Blue-spotted salamander	Fairy Shrimp	Notes
10	VP_114RK_M	HAMM_W013			?	5	0	No	Roadside borrow/ditch. Wood frog tadpoles observed
10	VP_115RK_M	HAMM_W013			0	3	0	No	Road ditch
10	VP_01GP_M	HAMM_W015			?	0	0	No	Roadside ruts/landing. 1,000's of wood frog tadpoles observed.
10	VP_03GP_M	HAMM_W129			?	5	0	No	Ditch
10	VP_113RK_M	HAMM_W129			0	3	0	No	Borrow
11	VP_116RK_M	HAMM_W020			0	3	0	No	Skid rut in upland
11	VP_117RK_M	HAMM_W022			1	0	0	No	Skid rut in upland. Wood frog tadpoles also seen.
11	VP_04GP_M	HAMM_W023			?	0	0	No	10's of wood frog tadpoles observed
11	VP_118RK_M	HAMM_W024			?	0	0	No	Skid ruts
11	VP_04BE_M	HAMM_W107			4	0	0	No	The number of wood frog egg masses decreased from 4 to 2 between survey visits
12	VP_100DB_M	HAMM_W032			?	0	0	No	Unnatural - skid ruts. 100's of wood frog tadpoles observed
12	VP_133TT_M	HAMM_W042			?	11	0	No	~200 wood frog tadpoles observed
12	VP_99DB_M	HAMM_W045			?	0	0	No	Unnatural - skid ruts. ~50-60 wood frog tadpoles observed
12	VP_97DB_M	HAMM_W046			?	2	0	No	Unnatural - skid ruts. 1000's of wood frog tadpoles observed

NR Map Number	Stantec VP/ABA ID	Associated Wetland ID	SVP	High Functioning Corps Pool	Wood Frog	Spotted Salamander	Blue-spotted salamander	Fairy Shrimp	Notes
12	VP_98DB_N	HAMM_W046			12	4	0	No	Pool nearly dry at time of second visit and pool size reduced. Only 1 wood frog and 1 spotted salamander egg mass remained
12	VP_135TT_M	HAMM_W110			?	0	0	No	~200-300 wood frog tadpoles observed
12	VP_134TT_M	No associated wetland			?	4	0	No	~200-300 wood frog tadpoles observed
13	VP_95DB_M	HAMM_W050			0	5	0	No	Unnatural - skid ruts
13	ABA_94DB_N	HAMM_W053			0	33	0	No	Connected to perennial stream & fish observed in pool. On August 8, 2014 visit, few small areas of 2-3" deep water; drained beaver pond; perennial stream on edge.
13	VP_93DB_M	HAMM_W055		X	?	12	0	No	Unnatural - skid ruts. ~50 wood frog tadpoles observed. Cluster pool
13	VP_132TT_M	HAMM_W055		X	?	10	0	No	~100 wood frog tadpoles observed. Cluster pool
13	VP_96DB_M	No associated wetland			?	0	0	No	Unnatural - skid ruts. ~50 wood frog tadpoles observed
14	ABA_136TT_M	HAMM_W068			0	14	0	No	Permanent hydrology and 3 to 4" brook trout observed
14	ABA_101DB_M	No associated wetland			0	29	0	No	Unnatural - skid ruts

NR Map Number	Stantec VP/ABA ID	Associated Wetland ID	SVP	High Functioning Corps Pool	Wood Frog	Spotted Salamander	Blue-spotted salamander	Fairy Shrimp	Notes
14	VP_07ED_M	HAMM_W144			0	11	0	No	
14	VP_01ED_M	HAMM_W149			?	1	0	No	60 to 80 wood frog tadpoles observed
14	VP_02ED_M	HAMM_W168		X	?	50	0	No	Abundant wood frog tadpoles observed
14	VP_03ED_M	HAMM_W169		X	?	31	0	No	Wood frog tadpoles observed
14	VP_04ED_M	HAMM_W171			?	0	0	No	Abundant wood frog tadpoles observed
14	VP_05ED_M	HAMM_W171			?	6	0	No	Abundant wood frog tadpoles observed
14	VP_08ED_M	HAMM_W171			0	4	0	No	
15	VP_102DB_N	HAMM_W072			0	4	0	No	No egg masses observed on first site visit
15	VP_137TT_M	HAMM_W077			0	6	0	No	Green frog tadpoles observed
16	VP_138TT_M	HAMM_W090			?	3	0	No	~200-300 wood frog tadpoles observed
16	VP_02MA_M	HAMM_W137		X	0	23	1	No	
16	VP_03MA_M	HAMM_W154		X	0	18	0	No	May have been more egg masses; loose silt substrate made counting masses difficult
17	VP_103DB_M	HAMM_W123		X	?	?	0	No	Unnatural - truck ruts. Many 100's of wood frog tadpoles observed. Many 100's of spotted salamander larvae observed.
17	VP_139TT_M	HAMM_W123			?	?	?	No	~300-400 wood frog tadpoles observed. Few salamander larvae observed

NR Map Number	Stantec VP/ABA ID	Associated Wetland ID	SVP	High Functioning Corps Pool	Wood Frog	Spotted Salamander	Blue-spotted salamander	Fairy Shrimp	Notes
17	VP_01MA_M	HAMM_W164			0	3	0	No	
21	VP_01KR_M	HOUL_W022		X	2	6	81	No	At 2nd visit, there were 7 spotted salamander egg masses observed, but no wood frog or blue spotted salamander egg masses. Cluster pool
21	VP_21JL_M	HOUL_W023			1	19	0	No	Number of spotted salamander egg masses increased from 12 to 19 between survey visits
21	VP_01BE_M	HOUL_W037		X	0	11	1	No	Cluster pool
22	VP_204TT_N	HOUL_W017			0	1	0	No	No egg masses observed on first site visit
23	VP_28RK_M	HOUL_W001		X	?	13	220	No	At first visit, wood frogs fully hatched; tadpoles observed, but no wood frog egg masses. At 2nd visit, 3 spotted salamander egg masses observed, plus amphibian larvae.

Table C-3c: Summary of vernal pools and amphibian breeding areas identified within the Bridal Path Generator Lead Line of the Number Nine Wind Farm.
Amphibian breeding areas are pools where amphibian breeding was observed, but the resource did not meet the definition of a vernal pool.
Maine State Vernal Pool Assessment forms were submitted to the Maine Department of Inland Fisheries and Wildlife (MDIFW) for those high functioning pools identified prior to August 15, 2014. The pool ID assigned by MDIFW is provided as part of this table.

						Egg Mass Counts							
						Wood Frog		Spotted Salamander		Blue-spotted Salamander			
NR Map Number	Stantec Vernal Pool/ ABA ID	MDIFW Pool ID	Associated Wetland ID	SVP	Corps High Functioning Pool	1st Visit	2nd Visit	1st Visit	2nd Visit	1st Visit	2nd Visit	Fairy Shrimp	Notes
1	VP_25RK_M	—	HOUL_W006			1	0	0	0	0	0	No	No tadpoles observed on 2nd visit
2	VP_32TT_M	—	HOUL_W008			17	0	0	0	0	0	No	Wood frog tadpoles observed on 2nd visit. Man-made pool based upon presence of berm.
2	VP_31TT_M	2308	HOUL_W009		X	30	NS	1	NS	64	NS	No	
3	SVP_29TT_N	2306	HOUL_W010	X	X	8	0	0	0	150+	0	No	Many wood frog and blue spotted salamander larva observed on 2nd visit. August 5, 2014 visit, 3-5" water in 8' x 8' area.
3	VP_30TT_N	2307	HOUL_W010		X	10	0	0	1	5	0	No	Larvae observed on 2nd visit - wood frog & blue-spotted possible.
4	VP_26TT_M	2303	HODG_W001		X	24	NS	0	NS	0	NS	No	Cluster pool.
4	VP_27TT_M	2304	HODG_W001		X	18	NS	0	NS	0	NS	No	Cluster pool.
4	VP_28TT_N	2305	HODG_W001			6	0	0	0	0	0	No	Wood frog tadpoles observed on 2nd visit.
5	SVP_25TT_N	2302	LINN_W002	X	X	103	0	5	0	0	0	No	Many tadpoles observed on 2nd visit
5	VP_24TT_M	—	LINN_W003			13	0	2	5	0	0	No	Wood frog tadpoles observed on 2nd visit.
6	VP_148RK_M	—	LINN_W005			0	0	0	4	0	0	No	
6	VP_24RK_M	—	LINN_W008			15	0	1	2	0	0	No	Few tadpoles observed 2nd visit
7	VP_17RK_M	—	LINN_W013			1	0	10	13	0	0	No	Few tadpoles observed 2nd visit
7	VP_18RK_M	—	LINN_W013			10	0	0	1	0	0	No	Pool dry on 2nd visit. Dead tadpoles & drying spotted salamander egg mass observed.
7	VP_16RK_M	—	LINN_W014			37	0	4	7	0	0	No	Many tadpoles observed on 2nd visit
7	VP_04MA_M	—	LINN_W035			0	0	0	4	0	0	No	
8	VP_15RK_M	—	LINN_W016			5	NS	0	NS	0	NS	No	
8	SVP_17TT_N	2298	LINN_W016	X	X	137	0	2	0	0	0	No	
9	VP_23TT_M	—	LINN_W018			3	NS	0	NS	0	NS	No	
9	VP_22TT_M	2297	LINN_W019		X	23	NS	2	NS	300+	NS	No	Cluster pool
9	VP_21TT_M	2296	LINN_W020		X	13	NS	0	NS	153	NS	No	Cluster pool

						Egg Mass Counts							
						Wood Frog		Spotted Salamander		Blue-spotted Salamander			
NR Map Number	Stantec Vernal Pool/ ABA ID	MDIFW Pool ID	Associated Wetland ID	SVP	Corps High Functioning Pool	1st Visit	2nd Visit	1st Visit	2nd Visit	1st Visit	2nd Visit	Fairy Shrimp	Notes
10	VP_18TT_M	2294	LINN_W023		X	17	NS	13	NS	62	NS	No	
10	VP_19TT_M	—	LINN_W023			19	NS	9	NS	0	NS	No	
10	VP_20TT_M	2295	LINN_W023		X	137	NS	16	NS	24	NS	No	
11	VP_15TT_M	—	LINN_W029			20	NS	1	NS	0	NS	No	Cluster pool
11	SVP_16TT_N	2293	LINN_W029	X	X	24	0	22	20	0	0	No	Recent logging activity around pool boundary. Cluster pool
11	VP_112CF_N	—	LINN_W029			8	0	12	0	0	0	No	Cluster pool
15	VP_14TT_M	—	FORK_W001			0	NS	5	NS	0	NS	No	
15	VP_13RK_M	—	TAR2_W011			5	0	7	5	0	0	No	Few tadpoles observed 2nd visit
15	VP_14RK_M	—	TAR2_W014			16	3	5	1	0	0	No	Tadpoles observed 2nd visit
16	VP_12TT_M	—	FORK_W004			0	NS	2	NS	0	NS	No	
16	ABA_13TT_N	—	FORK_W004			0	0	6	0	0	0	No	Likely more egg masses outside project limits. 2nd visit notes hydrologically connected to large beaver flowage and probably permanent hydrology
17	VP_11TT_N	2292	FORK_W005			10	0	1	0	0	0	No	Wood frog tadpoles observed on 2nd visit.
17	VP_09TT_M	—	FORK_W006			5	NS	0	NS	0	NS	No	
17	VP_10TT_M	—	FORK_W006			0	NS	2	NS	0	NS	No	
17	VP_08TT_M	—	FORK_W007			8	NS	2	NS	0	NS	No	
18	VP_07TT_N	2290	FORK_W007			9	0	0	1	0	0	No	Only small pockets of water, Sphagnum saturated; few tadpoles observed.
19	VP_12RK_M	—	FORK_W020			3	0	13	11	0	0	No	Two separate pools at 2nd visit
20	VP_08RK_M	—	FORK_W022			5	0	0	0	0	0	No	No tadpoles observed on 2nd visit
20	VP_09RK_M	2291	FORK_W022		X	22	0	3	4	13	0	No	Tadpoles observed 2nd visit
21	ABA_06TT_N	—	FORK_W031			0	0	5	9	0	0	No	100's of sticklebacks and 2-4" minnows observed; likely permanent hydrology
23	VP_02TT_M	—	HAYN_W006			4	NS	0	NS	0	NS	No	
23	VP_03TT_M	—	HAYN_W006			4	NS	2	NS	0	NS	No	
23	VP_04TT_M	2288	HAYN_W006		X	0	NS	14	NS	0	NS	No	Cluster pool
23	VP_05TT_M	2289	HAYN_W006		X	0	NS	14	NS	0	NS	No	Cluster pool

						Egg Mass Counts							
						Wood Frog		Spotted Salamander		Blue-spotted Salamander			
NR Map Number	Stantec Vernal Pool/ ABA ID	MDIFW Pool ID	Associated Wetland ID	SVP	Corps High Functioning Pool	1st Visit	2nd Visit	1st Visit	2nd Visit	1st Visit	2nd Visit	Fairy Shrimp	Notes
23	VP_01TT_N	2284	HAYN_W009			0	0	2	0	0	0	No	Dry on 2nd visit; no signs of egg masses
23	VP_07RK_M	—	HAYN_W011			0	NS	1	NS	0	NS	No	
24	VP_05RK_M	—	HAYN_W014			5	NS	1	NS	0	NS	No	
24	VP_06RK_M	—	HAYN_W014			8	NS	0	NS	0	NS	No	
24	VP_02RK_N	2285	HAYN_W020			0	0	2	0	0	0	No	<1" water on 2nd visit & no egg masses observed.
24	VP_03RK_N	2286	HAYN_W020			0	0	3	0	0	0	No	<1" water on 2nd visit & no egg masses observed.
24	VP_04RK_N	2287	HAYN_W020			0	0	1	1	0	0	No	Very little water on 2nd visit with one spotted salamander egg mass half out of water
25	VP_01RK_N	2283	HAYN_W022			0	0	5	0	0	0	No	Dry on 2nd visit and no egg masses observed.

Appendix D CORPS WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORMS: TURBINE AREA

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	Upland
Landform:	Summit	Local Relief:	Convex
Slope (%):	0-8	Latitude: 46.457174	Longitude: -67.97475
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/16/14
County:	Aroostook
State:	Maine
Wetland ID:	ETWP_W013
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	E Twp
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	1	--	NR	--	--	--	--	--	--	organic
0	8	2	7.5YR	3/4	100	--	--	--	--	--	silt loam
8	22	3	10YR	3/3	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Hard-pack Depth: 22"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: ETWP_W013 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	50	Y	FAC
2.	*Betula alleghaniensis*	50	Y	FAC
3.	*Acer saccharum*	30	Y	FACU
4.	*Picea rubens*	20	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	150		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Viburnum lantanoides*	50	Y	FACU
2.	*Acer pensylvanicum*	20	Y	FACU
3.	*Picea rubens*	15	N	FACU
4.	*Fagus grandifolia*	15	N	FACU
5.	*Hamamelis virginiana*	5	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	105		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer pensylvanicum*	15	Y	FACU
2.	*Aralia nudicaulis*	10	Y	FACU
3.	*Clintonia borealis*	5	N	FAC
4.	*Maianthemum canadense*	5	N	FACU
5.	*Trientalis borealis*	5	N	FAC
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	40		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***28.6%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	110	x 3 =	330
FACU spp.	185	x 4 =	740
UPL spp.	0	x 5 =	0
Total	295 (A)		1070 (B)

Prevalence Index = B/A = ***3.627***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	PFO
Landform:	Summit	Local Relief:	Concave
Slope (%):	0-8	Latitude: 46.45722	Longitude: -67.974931
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☑, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/16/14
County:	Aroostook
State:	Maine
Wetland ID:	ETWP_W013
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	E Twp
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: bedrock near soil surface

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: 1	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 0	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
12	0	1	--	NR	--	--	--	--	muck
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Bedrock Depth: 12"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: ETWP_W013 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	70	Y	FAC
2.	*Picea rubens*	20	N	FACU
3.	*Abies balsamea*	15	N	FAC
4.	*Acer rubrum*	10	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	115		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer pensylvanicum*	15	Y	FACU
2.	*Picea rubens*	10	Y	FACU
3.	*Acer saccharum*	10	Y	FACU
4.	*Fraxinus americana*	10	Y	FACU
5.	*Acer spicatum*	5	N	FACU
6.	*Hamamelis virginiana*	5	N	FACU
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	55		

Herb Stratum (Plot size: 2 meter radius)

1.	*Glyceria melicaria*	90	Y	OBL
2.	*Impatiens capensis*	50	Y	FACW
3.	*Dryopteris intermedia*	20	N	FAC
4.	*Thalictrum pubescens*	15	N	FACW
5.	*Onoclea sensibilis*	5	N	FACW
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	180		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***42.9%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	90	x 1 =	90
FACW spp.	70	x 2 =	140
FAC spp.	115	x 3 =	345
FACU spp.	75	x 4 =	300
UPL spp.	0	x 5 =	0
Total	350 (A)		875 (B)

Prevalence Index = B/A = ***2.500***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	Upland
Landform:	Toeslope	Local Relief:	Concave
Slope (%):	5	Latitude: 46.465836	Longitude: -67.96534
Datum:	--		

Date:	07/17/14
County:	Aroostook
State:	Maine
Wetland ID:	ETWP_W046
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	E Twp
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted and Howland very stony loams — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
1	0	1	--	NR	--	--	--	--	fibric organic
0	10	2	7.5YR	4/6	100	--	--	--	silt loam
10	20	3	10YR	3/6	100	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: ETWP_W046 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	100	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	100		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fagus grandifolia*	50	Y	FACU
2.	*Acer pensylvanicum*	50	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	100		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer saccharum*	20	Y	FACU
2.	*Corylus cornuta*	10	Y	FACU
3.	*Fraxinus americana*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	35		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***0.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	235	x 4 =	940
UPL spp.	0	x 5 =	0
Total	235 (A)		940 (B)

Prevalence Index = B/A = ***4.000***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	PFO
Landform:	Toeslope	Local Relief:	Concave
Slope (%):	2	Latitude: 46.465836	Longitude: -67.96534
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/17/14
County:	Aroostook
State:	Maine
Wetland ID:	ETWP_W046
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	E Twp
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☑ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: NR	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: NR	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted and Howland very stony loams — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
16	0	1	--	NR	--	--	--	--	muck
16	NR	2	Gley 1	4/N	100	--	--	--	clay
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: ETWP_W046 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Fraxinus nigra*	20	Y	FACW
2.	*Betula alleghaniensis*	20	Y	FAC
3.	*Acer saccharum*	20	Y	FACU
4.	*Abies balsamea*	5	N	FAC
5.	*Picea rubens*	5	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	70		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer saccharum*	5	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	5		

Herb Stratum (Plot size: 2 meter radius)

1.	*Glyceria melicaria*	35	Y	OBL
2.	*Impatiens capensis*	35	Y	FACW
3.	*Carex vesicaria*	25	Y	OBL
4.	*Matteuccia struthiopteris*	5	N	FAC
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***71.4%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	60	x 1 =	60
FACW spp.	55	x 2 =	110
FAC spp.	30	x 3 =	90
FACU spp.	30	x 4 =	120
UPL spp.	0	x 5 =	0
Total	175 (A)		380 (B)

Prevalence Index = B/A = ***2.171***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chris Dorion	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	Upland
Landform:	Backslope	Local Relief:	Convex
Slope (%):	3	Latitude: 46.471741	Longitude: -67.96373
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/15/14
County:	Aroostook
State:	Maine
Wetland ID:	ETWP_W053
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	E Twp
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
5	0	1	5YR	2.5/1	100	--	--	--	--	--	organic
0	2	2	5YR	5/2	100	--	--	--	--	--	loam
2	4	3	5YR	3/3	100	--	--	--	--	--	loam
4	6	4	7.5YR	4/3	100	--	--	--	--	--	loam
6	9	5	10YR	5/3	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Cd Depth: 14"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: ETWP_W053 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	20	Y	FACU
2.	*Fagus grandifolia*	15	Y	FACU
3.	*Acer pensylvanicum*	15	Y	FACU
4.	*Betula alleghaniensis*	2	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	52		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer pensylvanicum*	60	Y	FACU
2.	*Viburnum lantanoides*	40	Y	FACU
3.	*Fagus grandifolia*	20	N	FACU
4.	*Fraxinus nigra*	5	N	FACW
5.	*Acer saccharum*	5	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	130		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer saccharum*	20	Y	FACU
2.	*Viburnum lantanoides*	15	Y	FACU
3.	*Acer pensylvanicum*	5	N	FACU
4.	*Maianthemum canadense*	2	N	FACU
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	42		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***0.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	5	x 2 =	10
FAC spp.	2	x 3 =	6
FACU spp.	217	x 4 =	868
UPL spp.	0	x 5 =	0
Total	224 (A)		884 (B)

Prevalence Index = B/A = ***3.946***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chris Dorion	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	PFO
Landform:	Till Plain	Local Relief:	Linear
Slope (%):	1	Latitude: 46.471517	Longitude: -67.964018
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/15/14
County:	Aroostook
State:	Maine
Wetland ID:	ETWP_W053
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	E Twp
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: NR	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: NR	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: NR	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
15	0	1	10YR	2/1	100	--	--	--	--	--	muck
0	3	2	10YR	3/1	90	10YR	4/1	10	D	M	silt loam
3	6	3	2.5Y	5/3	93	7.5YR	4/6	5	C	M	loam
--	--	--	--	--	--	2.5Y	5/1	2	D	M	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Cd Depth: 21"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: ETWP_W053 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Fraxinus nigra*	35	Y	FACW
2.	*Acer saccharum*	25	Y	FACU
3.	*Betula alleghaniensis*	8	N	FAC
4.	*Ulmus americana*	8	N	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	76		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fraxinus nigra*	45	Y	FACW
2.	*Fraxinus pennsylvanica*	10	N	FACW
3.	*Betula alleghaniensis*	4	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	59		

Herb Stratum (Plot size: 2 meter radius)

1.	*Glyceria melicaria*	80	Y	OBL
2.	*Impatiens capensis*	30	Y	FACW
3.	*Carex gynandra*	2	N	OBL
4.	*Onoclea sensibilis*	2	N	FACW
5.	*Lycopus uniflorus*	2	N	OBL
6	*Carex scabrata*	2	N	OBL
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	118		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***80.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	86	x 1 =	86
FACW spp.	130	x 2 =	260
FAC spp.	12	x 3 =	36
FACU spp.	25	x 4 =	100
UPL spp.	0	x 5 =	0
Total	253 (A)		482 (B)

Prevalence Index = B/A = ***1.905***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chris Dorion	Investigator #2:	
Soil Unit:	Thorndike and Howland soils	NWI/WWI Classification:	Upland
Landform:	Backslope	Local Relief:	Concave
Slope (%):	5	Latitude: 46.457257	Longitude: -67.981112
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/13/14
County:	Aroostook
State:	Maine
Wetland ID:	ETWP_W073
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	E Twp
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike and Howland soils — Series Drainage Class: somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	4	1	5YR	3/2	100	--	--	--	--	--	organic
4	6	2	5YR	6/2	100	--	--	--	--	--	fine sandy loam
6	9	3	5YR	4/4	100	--	--	--	--	--	very fine sandy loam
9	12	4	7.5YR	4/4	100	--	--	--	--	--	very fine sandy loam
12	16	5	10YR	5/4	100	--	--	--	--	--	very fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Cd Depth: 16"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm — Wetland ID: ETWP_W073 — Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	80	Y	FAC
2.	*Acer saccharum*	40	Y	FACU
3.	*Picea rubens*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	125		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Viburnum lantanoides*	70	Y	FACU
2.	*Acer pensylvanicum*	45	Y	FACU
3.	*Fagus grandifolia*	15	N	FACU
4.	*Acer spicatum*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	135		

Herb Stratum (Plot size: 2 meter radius)

1.	*Maianthemum canadense*	15	Y	FACU
2.	*Trientalis borealis*	10	Y	FAC
3.	*Viburnum lantanoides*	10	Y	FACU
4.	*Acer saccharum*	5	N	FACU
5.	*Acer spicatum*	5	N	FACU
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	45		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***28.6%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	90	x 3 =	270
FACU spp.	215	x 4 =	860
UPL spp.	0	x 5 =	0
Total	305 (A)		1130 (B)

Prevalence Index = B/A = ***3.705***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chris Dorion	Investigator #2:	
Soil Unit:	Thorndike and Howland soils	NWI/WWI Classification:	PFO
Landform:	Toeslope	Local Relief:	Concave
Slope (%):	3	Latitude: 46.457083	Longitude: -67.980886
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/13/14
County:	Aroostook
State:	Maine
Wetland ID:	ETWP_W073
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	E Twp
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 12	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 8	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike and Howland soils — Series Drainage Class: somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	17	1	10YR	2/1	100	--	--	--	--	--	muck
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Boulders Depth: 17"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: ETWP_W073 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Thuja occidentalis*	60	Y	FACW
2.	*Betula alleghaniensis*	30	Y	FAC
3.	*Acer saccharum*	10	N	FACU
4.	*Picea rubens*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	105		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	12	Y	FAC
2.	*Acer pensylvanicum*	4	Y	FACU
3.	*Fraxinus nigra*	2	N	FACW
4.	*Thuja occidentalis*	2	N	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Herb Stratum (Plot size: 2 meter radius)

1.	*Rubus idaeus*	25	Y	FACU
2.	*Impatiens capensis*	15	Y	FACW
3.	*Glyceria melicaria*	10	N	OBL
4.	*Carex gynandra*	2	N	OBL
5.	*Athyrium angustum*	2	N	FAC
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	54		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***66.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	12	x 1 =	12
FACW spp.	79	x 2 =	158
FAC spp.	44	x 3 =	132
FACU spp.	44	x 4 =	176
UPL spp.	0	x 5 =	0
Total	179 (A)		478 (B)

Prevalence Index = B/A = ***2.670***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chris Dorion	Investigator #2:	
Soil Unit:	Monarda and Burnham silt loams	NWI/WWI Classification:	Upland
Landform:	Backslope	Local Relief:	Convex
Slope (%):	5	Latitude: 46.463836	Longitude: -67.985503
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☑, Soil ☑, or Hydrology ☑ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	08/13/14
County:	Aroostook
State:	Maine
Wetland ID:	ETWP_W086
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	E Twp
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Log yard and associated logging roads. Area has been regraded and all three parameters have been altered.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Monarda and Burnham silt loams — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Haplaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	12	1	10YR	4/3	100	--	--	--	--	--	fine sandy loam
12	14	2	2.5Y	4/3	100	--	--	--	--	--	fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 14"

Hydric Soil Present? ☐ Yes ☑ No

Remarks: Soil has been regraded for log yard.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: ETWP_W086 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*Tussilago farfara*	25	Y	FACU
2.	*Solidago canadensis*	20	Y	FACU
3.	*Erigeron annuus*	10	N	FACU
4.	*Euthamia graminifolia*	5	N	FAC
5.	*Oenothera biennis*	2	N	FACU
6	*Prunella vulgaris*	2	N	FAC
7.	*Cirsium vulgare*	2	N	FACU
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	66		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***0.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	7	x 3 =	21
FACU spp.	59	x 4 =	236
UPL spp.	0	x 5 =	0
Total	66 (A)		257 (B)

Prevalence Index = B/A = ***3.894***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chris Dorion	Investigator #2:	
Soil Unit:	Monarda and Burnham silt loams	NWI/WWI Classification:	PSS
Landform:	Toeslope	Local Relief:	Level
Slope (%):	1	Latitude: 46.46429	Longitude: -67.985357
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/13/14
County:	Aroostook
State:	Maine
Wetland ID:	ETWP_W086
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	E Twp
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: <1	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 0	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Monarda and Burnham silt loams — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Haplaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	19	1	10YR	2/1	100	--	--	--	--	--	muck
19	22	2	5Y	3/1	100	--	--	--	--	--	mucky silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: ETWP_W086 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Alnus incana*	70	Y	FACW
2.	*Thuja occidentalis*	15	N	FACW
3.	*Abies balsamea*	10	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	95		

Herb Stratum (Plot size: 2 meter radius)

1.	*Glyceria melicaria*	40	Y	OBL
2.	*Carex vulpinoidea*	15	N	OBL
3.	*Carex scoparia*	15	N	FACW
4.	*Carex gynandra*	5	N	OBL
5.	*Thalictrum pubescens*	2	N	FACW
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	77		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	60	x 1 =	60
FACW spp.	102	x 2 =	204
FAC spp.	10	x 3 =	30
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	172 (A)		294 (B)

Prevalence Index = B/A = ***1.709***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chuck Ferris	Investigator #2:	
Soil Unit:	Howland gravelly loam	NWI/WWI Classification:	Upland
Landform:	Summit	Local Relief:	NR
Slope (%):	2-8	Latitude: 46.479121	Longitude: -67.993195
Datum:	--		

Date:	07/23/14
County:	Aroostook
State:	Maine
Wetland ID:	ETWP_W121
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	E Twp
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland gravelly loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	6	1	2.5Y	3/3	100	--	--	--	--	--	silt loam
6	16	2	2.5Y	5/3	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 16"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: ETWP_W121 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	20	Y	FACU
2.	*Fraxinus pennsylvanica*	10	Y	FACW
3.	*Betula alleghaniensis*	10	Y	FAC
4.	*Abies balsamea*	5	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	10	Y	FAC
2.	*Fraxinus pennsylvanica*	10	Y	FACW
3.	*Acer saccharum*	5	N	FACU
4.	*Acer pensylvanicum*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	*Osmunda claytoniana*	25	Y	FAC
2.	*Dennstaedtia punctilobula*	10	Y	UPL
3.	*Acer saccharum*	10	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	45		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***62.5%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	20	x 2 =	40
FAC spp.	50	x 3 =	150
FACU spp.	40	x 4 =	160
UPL spp.	10	x 5 =	50
Total	120 (A)		400 (B)

Prevalence Index = B/A = ***3.333***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chuck Ferris	Investigator #2:	
Soil Unit:	Howland gravelly loam	NWI/WWI Classification:	PFO
Landform:	Summit	Local Relief:	NR
Slope (%):	2-8	Latitude: 46.479065	Longitude: -67.993073
Datum:	--		

Date:	07/23/14
County:	Aroostook
State:	Maine
Wetland ID:	ETWP_W121
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	E Twp
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 10	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland gravelly loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
8	0	1	--	NR	--	--	--	--	--	muck
0	8	2	2.5Y	4/2	85	10YR	5/6	15	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 16"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: ETWP_W121 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	15	Y	FAC
2.	*Fraxinus nigra*	15	Y	FACW
3.	*Tsuga canadensis*	10	Y	FACU
4.	*Acer saccharum*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fraxinus nigra*	15	Y	FACW
2.	*Betula alleghaniensis*	5	Y	FAC
3.	*Acer saccharum*	5	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	25		

Herb Stratum (Plot size: 2 meter radius)

1.	*Impatiens capensis*	60	Y	FACW
2.	*Carex scoparia*	5	N	FACW
3.	*Carex vulpinoidea*	3	N	OBL
4.	*Juncus effusus*	2	N	OBL
5.	*Carex intumescens*	2	N	FACW
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	72		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***71.4%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	5	x 1 =	5
FACW spp.	97	x 2 =	194
FAC spp.	20	x 3 =	60
FACU spp.	20	x 4 =	80
UPL spp.	0	x 5 =	0
Total	142 (A)		339 (B)

Prevalence Index = B/A = ***2.387***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Bill Leopold	Investigator #2:	
Soil Unit:	Howland gravelly loam	NWI/WWI Classification:	
Landform:	Toeslope	Local Relief:	Convex
Slope (%):	2-8	Latitude: 46.479866	Longitude: -67.992124
Datum:	--		

Date:	07/23/14
County:	Aroostook
State:	Maine
Wetland ID:	ETWP_W123
Sample Point:	**Upland**
Community ID:	
Section:	--
Township:	E Twp
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland gravelly loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	6	--	5YR	3/3/	100	--	--	--	--	--	loam
6	12	--	7.5YR	4/2	100	--	--	--	--	--	silt loam
12	14	--	2.5Y	6/2	80	2.5Y	7/3	20	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐:

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 14"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: ETWP_W123 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	10	Y	FAC
2.	*Acer rubrum*	10	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	5	Y	FAC
2.	*Tsuga canadensis*	5	Y	FACU
3.	*Acer pensylvanicum*	5	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	15		

Herb Stratum (Plot size: 2 meter radius)

1.	*Senecio sylvaticus*	15	Y	UPL
2.	*Dryopteris intermedia*	10	Y	FAC
3.	*Sambucus racemosa*	10	Y	FACU
4.	*Carex spicata*	10	Y	FACU
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	45		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***44.4%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	35	x 3 =	105
FACU spp.	30	x 4 =	120
UPL spp.	15	x 5 =	75
Total	80 (A)		300 (B)

Prevalence Index = B/A = ***3.750***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Bill Leopold	Investigator #2:	
Soil Unit:	Howland gravelly loam	NWI/WWI Classification:	PEM
Landform:	Toeslope	Local Relief:	Concave
Slope (%):	2	Latitude: 46.480007	Longitude: -67.99215
Datum:	--		

Date:	07/23/14
County:	Aroostook
State:	Maine
Wetland ID:	ETWP_W123
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	E Twp
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: 10	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 10	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland gravelly loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	2	1	2.5YR	2.5/2	100	--	--	--	--	--	silt loam
2	10	2	2.5Y	6/2	95	7.5YR	7/6	5	C	PL	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 10"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: ETWP_W123 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Tsuga canadensis*	15	Y	FACU
2.	*Picea rubens*	5	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fraxinus nigra*	10	Y	FACW
2.	*Picea rubens*	10	Y	FACU
3.	*Tsuga canadensis*	5	N	FACU
4.	*Betula alleghaniensis*	5	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex vulpinoidea*	20	Y	OBL
2.	*Glyceria melicaria*	20	Y	OBL
3.	*Dryopteris intermedia*	20	Y	FAC
4.	*Rubus idaeus*	10	N	FACU
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	70		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***57.1%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	40	x 1 =	40
FACW spp.	10	x 2 =	20
FAC spp.	25	x 3 =	75
FACU spp.	45	x 4 =	180
UPL spp.	0	x 5 =	0
Total	120 (A)		315 (B)

Prevalence Index = B/A = ***2.625***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☐ No Morphological Adaptations (Explain) *
- ☐ Yes ☐ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Bill Leopold	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	Upland
Landform:	Summit	Local Relief:	NR
Slope (%):	0-8	Latitude: 46.486649	Longitude: -68.031737
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/25/14
County:	Aroostook
State:	Maine
Wetland ID:	ETWP_W238
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	E Twp
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑:

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	3	1	7.5YR	4/3	100	--	--	--	--	--	loam
3	6	2	2.5YR	4/3	100	--	--	--	--	--	silt loam
6	8	3	2.5YR	4/3	60	2.5YR	5/2	40	--	M	sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑:

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Bedrock Depth: 8"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: ETWP_W238 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Picea rubens*	10	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	10		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Rubus allegheniensis*	80	Y	FACU
2.	*Betula alleghaniensis*	30	Y	FAC
3.	*Acer rubrum*	10	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	120		

Herb Stratum (Plot size: 2 meter radius)

1.	*Athyrium angustum*	10	Y	FAC
2.	*Carex trisperma*	5	Y	OBL
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	15		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***60.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	5	x 1 =	5
FACW spp.	0	x 2 =	0
FAC spp.	50	x 3 =	150
FACU spp.	90	x 4 =	360
UPL spp.	0	x 5 =	0
Total	145 (A)		515 (B)

Prevalence Index = B/A = ***3.552***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Bill Leopold	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	PFO
Landform:	Depression	Local Relief:	Concave
Slope (%):	1	Latitude: 46.486697	Longitude: -68.032083
Datum:	--		

Date:	07/25/14
County:	Aroostook
State:	Maine
Wetland ID:	ETWP_W238
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	E Twp
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 12	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	3	1	10YR	3/2	100	--	--	--	--	--	loam
3	10	2	2.5YR	5/2	90	2.5YR	5/3	10	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Bedrock Depth: 10"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: ETWP_W238 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Picea rubens*	70	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	70		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Tsuga canadensis*	5	Y	FACU
2.	*Picea rubens*	5	Y	FAC
3.	*Betula alleghaniensis*	5	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	15		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex trisperma*	50	Y	OBL
2.	*Dryopteris cristata*	10	N	OBL
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	60		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***80.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	60	x 1 =	60
FACW spp.	0	x 2 =	0
FAC spp.	80	x 3 =	240
FACU spp.	5	x 4 =	20
UPL spp.	0	x 5 =	0
Total	145 (A)		320 (B)

Prevalence Index = B/A = ***2.207***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☑ Yes ☐ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks: Picea rubens with shallow roots and growing on mounds so assigned a FAC indicator status for this plot.

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Plaisted gravelly loam	NWI/WWI Classification:	Upland
Landform:	Terrace	Local Relief:	Concave
Slope (%):	5	Latitude: 46.498772	Longitude: -68.010106
Datum:	--		

Date:	07/10/14
County:	Aroostook
State:	Maine
Wetland ID:	ETWP_W257
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	E Twp
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Plaisted gravelly loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Typic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	1	Black	--	--	--	--	--	--	--	hemic organic
0	2	2	10YR	3/1	100	--	--	--	--	--	loam
2	7	3	10YR	3/4	100	--	--	--	--	--	loam
7	10	4	2.5Y	5/4	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 12"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: ETWP_W257 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer rubrum*	10	Y	FAC
2.	*Carpinus caroliniana*	10	Y	FAC
3.	*Betula alleghaniensis*	5	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	25		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fagus grandifolia*	50	Y	FACU
2.	*Acer pensylvanicum*	15	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	65		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer saccharum*	30	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	30		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	25	x 3 =	75
FACU spp.	95	x 4 =	380
UPL spp.	0	x 5 =	0
Total	120 (A)		455 (B)

Prevalence Index = B/A = ***3.792***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Plaisted gravelly loam	NWI/WWI Classification:	PEM
Landform:	Terrace	Local Relief:	Concave
Slope (%):	2	Latitude: 46.498654	Longitude: -68.00999
Datum:	--		

Date:	07/10/14
County:	Aroostook
State:	Maine
Wetland ID:	ETWP_W257
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	E Twp
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☑ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: 1	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 0	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted gravelly loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Typic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	6	1	5Y	6/2	95	10YR	5/6	5	C	M	clay loam
6	13	2	5Y	6/2	80	7.5YR	5/8	5	C	M	clay loam
--	--	--	--	--	--	7.5YR	3/6	15	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 13"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: ETWP_W257 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex gynandra*	50	Y	OBL
2.	*Glyceria striata*	40	Y	OBL
3.	*Rubus idaeus*	10	N	FACU
4.	*Impatiens capensis*	3	N	FACW
5.	*Solidago sp.*	3	N	NL
6	*Carex scoparia*	2	N	FACW
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	108		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks: No species in tree or sapling/shrub stratum

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	90	x 1 =	90
FACW spp.	5	x 2 =	10
FAC spp.	0	x 3 =	0
FACU spp.	10	x 4 =	40
UPL spp.	0	x 5 =	0
Total	105 (A)		140 (B)

Prevalence Index = B/A = ***1.333***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	Upland
Landform:	Backslope	Local Relief:	NR
Slope (%):	15-25	Latitude: 46.306153	Longitude: -68.167812
Datum:	--		

Date:	06/09/14
County:	Aroostook
State:	Maine
Wetland ID:	STCR_W002
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	Saint Croix Twp
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	2	1	7.5YR	3/3	100	--	--	--	--	--	loam
2	8	2	7.5YR	4/6	100	--	--	--	--	--	loam
8	20	3	7.5YR	5/6	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: STCR_W002 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	40	Y	FAC
2.	*Betula alleghaniensis*	5	N	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer pensylvanicum*	15	Y	FACU
2.	*Betula alleghaniensis*	10	Y	FAC
3.	*Populus tremuloides*	10	Y	FACU
4.	*Abies balsamea*	5	N	FAC
5.	*Fagus grandifolia*	5	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

Herb Stratum (Plot size: 2 meter radius)

1.	*Maianthemum canadense*	15	Y	FACU
2.	*Abies balsamea*	10	Y	FAC
3.	*Acer pensylvanicum*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	30		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	70	x 3 =	210
FACU spp.	50	x 4 =	200
UPL spp.	0	x 5 =	0
Total	120 (A)		410 (B)

Prevalence Index = B/A = ***3.417***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	PSS
Landform:	Backslope	Local Relief:	NR
Slope (%):	0-8	Latitude: 46.306125	Longitude: -68.167991
Datum:	--		

Date:	06/09/14
County:	Aroostook
State:	Maine
Wetland ID:	STCR_W002
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	Saint Croix Twp
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☑ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: 10	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 0	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
8	0	1	10YR	3/1	100	--	--	--	--	--	muck
0	4	2	10YR	3/2	85	10YR	4/6	5	C	M	clay loam
--	--	--	--	--	--	7.5YR	4/6	10	C	M	--
4	8	3	10YR	5/1	60	10YR	4/6	40	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☑ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 16"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: STCR_W002 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Salix bebbiana*	25	Y	FACW
2.	*Larix laricina*	5	N	FACW
3.	*Populus balsamifera*	5	N	FACW
4.	*Thuja occidentalis*	2	N	FACW
5.	*Salix nigra*	2	N	OBL
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	39		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex gynandra*	5	Y	OBL
2.	*Onoclea sensibilis*	5	Y	FACW
3.	*Rubus pubescens*	5	N	FACW
4.	*Scirpus atrocinctus*	2	N	OBL
5.	*Equisetum sylvaticum*	2	Y	FACW
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	19		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	9	x 1 =	9
FACW spp.	49	x 2 =	98
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	58 (A)		107 (B)

Prevalence Index = B/A = ***1.845***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	Upland
Landform:	Flatlands	Local Relief:	Convex
Slope (%):	5	Latitude: 46.300145	Longitude: -68.168019
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	06/09/14
County:	Aroostook
State:	Maine
Wetland ID:	STCR_W010
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	Saint Croix Twp
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	8	1	10YR	4/4	100	--	--	--	--	--	silt loam
8	10	2	2.5Y	5/3	100	--	--	--	--	--	silt loam
10	13	3	5Y	5/3	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 13"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: STCR_W010 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	35	Y	FAC
2.	*Acer rubrum*	30	Y	FAC
3.	*Betula papyrifera*	25	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	90		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	30	Y	FAC
2.	*Picea rubens*	20	Y	FACU
3.	*Abies balsamea*	15	Y	FAC
4.	*Acer pensylvanicum*	3	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	68		

Herb Stratum (Plot size: 2 meter radius)

1.	*Parathelypteris noveboracensis*	8	Y	FAC
2.	*Phleum pratense*	2	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	10		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***62.5%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	118	x 3 =	354
FACU spp.	50	x 4 =	200
UPL spp.	0	x 5 =	0
Total	168 (A)		554 (B)

Prevalence Index = B/A = ***3.298***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☐ No Morphological Adaptations (Explain) *
- ☐ Yes ☐ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	PUB
Landform:	Flatland	Local Relief:	Convex
Slope (%):	0	Latitude: 46.300128	Longitude: -68.168061
Datum:	--		

Date:	06/09/14
County:	Aroostook
State:	Maine
Wetland ID:	STCR_W010
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	Saint Croix Twp
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☑, Soil ☐, or Hydrology ☑ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☐ **No**

Remarks: The wetland is ponded/inundated for most of the year. Unable to characterize soil due to depth of water. No vegetation observed growing within the wetland.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☑ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☑ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: 12	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 0	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
NR	NR	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☑ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Wetland is ponded/inundated with water for most of the year.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: STCR_W010 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	0		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: *NA* (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = *NA*

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☑ Yes ☐ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks: No vegetation observed growing within the wetland.

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Josh Brown	Investigator #2:	
Soil Unit:	Monarda and Burnham very stony silt loams	NWI/WWI Classification:	Upland
Landform:	Till Plains	Local Relief:	NR
Slope (%):	4	Latitude: 46.376827	Longitude: -68.09732
Datum:	--		

Date:	08/21/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W004
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑:

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Monarda and Burnham very stony silt loams — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Epiaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
5	0	1	--	NR	--	--	--	--	--	--	organic
0	1	2	10YR	2/1	100	--	--	--	--	--	silt loam
1	3	3	10YR	6/1	100	--	--	--	--	--	fine sandy loam
3	12	4	7.5YR	4/6	100	--	--	--	--	--	fine sandy loam
12	16	5	7.5YR	4/5	100	--	--	--	--	--	fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑:

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 21"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W004 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	50	Y	FAC
2.	*Thuja occidentalis*	15	N	FACW
3.	*Betula alleghaniensis*	10	N	FAC
4.	*Betula papyrifera*	10	N	FACU
5.	*Acer saccharum*	5	N	FACU
6.	*Picea rubens*	5	N	FACU
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	95		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*Dryopteris carthusiana*	25	Y	FACW
2.	*Abies balsamea*	1	N	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	26		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	40	x 2 =	80
FAC spp.	61	x 3 =	183
FACU spp.	20	x 4 =	80
UPL spp.	0	x 5 =	0
Total	121 (A)		343 (B)

Prevalence Index = B/A = ***2.835***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Josh Brown	Investigator #2:	
Soil Unit:	Monarda and Burnham very stony silt loams	NWI/WWI Classification:	PFO
Landform:	Floodplain	Local Relief:	NR
Slope (%):	0	Latitude: 46.376759	Longitude: -68.097298

Datum: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☑, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/21/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W004
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Soils are altered by sediment deposition from adjacent gravel road.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: 4	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Monarda and Burnham very stony silt loams — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Epiaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
10	0	1	--	NR	--	--	--	--	muck
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 10"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W004 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Picea rubens*	35	Y	FACU
2.	*Abies balsamea*	20	Y	FAC
3.	*Betula papyrifera*	10	N	FACU
4.	*Thuja occidentalis*	10	N	FACW
5.	*Acer rubrum*	5	N	FAC
6.	*Ulmus americana*	5	N	FACW
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	85		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Alnus incana*	50	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 2 meter radius)

1.	*Glyceria striata*	70	Y	OBL
2.	*Thalictrum pubescens*	30	Y	FACW
3.	*Acer spicatum*	15	N	FACU
4.	*Galium tinctorium*	10	N	OBL
5.	*Dryopteris carthusiana*	10	N	FACW
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	135		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***80.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	80	x 1 =	80
FACW spp.	105	x 2 =	210
FAC spp.	25	x 3 =	75
FACU spp.	60	x 4 =	240
UPL spp.	0	x 5 =	0
Total	270 (A)		605 (B)

Prevalence Index = B/A = ***2.241***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Josh Gallus	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	Upland
Landform:	Shoulder	Local Relief:	Convex
Slope (%):	5-9	Latitude: 46.372476	Longitude: -68.095246
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/21/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W012
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
5	0	Duff	--	--	--	--	--	--	--	--	--
0	3	1	10YR	4/6	100	--	--	--	--	--	fine sandy loam
3	4	2	10YR	6/2	100	--	--	--	--	--	fine sandy loam
4	8	3	10YR	5/3	100	--	--	--	--	--	fine sandy loam
	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 8"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W012 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	30	Y	FAC
2.	*Picea rubens*	15	Y	FACU
3.	*Abies balsamea*	15	Y	FAC
4.	*Acer rubrum*	5	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	65		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	40	Y	FAC
2.	*Abies balsamea*	15	Y	FAC
3.	*Picea rubens*	10	N	FACU
4.	*Acer rubrum*	5	N	FAC
5.	*Acer spicatum*	5	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	75		

Herb Stratum (Plot size: 2 meter radius)

1.	*Aralia nudicaulis*	40	Y	FACU
2.	*Acer spicatum*	20	Y	FACU
3.	*Abies balsamea*	5	N	FAC
4.	*Acer rubrum*	5	N	FAC
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	70		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***57.1%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	120	x 3 =	360
FACU spp.	90	x 4 =	360
UPL spp.	0	x 5 =	0
Total	210 (A)		720 (B)

Prevalence Index = B/A = ***3.429***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Jacob Gallus	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	PFO
Landform:	Toeslope	Local Relief:	Concave
Slope (%):	0	Latitude: 46.372534	Longitude: -68.095362
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/21/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W012
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 1	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	14	--	10YR	2/1	100	--	--	--	--	--	silt loam
14	17	--	Gley 1	6/10Y	90	10YR	5/6	10	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☑ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 17"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W012 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	45	Y	FAC
2.	*Fraxinus nigra*	15	N	FACW
3.	*Abies balsamea*	10	N	FAC
4.	*Picea rubens*	10	N	FACU
5.	*Thuja occidentalis*	5	N	FACW
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	85		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	30	Y	FAC
2.	*Acer spicatum*	10	Y	FACU
3.	*Abies balsamea*	10	Y	FAC
4.	*Thuja occidentalis*	10	Y	FACW
5.	*Fraxinus nigra*	10	Y	FACW
6.	*Picea rubens*	5	N	FACU
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	75		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer spicatum*	7	Y	FACU
2.	*Picea rubens*	5	Y	FACU
3.	*Thuja occidentalis*	5	Y	FACW
4.	*Dryopteris carthusiana*	3	N	FACW
5.	*Rubus hispidus*	3	N	FACW
6	*Glyceria striata*	3	N	OBL
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	26		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***66.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	3	x 1 =	3
FACW spp.	51	x 2 =	102
FAC spp.	95	x 3 =	285
FACU spp.	37	x 4 =	148
UPL spp.	0	x 5 =	0
Total	186 (A)		538 (B)

Prevalence Index = B/A = ***2.892***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Josh Brown	Investigator #2:	
Soil Unit:	Thorndike very rocky silt loam	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	NR
Slope (%):	10	Latitude: 46.379209	Longitude: -68.07313
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/12/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W020
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike very rocky silt loam — Series Drainage Class: somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
6	0	1	--	NR	--	--	--	--	--	organic
0	8	2	10YR	3/3	100	--	--	--	--	silt loam
8	15	3	10YR	5/3	98	10YR	4/6	2	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 15"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W020 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer rubrum*	40	Y	FAC
2.	*Abies balsamea*	20	Y	FAC
3.	*Betula alleghaniensis*	10	N	FAC
4.	*Betula papyrifera*	5	N	FACU
5.	*Picea glauca*	5	N	FACU
6.	*Salix bebbiana*	2	N	FACW
7.	*Fraxinus nigra*	1	N	FACW
8.	*Acer spicatum*	1	N	FACU
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	84		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer rubrum*	20	Y	FAC
2.	*Acer spicatum*	20	Y	FACU
3.	*Thuja occidentalis*	10	N	FACW
4.	*Acer saccharum*	5	N	FACU
5.	*Abies balsamea*	3	N	FAC
6.	*Corylus cornuta*	3	N	FACU
7.	*Acer pensylvanicum*	2	N	FACU
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	63		

Herb Stratum (Plot size: 2 meter radius)

1.	*Athyrium angustum*	50	Y	FAC
2.	*Aralia nudicaulis*	30	Y	FACU
3.	*Actaea rubra*	20	N	FACU
4.	*Eurybia macrophylla*	5	N	UPL
5.	*Gymnocarpium dryopteris*	5	N	FACU
6	*Clintonia borealis*	5	N	FAC
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	115		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***66.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	13	x 2 =	26
FAC spp.	148	x 3 =	444
FACU spp.	96	x 4 =	384
UPL spp.	5	x 5 =	25
Total	262 (A)		879 (B)

Prevalence Index = B/A = ***3.355***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Josh Brown	Investigator #2:	
Soil Unit:	Thorndike very rocky silt loam	NWI/WWI Classification:	PFO
Landform:	Side slope	Local Relief:	NR
Slope (%):	1	Latitude: 46.379131	Longitude: -68.073184
Datum:	--		

Date:	08/12/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W020
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike very rocky silt loam — Series Drainage Class: somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
12	0	1	--	NR	--	--	--	--	muck
0	12	2	10YR	4/2	85	10YR	4/4	15	C	M	silt loam
12	20	3	10YR	5/1	80	10YR	4/4	20	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind | Wetland ID: T8R3_W020 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	30	Y	FAC
2.	*Picea glauca*	25	Y	FACU
3.	*Betula papyrifera*	15	N	FACU
4.	*Thuja occidentalis*	15	N	FACW
5.	*Fraxinus nigra*	10	N	FACW
6.	*Acer pensylvanicum*	8	N	FACU
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	103		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fraxinus nigra*	5	Y	FACW
2.	*Sorbus decora*	5	Y	FACU
3.	*Abies balsamea*	3	N	FAC
4.	*Thuja occidentalis*	3	N	FACW
5.	*Picea glauca*	1	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	17		

Herb Stratum (Plot size: 2 meter radius)

1.	*Athyrium angustum*	10	Y	FAC
2.	*Acer spicatum*	5	Y	FACU
3.	*Dryopteris carthusiana*	5	Y	FACW
4.	*Glyceria striata*	3	N	OBL
5.	*Thuja occidentalis*	3	N	FACW
6	*Ranunculus sp.*	2	N	NL
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	28		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***57.1%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	3	x 1 =	3
FACW spp.	41	x 2 =	82
FAC spp.	43	x 3 =	129
FACU spp.	59	x 4 =	236
UPL spp.	0	x 5 =	0
Total	146 (A)		450 (B)

Prevalence Index = B/A = ***3.082***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Jacob Gallus	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	Upland
Landform:	Toeslope	Local Relief:	NR
Slope (%):	0-8	Latitude: 46.377523	Longitude: -68.074383
Datum:	--		

Date:	08/12/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W021
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	12	1	10YR 4/3	100	-- --	--	--	--	NR
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 12"

Hydric Soil Present? ☐ Yes ☑ No

Remarks: 4" of duff over top of soil.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W021 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	30	Y	FAC
2.	*Betula alleghaniensis*	30	Y	FAC
3.	*Thuja occidentalis*	20	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	80		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Viburnum lantanoides*	25	Y	FACU
2.	*Betula alleghaniensis*	10	Y	FAC
3.	*Abies balsamea*	10	Y	FAC
4.	*Acer spicatum*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 2 meter radius)

1.	*Dryopteris intermedia*	10	Y	FAC
2.	*Viburnum lantanoides*	10	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	20		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***75.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	20	x 2 =	40
FAC spp.	90	x 3 =	270
FACU spp.	40	x 4 =	160
UPL spp.	0	x 5 =	0
Total	150 (A)		470 (B)

Prevalence Index = B/A = ***3.133***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Jacob Gallus	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	PEM
Landform:	Depression	Local Relief:	Concave
Slope (%):	0-3	Latitude: 46.377546	Longitude: -68.074221
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/12/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W021
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 1	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	3	1	10YR	3/1	100	--	--	--	--	--	NR
3	5	2	10YR	5/1	70	10YR	5/6	30	C	M	NR
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☑ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 5"

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Presumed that the second horizon continues below refusal to meet depth requirement of A11 indicator.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W021 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Thuja occidentalis*	15	Y	FACW
2.	*Abies balsamea*	10	Y	FAC
3.	*Acer rubrum*	5	N	FAC
4.	*Acer pensylvanicum*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	35		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	5	Y	FAC
2.	*Thuja occidentalis*	5	Y	FACW
3.	*Alnus incana*	5	Y	FACW
4.	*Fraxinus nigra*	3	N	FACW
5.	*Salix nigra*	3	N	OBL
6.	*Acer pensylvanicum*	3	N	FACU
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	24		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex crinita*	40	Y	OBL
2.	*Equisetum sylvaticum*	15	Y	FACW
3.	*Onoclea sensibilis*	10	N	FACW
4.	*Typha latifolia*	10	N	OBL
5.	*Eupatorium perfoliatum*	10	--	FACW
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	85		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	53	x 1 =	53
FACW spp.	63	x 2 =	126
FAC spp.	20	x 3 =	60
FACU spp.	8	x 4 =	32
UPL spp.	0	x 5 =	0
Total	144 (A)		271 (B)

Prevalence Index = B/A = ***1.882***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDPR		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	Upland
Landform:	Toeslope	Local Relief:	Concave
Slope (%):	5	Latitude: 46.366538	Longitude: -68.067611
Datum:	--		

Date:	07/22/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W051
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	1	Black	--	--	--	--	--	--	--	hemic organic
0	6	2	2.5Y	4/3	98	10YR	3/6	2	C	M	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 8"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W051 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	40	Y	FAC
2.	*Abies balsamea*	10	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	20	Y	FAC
2.	*Ulmus americana*	10	Y	FACW
3.	*Picea rubens*	10	Y	FACU
4.	*Acer saccharum*	10	Y	FACU
5.	*Corylus cornuta*	5	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	55		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer saccharum*	20	Y	FACU
2.	*Acer spicatum*	5	N	FACU
3.	*Abies balsamea*	5	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	30		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***57.1%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	10	x 2 =	20
FAC spp.	75	x 3 =	225
FACU spp.	50	x 4 =	200
UPL spp.	0	x 5 =	0
Total	135 (A)		445 (B)

Prevalence Index = B/A = ***3.296***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	PFO
Landform:	Toeslope	Local Relief:	Concave
Slope (%):	0-5	Latitude: 46.366538	Longitude: -68.067611
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/22/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W051
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: NR	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: NR	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: NR	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	10	1	10YR	4/2	93	10YR	3/6	7	C	M	mucky silt loam
10	16	2	Black	--	--	--	--	--	--	--	muck
16	18	3	Gley 1	5/N	100	--	--	--	--	--	clay
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☑ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W051 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	10	Y	FAC
2.	*Fraxinus nigra*	10	Y	FACW
3.	*Abies balsamea*	10	Y	FAC
4.	*Acer rubrum*	5	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	35		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	20	Y	FAC
2.	*Betula alleghaniensis*	10	Y	FAC
3.	*Thuja occidentalis*	5	N	FACW
4.	*Acer rubrum*	5	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

Herb Stratum (Plot size: 2 meter radius)

1.	*Impatiens capensis*	40	Y	FACW
2.	*Glyceria striata*	25	Y	OBL
3.	*Osmundastrum cinnamomeum*	10	N	FACW
4.	*Carex vulpinoidea*	5	N	OBL
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	80		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	30	x 1 =	30
FACW spp.	65	x 2 =	130
FAC spp.	60	x 3 =	180
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	155 (A)		340 (B)

Prevalence Index = B/A = ***2.194***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Project	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brennemen	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	Upland
Landform:	Terrace	Local Relief:	Concave
Slope (%):	0	Latitude: 46.347902	Longitude: -68.047114
Datum:	--		

Date:	06/17/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W071
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	4	1	7.5YR	5/3	100	--	--	--	--	--	loam
4	10	2	7.5YR	4/6	100	--	--	--	--	--	loam
10	18	3	10YR	5/4	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 18"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Project | Wetland ID: T8R3_W071 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Fagus grandifolia*	20	Y	FACU
2.	*Acer saccharum*	10	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fagus grandifolia*	20	Y	FACU
2.	*Acer saccharum*	10	Y	FACU
3.	*Fraxinus americana*	2	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	32		

Herb Stratum (Plot size: 2 meter radius)

1.	*Impatiens capensis*	30	Y	FACW
2.	*Carex sp.*	5	N	NL
3.	*Glyceria sp.*	2	N	NL
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	37		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***20.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	30	x 2 =	60
FAC spp.	0	x 3 =	0
FACU spp.	62	x 4 =	248
UPL spp.	0	x 5 =	0
Total	92 (A)		308 (B)

Prevalence Index = B/A = ***3.348***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	PEM
Landform:	Backslope	Local Relief:	Concave
Slope (%):	0	Latitude: 46.348114	Longitude: -68.047012
Datum:	--		

Date:	06/17/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W071
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☑ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: 6	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: NR	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 6	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	2	1	10YR	3/1	98	10YR	3/6	2	C	M	loam
2	4	2	Black	--	--	--	--	--	--	--	mucky peat
4	7	3	2.5Y	4/2	98	10YR	4/6	2	C	M	fine sandy loam
7	13	4	5Y	5/2	85	10YR	3/6	15	C	M	fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 13"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W071 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*Scirpus cyperinus*	60	Y	OBL
2.	*Carex gynandra*	5	N	OBL
3.	*Typha latifolia*	2	N	OBL
4.	*Calamagrostis canadensis*	2	N	OBL
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	69		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks: No species in tree or sapling/shrub stratum

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	69	x 1 =	69
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	69 (A)		69 (B)

Prevalence Index = B/A = ***1.000***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Alex Finamore	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	Upland
Landform:	Rise	Local Relief:	Convex
Slope (%):	5	Latitude: 46.356571	Longitude: -68.071027
Datum:	--		

Date:	08/07/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W108
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	3	1	10YR	3/2	100	--	--	--	--	--	loam
3	10	2	10YR	4/4	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Boulders Depth: 10"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W108 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Prunus serotina*	50	Y	FACU
2.	*Acer saccharum*	25	Y	FACU
3.	*Betula alleghaniensis*	20	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	95		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer saccharum*	25	Y	FACU
2.	*Acer spicatum*	10	Y	FACU
3.	*Sambucus racemosa*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer saccharum*	20	Y	FACU
2.	*Aralia nudicaulis*	15	Y	FACU
3.	*Maianthemum canadense*	2	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	37		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***14.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	20	x 3 =	60
FACU spp.	152	x 4 =	608
UPL spp.	0	x 5 =	0
Total	172 (A)		668 (B)

Prevalence Index = B/A = ***3.884***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Alex Finamore	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	PFO
Landform:	Depression	Local Relief:	Concave
Slope (%):	0	Latitude: 46.356534	Longitude: -68.070967
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/07/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W108
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
8	0	1	--	NR	100	--	--	--	--	--	muck
0	7	2	2.5Y	7/1	100	--	--	--	--	--	loamy sand
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 15"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W108 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	66	Y	FAC
2.	*Acer rubrum*	20	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	86		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fraxinus nigra*	15	Y	FACW
2.	*Acer rubrum*	8	Y	FAC
3.	*Thuja occidentalis*	5	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	28		

Herb Stratum (Plot size: 2 meter radius)

1.	*Parathelypteris noveboracensis*	25	Y	FAC
2.	*Rubus hispidus*	10	Y	FACW
3.	*Onoclea sensibilis*	8	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	43		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	38	x 2 =	76
FAC spp.	119	x 3 =	357
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	157 (A)		433 (B)

Prevalence Index = B/A = ***2.758***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Josh Brown	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Convex
Slope (%):	4	Latitude: 46.357449	Longitude: -68.071806
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/07/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W109
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	8	1	10YR	3/3	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Stones Depth: 8"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W109 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Picea rubens*	40	Y	FACU
2.	*Betula alleghaniensis*	10	N	FAC
3.	*Abies balsamea*	10	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Picea rubens*	15	Y	FACU
2.	*Acer saccharum*	10	Y	FACU
3.	*Acer pensylvanicum*	10	Y	FACU
4.	*Fagus grandifolia*	10	Y	FACU
5.	*Acer spicatum*	3	N	FACU
6.	*Abies balsamea*	3	N	FAC
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	51		

Herb Stratum (Plot size: 2 meter radius)

1.	*Phegopteris connectilis*	40	Y	FACU
2.	*Cornus canadensis*	25	Y	FAC
3.	*Fragaria virginiana*	5	N	FACU
4.	*Lonicera canadensis*	5	N	FACU
5.	*Acer rubrum*	5	N	FAC
6	*Acer saccharum*	5	N	FACU
7.	*Acer spicatum*	5	N	FACU
8.	*Abies balsamea*	3	N	FAC
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	93		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***14.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	56	x 3 =	168
FACU spp.	148	x 4 =	592
UPL spp.	0	x 5 =	0
Total	204 (A)		760 (B)

Prevalence Index = B/A = ***3.725***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Josh Brown	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	PFO
Landform:	Depression	Local Relief:	Concave
Slope (%):	0	Latitude: 46.357367	Longitude: -68.071733
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/07/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W109
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 12	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	15	1	10YR	2/1	100	--	--	--	--	--	mucky silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☑ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 15"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W109 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	28	Y	FAC
2.	*Fraxinus nigra*	25	Y	FACW
3.	*Picea rubens*	10	N	FACU
4.	*Abies balsamea*	5	N	FAC
5.	*Betula papyrifera*	5	N	FACU
6.	--		--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	73		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fraxinus nigra*	40	Y	FACW
2.	*Betula alleghaniensis*	25	Y	FAC
3.	*Acer rubrum*	10	N	FAC
4.	*Picea rubens*	10	N	FACU
5.	*Acer spicatum*	3	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	88		

Herb Stratum (Plot size: 2 meter radius)

1.	*Onoclea sensibilis*	70	Y	FACW
2.	*Glyceria striata*	40	Y	OBL
3.	*Rubus pubescens*	10	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	120		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	40	x 1 =	40
FACW spp.	145	x 2 =	290
FAC spp.	68	x 3 =	204
FACU spp.	28	x 4 =	112
UPL spp.	0	x 5 =	0
Total	281 (A)		646 (B)

Prevalence Index = B/A = ***2.299***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Josh Brown	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	Upland
Landform:	Backslope	Local Relief:	NR
Slope (%):	6	Latitude: 46.358062	Longitude: -68.097084
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/08/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W128
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted and Howland very stony loams — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	1	--	NR	--	--	--	--	--	--	organic
0	3	2	2.5Y	5/4	100	--	--	--	--	--	fine sandy loam
3	11	3	10YR	4/6	100	--	--	--	--	--	fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 13"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W128 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Picea rubens*	18	Y	FACU
2.	*Abies balsamea*	15	Y	FAC
3.	*Acer rubrum*	10	Y	FAC
4.	*Betula papyrifera*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	48		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula papyrifera*	40	Y	FACU
2.	*Acer rubrum*	25	Y	FAC
3.	*Acer spicatum*	5	N	FACU
4.	*Abies balsamea*	3	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	73		

Herb Stratum (Plot size: 2 meter radius)

1.	*Cornus canadensis*	50	Y	FAC
2.	*Dryopteris carthusiana*	15	N	FACW
3.	*Aralia nudicaulis*	5	N	FACU
4.	*Maianthemum canadense*	3	N	FACU
5.	*Acer spicatum*	3	N	FACU
6	*Acer rubrum*	3	N	FAC
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	79		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***66.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	15	x 2 =	30
FAC spp.	106	x 3 =	318
FACU spp.	79	x 4 =	316
UPL spp.	0	x 5 =	0
Total	200 (A)		664 (B)

Prevalence Index = B/A = ***3.320***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Josh Brown	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	PSS
Landform:	Backslope	Local Relief:	NR
Slope (%):	0-8	Latitude: 46.358051	Longitude: -68.096967
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/08/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W128
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: NR	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks: Wetland ponded in many areas.

SOILS

Map Unit Name Plaisted and Howland very stony loams — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
8	0	1	--	NR	100	--	--	--	--	--	muck
0	4	3	2.5Y	4/1	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 12"

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Second horizon silt loam mixed with gravel.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W128 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	25	Y	FAC
2.	*Betula alleghaniensis*	20	Y	FAC
3.	*Acer rubrum*	10	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	55		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Alnus incana*	20	Y	FACW
2.	*Thuja occidentalis*	10	Y	FACW
3.	*Abies balsamea*	10	Y	FAC
4.	*Fraxinus nigra*	5	N	FACW
5.	*Salix bebbiana*	3	N	FACW
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	48		

Herb Stratum (Plot size: 2 meter radius)

1.	*Thuja occidentalis*	50	Y	FACW
2.	*Salix bebbiana*	20	Y	FACW
3.	*Scirpus cyperinus*	20	Y	OBL
4.	*Athyrium angustum*	10	N	FAC
5.	*Onoclea sensibilis*	5	N	FACW
6	*Typha latifolia*	3	N	OBL
7.	*Fragaria virginiana*	3	N	FACU
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	111		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	23	x 1 =	23
FACW spp.	113	x 2 =	226
FAC spp.	75	x 3 =	225
FACU spp.	3	x 4 =	12
UPL spp.	0	x 5 =	0
Total	214 (A)		486 (B)

Prevalence Index = B/A = ***2.271***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Alex Finamore	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	Upland
Landform:	Summit	Local Relief:	NR
Slope (%):	0-8	Latitude: 46.357329	Longitude: -68.098917
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/08/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W129
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted and Howland very stony loams — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	3	1	10YR	3/2	100	--	--	--	--	--	loam
3	12	2	5Y	6/4	100	--	--	--	--	--	silt loam
	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Stones Depth: 12"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W129 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	20	Y	FAC
2.	*Abies balsamea*	10	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer rubrum*	50	Y	FAC
2.	*Acer pensylvanicum*	25	Y	FACU
3.	*Betula alleghaniensis*	25	Y	FAC
4.	*Sorbus decora*	15	N	FACU
5.	*Abies balsamea*	10	N	FAC
6.	*Picea rubens*	5	N	FACU
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	130		

Herb Stratum (Plot size: 2 meter radius)

1.	*Cornus canadensis*	80	Y	FAC
2.	*Maianthemum canadense*	5	N	FACU
3.	*Linnaea borealis*	3	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	88		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***83.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	198	x 3 =	594
FACU spp.	50	x 4 =	200
UPL spp.	0	x 5 =	0
Total	248 (A)		794 (B)

Prevalence Index = B/A = ***3.202***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Alex Finamore	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	PSS/PEM
Landform:	Summit	Local Relief:	None
Slope (%):	0	Latitude: 46.357312	Longitude: -68.098833
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/08/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W129
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted and Howland very stony loams — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	3	1	2.5Y	3/2	100	--	--	--	--	--	sandy loam
3	7	2	2.5Y	5/1	90	2.5Y	6/1	10	D	M	sand
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☑ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Stones Depth: 7"

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Presumed that the second horizon extends beyond refusal and therefore meets the depth requirement of the A11 indicator.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W129 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Alnus incana*	30	Y	FACW
2.	*Acer rubrum*	15	Y	FAC
3.	*Picea rubens*	5	N	FACU
4.	*Salix nigra*	2	N	OBL
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	52		

Herb Stratum (Plot size: 2 meter radius)

1.	*Scirpus cyperinus*	95	Y	OBL
2.	*Onoclea sensibilis*	5	N	FACW
3.	*Calamagrostis canadensis*	5	N	OBL
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	105		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	102	x 1 =	102
FACW spp.	35	x 2 =	70
FAC spp.	15	x 3 =	45
FACU spp.	5	x 4 =	20
UPL spp.	0	x 5 =	0
Total	157 (A)		237 (B)

Prevalence Index = B/A = ***1.510***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Josh Brown	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	NR
Slope (%):	1	Latitude: 46.353503	Longitude: -68.116232
Datum:	--		

Date:	08/11/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W142
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted and Howland very stony loams — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	3	1	7.5YR	4/4	100	--	--	--	--	--	loam
3	8	2	10YR	6/8	100	--	--	--	--	--	fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 8"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W142 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	40	Y	FAC
2.	*Picea rubens*	20	Y	FACU
3.	*Acer rubrum*	20	Y	FAC
4.	*Betula papyrifera*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	85		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	10	Y	FAC
2.	*Acer rubrum*	10	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Herb Stratum (Plot size: 2 meter radius)

1.	*Trillium erectum*	8	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	8		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***66.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	80	x 3 =	240
FACU spp.	33	x 4 =	132
UPL spp.	0	x 5 =	0
Total	113 (A)		372 (B)

Prevalence Index = B/A = ***3.292***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Josh Brown	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	PEM
Landform:	Toeslope	Local Relief:	NR
Slope (%):	0	Latitude: 46.353474	Longitude: -68.116123
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/11/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W142
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: 24	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted and Howland very stony loams — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	8	1	--	NR	--	--	--	--	--	--	muck
8	12	2	10YR	4/2	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Stones Depth: 12"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W142 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer rubrum*	35	Y	FAC
2.	*Picea rubens*	10	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer rubrum*	10	Y	FAC
2.	*Thuja occidentalis*	5	Y	FACW
3.	*Picea rubens*	3	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	18		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex scoparia*	40	Y	FACW
2.	*Scirpus cyperinus*	35	Y	OBL
3.	*Glyceria striata*	20	N	OBL
4.	*Euthamia graminifolia*	10	N	FAC
5.	*Impatiens capensis*	5	N	FACW
6	*Maianthemum canadense*	3	N	FACU
7.	*Bidens frondosa*	3	N	FACW
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	116		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***83.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	55	x 1 =	55
FACW spp.	53	x 2 =	106
FAC spp.	55	x 3 =	165
FACU spp.	16	x 4 =	64
UPL spp.	0	x 5 =	0
Total	179 (A)		390 (B)

Prevalence Index = B/A = ***2.179***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Thorndike and Howland soils	NWI/WWI Classification:	Upland
Landform:	Backslope	Local Relief:	NR
Slope (%):	8-15	Latitude: 46.31119	Longitude: -68.146507
Datum:	--		

Date:	06/18/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W314
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike and Howland soils — Series Drainage Class: somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	2	1	7.5YR	3/2	100	--	--	--	--	--	loam
2	12	2	7.5YR	3/4	100	--	--	--	--	--	silt loam
12	14	3	10YR	3/6	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 14"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W314 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	60	Y	FACU
2.	*Acer rubrum*	20	Y	FAC
3.	*Abies balsamea*	7	N	FAC
4.	*Fraxinus americana*	3	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	90		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer saccharum*	30	Y	FACU
2.	*Corylus cornuta*	5	N	FACU
3.	*Fraxinus americana*	3	N	FACU
4.	*Abies balsamea*	2	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer saccharum*	25	Y	FACU
2.	*Rubus pubescens*	20	Y	FACW
3.	*Athyrium angustum*	15	Y	FAC
4.	*Osmundastrum cinnamomeum*	25	Y	FACW
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	85		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***57.1%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	45	x 2 =	90
FAC spp.	44	x 3 =	132
FACU spp.	126	x 4 =	504
UPL spp.	0	x 5 =	0
Total	215 (A)		726 (B)

Prevalence Index = B/A = ***3.377***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Thorndike and Howland soils	NWI/WWI Classification:	PEM
Landform:	Backslope	Local Relief:	NR
Slope (%):	8-15	Latitude: 46.311106	Longitude: -68.146445
Datum:	--		

Date:	06/18/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W314
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☑ C3 - Oxidized Rhizospheres on Living Roots
- ☑ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike and Howland soils — Series Drainage Class: somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	3	1	2.5YR	4/2	100	--	--	--	--	--	silt loam
3	8	2	2.5YR	4/2	NR	NR	NR	NR	C	M	silt loam
--	--	--	--	--	--	NR	NR	NR	D	M	silt loam
8	12	3	5Y	4/2	NR	NR	NR	NR	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W314 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer rubrum*	50	Y	FAC
2.	*Fraxinus americana*	5	N	FACU
3.	*Abies balsamea*	5	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Salix bebbiana*	5	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	5		

Herb Stratum (Plot size: 2 meter radius)

1.	*Calamagrostis canadensis*	40	Y	OBL
2.	*Carex gynandra*	40	Y	OBL
3.	*Rubus pubescens*	15	N	FACW
4.	*Onoclea sensibilis*	5	N	FACW
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	80	x 1 =	80
FACW spp.	25	x 2 =	50
FAC spp.	55	x 3 =	165
FACU spp.	5	x 4 =	20
UPL spp.	0	x 5 =	0
Total	165 (A)		315 (B)

Prevalence Index = B/A = ***1.909***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Monarda and Burnham very stony silt loams	NWI/WWI Classification:	Upland
Landform:	Till Plains	Local Relief:	NR
Slope (%):	0-8	Latitude: 46.308521	Longitude: -68.147473
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	06/19/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W318
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑:

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Monarda and Burnham very stony silt loams — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Epiaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	1	--	NR	--	--	--	--	--	--	fibric organic
0	2	2	10YR	6/2	100	--	--	--	--	--	silt loam
2	10	3	10YR	4/6	100	--	--	--	--	--	silt loam
10	15	4	5Y	6/2	NR	--	NR	NR	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐:

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 17"

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Second horizon is an albic E-horizon.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W318 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	40	Y	FAC
2.	*Picea rubens*	30	Y	FACU
3.	*Betula papyrifera*	20	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	90		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	13	Y	FAC
2.	*Picea rubens*	13	Y	FACU
3.	*Betula papyrifera*	4	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	0		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks: No vegetation observed in herb stratum.

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***40.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	53	x 3 =	159
FACU spp.	67	x 4 =	268
UPL spp.	0	x 5 =	0
Total	120 (A)		427 (B)

Prevalence Index = B/A = ***3.558***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Monarda and Burnham very stony silt loams	NWI/WWI Classification:	PFO
Landform:	Till Plains	Local Relief:	NR
Slope (%):	0-8	Latitude: 46.308607	Longitude: -68.147544
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	06/19/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W318
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☑ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: NR	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Monarda and Burnham very stony silt loams — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Epiaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
3	0	1	--	--	--	--	--	--	--	--	mucky peat
0	6	2	2.5Y	6/2	NR	NR	NR	NR	C	M	silt loam
6	10	3	2.5Y	6/2	NR	NR	NR	NR	C	M	silt loam
10	12	4	5Y	5/3	NR	NR	NR	NR	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 15"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W318 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	44	Y	FAC
2.	*Thuja occidentalis*	22	Y	FACW
3.	*Betula papyrifera*	22	Y	FACU
4.	*Picea rubens*	12	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	100		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	23	Y	FAC
2.	*Picea rubens*	5	N	FACU
3.	*Betula papyrifera*	2	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	0		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***75.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	22	x 2 =	44
FAC spp.	67	x 3 =	201
FACU spp.	41	x 4 =	164
UPL spp.	0	x 5 =	0
Total	130 (A)		409 (B)

Prevalence Index = B/A = ***3.146***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks: No vegetation present within the herb stratum.

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	Upland
Landform:	Depression	Local Relief:	Concave
Slope (%):	8	Latitude: 46.299301	Longitude: -68.165665
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	06/09/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W340
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	1	--	NR	--	--	--	--	--	--	sapric organic
0	5	2	7.5YR	3/4	100	--	--	--	--	--	loam
5	11	3	10YR	4/6	100	--	--	--	--	--	loam
11	13	4	2.5Y	5/4	100	--	--	--	--	--	loam
13	14	5	5Y	4/3	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 16"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W340 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	25	Y	FAC
2.	*Abies balsamea*	20	Y	FAC
3.	*Thuja occidentalis*	8	N	FACW
4.	*Picea rubens*	7	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer pensylvanicum*	5	Y	FACU
2.	*Viburnum lantanoides*	3	Y	FACU
3.	*Acer rubrum*	3	Y	FAC
4.	*Abies balsamea*	2	N	FAC
5.	*Picea rubens*	2	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	15		

Herb Stratum (Plot size: 2 meter radius)

1.	*Cornus canadensis*	40	Y	FAC
2.	*Aralia nudicaulis*	30	Y	FACU
3.	*Clintonia borealis*	15	N	FAC
4.	*Acer rubrum*	3	N	FAC
5.	*Onoclea sensibilis*	2	N	FACW
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	90		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***57.1%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	10	x 2 =	20
FAC spp.	108	x 3 =	324
FACU spp.	47	x 4 =	188
UPL spp.	0	x 5 =	0
Total	165 (A)		532 (B)

Prevalence Index = B/A = ***3.224***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	PFO
Landform:	Depression	Local Relief:	None
Slope (%):	0-3	Latitude: 46.299321	Longitude: -68.16555 Datum: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	06/09/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W340
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☑ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☑ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 10	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	34	1	--	NR	--	--	--	--	muck
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 34"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W340 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Thuja occidentalis*	30	Y	FACW
2.	*Betula alleghaniensis*	30	Y	FAC
3.	*Fraxinus nigra*	15	N	FACW
4.	*Abies balsamea*	5	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	80		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Alnus incana*	20	Y	FACW
2.	*Fraxinus nigra*	8	Y	FACW
3.	*Thuja occidentalis*	2	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	*Rubus pubescens*	30	Y	FACW
2.	*Onoclea sensibilis*	20	Y	FACW
3.	*Mitella nuda*	10	N	FACW
4.	*Impatiens capensis*	10	N	FACW
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	70		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	145	x 2 =	290
FAC spp.	35	x 3 =	105
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	180 (A)		395 (B)

Prevalence Index = B/A = ***2.194***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Convex
Slope (%):	5	Latitude: 46.308467	Longitude: -68.128796
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	06/10/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W376
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	5	1	10YR	5/6	100	--	--	--	--	--	silt loam
5	10	2	10YR	5/3	100	--	--	--	--	--	loam
10	12	3	2.5Y	4/3	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 12"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W376 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	75	Y	FACU
2.	*Betula alleghaniensis*	20	Y	FAC
3.	*Acer pensylvanicum*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	100		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	17	Y	FAC
2.	*Acer saccharum*	12	Y	FACU
3.	*Acer pensylvanicum*	8	Y	FACU
4.	*Fagus grandifolia*	3	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

Herb Stratum (Plot size: 2 meter radius)

1.	*Maianthemum canadense*	25	Y	FACU
2.	*Aralia nudicaulis*	25	Y	FACU
3.	*Gymnocarpium dryopteris*	15	Y	FACU
4.	*Dryopteris intermedia*	3	N	FAC
5.	*Acer saccharum*	2	N	FACU
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	70		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***25.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	40	x 3 =	120
FACU spp.	170	x 4 =	680
UPL spp.	0	x 5 =	0
Total	210 (A)		800 (B)

Prevalence Index = B/A = ***3.810***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☐ No Morphological Adaptations (Explain) *
- ☐ Yes ☐ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	PFO
Landform:	Side slope	Local Relief:	Linear
Slope (%):	3	Latitude: 46.308522	Longitude: -68.128705
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	06/10/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W376
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☑ C3 - Oxidized Rhizospheres on Living Roots
- ☑ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: NR	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: NR	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: NR	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	6	1	7.5YR	2.5/1	100	--	--	--	--	--	mucky silt loam
6	12	2	Gley 1	2.5/N	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☑ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 12"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W376 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	35	Y	FAC
2.	*Acer saccharum*	15	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer saccharum*	10	Y	FACU
2.	*Betula alleghaniensis*	5	Y	FAC
3.	*Acer pensylvanicum*	5	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Herb Stratum (Plot size: 2 meter radius)

1.	*Athyrium angustum*	30	Y	FAC
2.	*Impatiens capensis*	30	Y	FACW
3.	*Rubus pubescens*	25	Y	FACW
4.	*Acer saccharum*	7	N	FACU
5.	*Equisetum fluviatile*	4	N	OBL
6	*Aralia nudicaulis*	3	N	FACU
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	99		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***62.5%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	4	x 1 =	4
FACW spp.	55	x 2 =	110
FAC spp.	70	x 3 =	210
FACU spp.	40	x 4 =	160
UPL spp.	0	x 5 =	0
Total	169 (A)		484 (B)

Prevalence Index = B/A = ***2.864***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	Upland
Landform:	Backslope	Local Relief:	Concave
Slope (%):	8-15	Latitude: 46.3075	Longitude: -68.129852
Datum:	--		

Date:	06/10/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W378
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	1	Black	--	--	--	--	--	--	--	sapric organic
0	0.5	2	10YR	4/2	100	--	--	--	--	--	loam
0.5	12	3	7.5YR	4/6	100	--	--	--	--	--	loam
12	14	4	10YR	5/4	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 16"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W378 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	40	Y	FACU
2.	*Betula alleghaniensis*	40	Y	FAC
3.	*Fagus grandifolia*	10	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	90		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer saccharum*	25	Y	FACU
2.	*Acer pensylvanicum*	10	Y	FACU
3.	*Betula alleghaniensis*	5	N	FAC
4.	*Abies balsamea*	5	N	FAC
5.	*Fagus grandifolia*	5	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 2 meter radius)

1.	*Viburnum lantanoides*	30	Y	FACU
2.	*Acer pensylvanicum*	10	Y	FACU
3.	*Acer saccharum*	2	N	FACU
4.	*Abies balsamea*	2	N	FAC
5.	*Maianthemum canadense*	2	N	FACU
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	46		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***16.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	52	x 3 =	156
FACU spp.	134	x 4 =	536
UPL spp.	0	x 5 =	0
Total	186 (A)		692 (B)

Prevalence Index = B/A = ***3.720***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	PFO
Landform:	Backslope	Local Relief:	Concave
Slope (%):	8-15	Latitude: 46.307435	Longitude: -68.130255
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	06/10/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W378
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 2	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
20	4	1	Black	--	--	--	--	--	muck
4	0	2	Black	--	--	--	--	--	clay loam
0	2	3	10Y 4/1	95	7.5YR 4/6	5	C	M	clay
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W378 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Thuja occidentalis*	35	Y	FACW
2.	*Abies balsamea*	30	Y	FAC
3.	*Betula alleghaniensis*	5	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	70		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer pensylvanicum*	10	Y	FACU
2.	*Thuja occidentalis*	5	Y	FACW
3.	*Abies balsamea*	5	Y	FAC
4.	*Acer saccharum*	2	N	FACU
5.	*Betula alleghaniensis*	2	N	FAC
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	24		

Herb Stratum (Plot size: 2 meter radius)

1.	*Abies balsamea*	20	Y	FAC
2.	*Parathelypteris noveboracensis*	20	Y	FAC
3.	*Equisetum arvense*	10	N	FAC
4.	*Thuja occidentalis*	5	N	FACW
5.	*Rubus pubescens*	5	N	FACW
6	*Aralia nudicaulis*	2	N	FACU
7.	*Cornus canadensis*	2	N	FAC
8.	*Acer spicatum*	2	N	FACU
9.	*Coptis trifolia*	2	N	FACW
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	68		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***85.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	52	x 2 =	104
FAC spp.	94	x 3 =	282
FACU spp.	16	x 4 =	64
UPL spp.	0	x 5 =	0
Total	162 (A)		450 (B)

Prevalence Index = B/A = ***2.778***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	Upland
Landform:	Backslope	Local Relief:	--
Slope (%):	15-25	Latitude: 46.304871	Longitude: -68.126919
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	06/09/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W382
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
4	0	1	--	NR	--	--	--	--	--	--	organic
0	4	2	10YR	4/2	100	--	--	--	--	--	silt loam
4	8	3	10YR	4/4	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: bedrock Depth: 12"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W382 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Fagus grandifolia*	15	Y	FACU
2.	*Acer rubrum*	15	Y	FAC
3.	*Acer saccharum*	10	Y	FACU
4.	*Acer pensylvanicum*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	10	Y	FAC
2.	*Betula alleghaniensis*	5	Y	FAC
3.	*Picea rubens*	5	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Herb Stratum (Plot size: 2 meter radius)

1.	*Maianthemum canadense*	30	Y	FACU
2.	*Dryopteris intermedia*	25	Y	FAC
3.	*Fagus grandifolia*	10	N	FACU
4.	*Acer saccharum*	10	N	FACU
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	75		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	55	x 3 =	165
FACU spp.	85	x 4 =	340
UPL spp.	0	x 5 =	0
Total	140 (A)		505 (B)

Prevalence Index = B/A = ***3.607***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	PFO
Landform:	Backslope	Local Relief:	Concave
Slope (%):	15-25	Latitude: 46.304846	Longitude: -68.127017 Datum: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☑, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	06/09/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W382
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Bedrock near soil surface

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: 1	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 0	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
8	0	1	--	NR	--	--	--	--	muck
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: bedrock Depth: 8"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W382 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Picea rubens*	50	Y	FACU
2.	*Acer rubrum*	40	Y	FAC
3.	*Fagus grandifolia*	10	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	100		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	10	Y	FAC
2.	*Betula alleghaniensis*	5	Y	FAC
3.	*Picea rubens*	5	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex trisperma*	40	Y	OBL
2.	*Oclemena acuminata*	10	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	50		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***57.1%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	40	x 1 =	40
FACW spp.	0	x 2 =	0
FAC spp.	55	x 3 =	165
FACU spp.	75	x 4 =	300
UPL spp.	0	x 5 =	0
Total	170 (A)		505 (B)

Prevalence Index = B/A = ***2.971***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Concave
Slope (%):	8	Latitude: 46.328417	Longitude: -68.130088
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/26/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W425
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
3	0	1	--	NR	--	--	--	--	sapric organic
0	1	2	7.5YR	5/1	100	--	--	--	fine sandy loam
1	10	3	7.5YR	3/3	100	--	--	--	fine sandy loam
10	13	4	10YR	5/4	100	--	--	--	sandy loam
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W425 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	10	Y	FAC
2.	*Betula alleghaniensis*	4	Y	FAC
3.	*Picea rubens*	4	Y	FACU
4.	*Thuja occidentalis*	2	N	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	20	Y	FAC
2.	*Acer pensylvanicum*	7	N	FACU
3.	*Picea rubens*	4	N	FACU
4.	*Thuja occidentalis*	3	N	FACW
5.	*Acer saccharum*	3	N	FACU
6.	*Betula alleghaniensis*	3	N	FAC
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

Herb Stratum (Plot size: 2 meter radius)

1.	*Gaultheria hispidula*	40	Y	FACW
2.	*Maianthemum canadense*	15	Y	FACU
3.	*Cornus canadensis*	15	Y	FAC
4.	*Medeola virginiana*	15	Y	FACU
5.	*Trientalis borealis*	5	N	FAC
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	90		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***62.5%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	45	x 2 =	90
FAC spp.	57	x 3 =	171
FACU spp.	48	x 4 =	192
UPL spp.	0	x 5 =	0
Total	150 (A)		453 (B)

Prevalence Index = B/A = ***3.020***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Monarda and Burnham very stony silt loams	NWI/WWI Classification:	PFO
Landform:	Depression	Local Relief:	Level
Slope (%):	0	Latitude: 46.328407	Longitude: -68.130482
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/26/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W425
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☑ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☑ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: NR	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: NR	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Monarda and Burnham very stony silt loams — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Epiaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
19	0	1	--	NR	--	--	--	--	muck
0	3	2	Gley 1	3/5GY	100	--	--	--	silty clay loam
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W425 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Thuja occidentalis*	70	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	70		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	10	Y	FAC
2.	*Thuja occidentalis*	9	Y	FACW
3.	*Acer saccharum*	6	Y	FACU
4.	*Salix bebbiana*	5	N	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex trisperma*	65	Y	OBL
2.	*Glyceria striata*	20	Y	OBL
3.	*Symphyotrichum puniceum*	10	N	OBL
4.	*Scirpus cyperinus*	5	N	OBL
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***83.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	100	x 1 =	100
FACW spp.	84	x 2 =	168
FAC spp.	10	x 3 =	30
FACU spp.	6	x 4 =	24
UPL spp.	0	x 5 =	0
Total	200 (A)		322 (B)

Prevalence Index = B/A = ***1.610***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Josh Brown	Investigator #2:	
Soil Unit:	Monarda and Burnham very stony silt loams	NWI/WWI Classification:	Upland
Landform:	Till Plains	Local Relief:	NR
Slope (%):	0-8	Latitude: 46.330358	Longitude: -68.079389
Datum:	--		

Date:	08/05/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W448
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Monarda and Burnham very stony silt loams — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Epiaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
3	0	1	--	NR	--	--	--	--	--	--	organic
0	8	2	2.5Y	5/4	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 11"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W448 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Thuja occidentalis*	30	Y	FACW
2.	*Picea rubens*	25	Y	FACU
3.	*Abies balsamea*	5	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer pensylvanicum*	15	Y	FACU
2.	*Acer rubrum*	10	Y	FAC
3.	*Lonicera canadensis*	8	Y	FACU
4.	*Acer spicatum*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	38		

Herb Stratum (Plot size: 2 meter radius)

1.	*Cornus canadensis*	33	Y	FAC
2.	*Thuja occidentalis*	10	Y	FACW
3.	*Maianthemum canadense*	10	Y	FACU
4.	*Gymnocarpium dryopteris*	5	N	FACU
5.	*Aralia nudicaulis*	3	N	FACU
6	*Acer rubrum*	3	N	FAC
7.	*Linnaea borealis*	2	N	FAC
8.	*Trientalis borealis*	2	N	FAC
9.	*Abies balsamea*	2	N	FAC
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	70		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	40	x 2 =	80
FAC spp.	57	x 3 =	171
FACU spp.	71	x 4 =	284
UPL spp.	0	x 5 =	0
Total	168 (A)		535 (B)

Prevalence Index = B/A = ***3.185***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewable		
Investigator #1:	Josh Brown	Investigator #2:	
Soil Unit:	Monarda and Burnham very stony silt loams	NWI/WWI Classification:	PFO
Landform:	Till Plains	Local Relief:	NR
Slope (%):	0-8	Latitude: 46.330415	Longitude: -68.079378
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/05/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W448
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: NR	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Monarda and Burnham very stony silt loams — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Epiaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
6	0	1	--	--	--	--	--	--	muck
0	4	2	10Y	4/6	90	10Y	6/8	10	C	M	silt loam
4	4+	3	10YR	5/1	90	NR	NR	10	D	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 10"

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Presumed that the third horizon continues beyond depth of refusal to meet the depth requirement of F3 indicator.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W448 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Thuja occidentalis*	30	Y	FACW
2.	*Picea glauca*	20	Y	FACU
3.	*Abies balsamea*	5	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	55		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Thuja occidentalis*	20	Y	FACW
2.	*Acer rubrum*	15	Y	FAC
3.	*Acer pensylvanicum*	15	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 2 meter radius)

1.	*Thuja occidentalis*	60	Y	FACW
2.	*Acer rubrum*	25	Y	FAC
3.	*Cornus canadensis*	15	N	FAC
4.	*Rubus pubescens*	5	N	FACW
5.	*Gymnocarpium dryopteris*	5	N	FACU
6	*Dryopteris carthusiana*	3	N	FACW
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	113		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***71.4%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	118	x 2 =	236
FAC spp.	60	x 3 =	180
FACU spp.	40	x 4 =	160
UPL spp.	0	x 5 =	0
Total	218 (A)		576 (B)

Prevalence Index = B/A = ***2.642***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chris Dorion	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Linear
Slope (%):	2	Latitude: 46.297343	Longitude: -68.086638
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/07/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W460
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	2	1	7.5YR	3/2	100	--	--	--	--	--	NR
2	4	2	7.5YR	6/2	100	--	--	--	--	--	silt loam
4	7	3	7.5YR	3/4	100	--	--	--	--	--	silt loam
7	12	4	7.5YR	4/4	100	--	--	--	--	--	silt loam
12	16	5	2.5Y	5/3	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 16"

Hydric Soil Present? ☐ Yes ☑ No

Remarks: Second horizon is an albic E-horizon

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W460 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Picea rubens*	50	Y	FACU
2.	*Fagus grandifolia*	25	Y	FACU
3.	*Acer saccharum*	10	N	FACU
4.	*Abies balsamea*	10	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	95		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fagus grandifolia*	40	Y	FACU
2.	*Picea rubens*	10	N	FACU
3.	*Abies balsamea*	5	N	FAC
4.	*Acer pensylvanicum*	2	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	57		

Herb Stratum (Plot size: 2 meter radius)

1.	*Dryopteris intermedia*	30	Y	FAC
2.	*Maianthemum canadense*	30	Y	FACU
3.	*Clintonia borealis*	25	Y	FAC
4.	*Trientalis borealis*	2	N	FAC
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	87		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***33.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	72	x 3 =	216
FACU spp.	167	x 4 =	668
UPL spp.	0	x 5 =	0
Total	239 (A)		884 (B)

Prevalence Index = B/A = ***3.699***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chris Dorion	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	PFO
Landform:	Backslope	Local Relief:	Level
Slope (%):	0	Latitude: 46.29752	Longitude: -68.086848
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/07/14
County:	Aroostok
State:	Maine
Wetland ID:	T8R3_W460
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 5	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 5	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	4	1	10YR	3/1	100	--	--	--	--	--	silt loam
4	11	2	2.5Y	6/2	100	--	--	--	--	--	silt loam
11	15	3	2.5Y	5/3	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Cd Depth: 15"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W460 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Picea rubens*	2	Y	FACU
2.	*Alnus incana*	2	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	4		

Herb Stratum (Plot size: 2 meter radius)

1.	*Scirpus cyperinus*	60	Y	OBL
2.	*Carex gynandra*	20	Y	OBL
3.	*Glyceria canadensis*	20	Y	OBL
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***80.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	100	x 1 =	100
FACW spp.	2	x 2 =	4
FAC spp.	0	x 3 =	0
FACU spp.	2	x 4 =	8
UPL spp.	0	x 5 =	0
Total	104 (A)		112 (B)

Prevalence Index = B/A = ***1.077***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks: Dead standing trees, but no live trees present at data plot location. Approximately 60% of wetland characterized as PFO5.

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	Upland
Landform:	Till Plain	Local Relief:	Concave
Slope (%):	8-15	Latitude: 46.298029	Longitude: -68.08329
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/07/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W467
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
6	0	1	5YR	5/1	100	--	--	--	--	--	sapric organic
0	7	2	7.5YR	3/4	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 13"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W467 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Viburnum lantanoides*	20	Y	FACU
2.	*Acer pensylvanicum*	20	Y	FACU
3.	*Picea rubens*	15	Y	FACU
4.	*Abies balsamea*	10	N	FAC
5.	*Acer rubrum*	5	N	FAC
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	70		

Herb Stratum (Plot size: 2 meter radius)

1.	*Cornus canadensis*	70	Y	FAC
2.	*Abies balsamea*	10	N	FAC
3.	*Clintonia borealis*	10	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	90		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***25.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	105	x 3 =	315
FACU spp.	55	x 4 =	220
UPL spp.	0	x 5 =	0
Total	160 (A)		535 (B)

Prevalence Index = B/A = ***3.344***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	PEM
Landform:	Till Plain	Local Relief:	Concave
Slope (%):	0	Latitude: 46.298103	Longitude: -68.08316
Datum:	--		

Date:	08/07/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W467
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	8	1	10YR 3/1	95	5Y	5/2	5	D	M	silt loam
8	12	2	Gley 1 7/N	90	7.5YR	4/6	10	C	M	clay loam
--	--	--	-- --	--	--	--	--	--	--	--
--	--	--	-- --	--	--	--	--	--	--	--
--	--	--	-- --	--	--	--	--	--	--	--
--	--	--	-- --	--	--	--	--	--	--	--
--	--	--	-- --	--	--	--	--	--	--	--
--	--	--	-- --	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☑ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W467 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*Scirpus cyperinus*	60	Y	OBL
2.	*Betula alleghaniensis*	30	Y	FAC
3.	*Ilex verticillata*	5	N	FACW
4.	*Acer rubrum*	5	N	FAC
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	60	x 1 =	60
FACW spp.	5	x 2 =	10
FAC spp.	35	x 3 =	105
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	100 (A)		175 (B)

Prevalence Index = B/A = ***1.750***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	Upland
Landform:	Till Plain	Local Relief:	Concave
Slope (%):	2	Latitude: 46.300381	Longitude: -68.081505
Datum:	--		

Date:	08/08/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W477
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
1	0	1	7.5YR	3/1	100	--	--	--	--	--	fibric organic
0	3	2	7.5YR	3/3	100	--	--	--	--	--	silt loam
3	9	3	7.5YR	3/2	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 10"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W477 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	30	Y	FAC
2.	*Acer saccharum*	20	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer pensylvanicum*	30	Y	FACU
2.	*Picea rubens*	10	Y	FACU
3.	*Acer saccharum*	10	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer spicatum*	20	Y	FACU
2.	*Matteuccia struthiopteris*	10	Y	FAC
3.	*Acer saccharum*	10	Y	FACU
4.	*Rubus idaeus*	5	N	FACU
5.	*Abies balsamea*	5	N	FAC
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	50		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***25.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	45	x 3 =	135
FACU spp.	105	x 4 =	420
UPL spp.	0	x 5 =	0
Total	150 (A)		555 (B)

Prevalence Index = B/A = ***3.700***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	PEM
Landform:	Till Plain	Local Relief:	Concave
Slope (%):	2	Latitude: 46.300357	Longitude: -68.081345
Datum:	--		

Date:	08/08/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W477
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Wetland plot located in a skidder trail. Vegetation altered by logging activity.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: NR	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	4	1	10YR	3/1	100	--	--	--	--	--	NR
4	8	2	10YR	4/2	90	10YR	4/6	10	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 8"

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Presumed that the second horizon extends beyond refusal and meets the depth requirments of the F3 indicator.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W477 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*Calamagrostis canadensis*	90	Y	OBL
2.	*Rubus idaeus*	10	N	FACU
3.	*Impatiens capensis*	10	N	FACW
4.	*Carex gynandra*	10	N	OBL
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	120		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	100	x 1 =	100
FACW spp.	10	x 2 =	20
FAC spp.	0	x 3 =	0
FACU spp.	10	x 4 =	40
UPL spp.	0	x 5 =	0
Total	120 (A)		160 (B)

Prevalence Index = B/A = ***1.333***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chris Dorion	Investigator #2:	Mike de Villers
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	
Landform:	Till Plain	Local Relief:	Linear
Slope (%):	1	Latitude: 46.301301	Longitude: -68.082068
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/08/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W478
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted and Howland very stony loams — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	2	1	7.5YR	3/2	100	--	--	--	--	--	NR
2	3	2	7.5YR	6/2	100	--	--	--	--	--	very fine sandy loam
3	6	3	5YR	3/3	100	--	--	--	--	--	very fine sandy loam
6	10	4	7.5YR	4/4	100	--	--	--	--	--	very fine sandy loam
10	15	5	10YR	5/4	100	--	--	--	--	--	very fine sandy loam
15	18	6	2.5Y	5/3	98	7.5YR	4/6	2	C	M	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Cd Depth: 18"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W478 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Picea rubens*	40	Y	FACU
2.	*Abies balsamea*	15	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	55		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	80	Y	FAC
2.	*Picea rubens*	30	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	110		

Herb Stratum (Plot size: 2 meter radius)

1.	*Cornus canadensis*	15	Y	FAC
2.	*Maianthemum canadense*	10	Y	FACU
3.	*Coptis trifolia*	2	N	FACW
4.	*Clintonia borealis*	2	N	FAC
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	29		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	2	x 2 =	4
FAC spp.	112	x 3 =	336
FACU spp.	80	x 4 =	320
UPL spp.	0	x 5 =	0
Total	194 (A)		660 (B)

Prevalence Index = B/A = ***3.402***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chris Dorion	Investigator #2:	Mike de Villers
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	PFO
Landform:	Till Plain	Local Relief:	Linear
Slope (%):	1	Latitude: 46.301128	Longitude: -68.082254
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/08/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W478
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 2	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 2	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted and Howland very stony loams — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	1	10YR	2/2	100	--	--	--	--	--	muck
0	7	2	2.5Y	4/2	80	7.5YR	4/6	20	C	M	silt loam
7	10	3	2.5Y	5/1	80	7.5YR	4/6	20	C	M	silt loam
10	13	4	2.5Y	5/3	88	2.5Y	5/2	12	D	M	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Cd Depth: 12"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W478 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	60	Y	FAC
2.	*Picea rubens*	15	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	75		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	75	Y	FAC
2.	*Alnus incana*	25	Y	FACW
3.	*Betula alleghaniensis*	15	N	FAC
4.	*Picea rubens*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	120		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex gynandra*	20	Y	OBL
2.	*Rubus hispidus*	15	Y	FACW
3.	*Alnus incana*	15	Y	FACW
4.	*Eurybia macrophylla*	8	N	UPL
5.	*Cornus canadensis*	2	N	FAC
6	*Carex trisperma*	2	N	OBL
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	62		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***85.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	22	x 1 =	22
FACW spp.	55	x 2 =	110
FAC spp.	152	x 3 =	456
FACU spp.	20	x 4 =	80
UPL spp.	8	x 5 =	40
Total	257 (A)		708 (B)

Prevalence Index = B/A = ***2.755***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Josh Brown	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Convex
Slope (%):	5	Latitude: 46.331087	Longitude: -68.052663
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/06/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W527
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
4	0	1	NR	--	--	--	--	--	organic
0	13	2	7.5YR 3/4	100	--	--	--	--	silt loam
13	16	3	10YR 4/6	100	--	--	--	--	fine sandy loam
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W527 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Thuja occidentalis*	50	Y	FACW
2.	*Picea rubens*	10	N	FACU
3.	*Acer saccharum*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	65		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fagus grandifolia*	30	Y	FACU
2.	*Acer saccharum*	20	Y	FACU
3.	*Abies balsamea*	10	N	FAC
4.	*Acer pensylvanicum*	10	N	FACU
5.	*Acer spicatum*	10	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	80		

Herb Stratum (Plot size: 2 meter radius)

1.	*Clintonia borealis*	45	Y	FAC
2.	*Dryopteris carthusiana*	10	N	FACW
3.	*Maianthemum canadense*	5	N	FACU
4.	*Coptis trifolia*	5	N	FACW
5.	*Cornus canadensis*	5	N	FAC
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	70		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	65	x 2 =	130
FAC spp.	60	x 3 =	180
FACU spp.	90	x 4 =	360
UPL spp.	0	x 5 =	0
Total	215 (A)		670 (B)

Prevalence Index = B/A = ***3.116***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☐ No Morphological Adaptations (Explain) *
- ☐ Yes ☐ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Josh Brown	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	PFO
Landform:	Depression	Local Relief:	Concave
Slope (%):	0	Latitude: 46.331000	Longitude: -68.052625
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/06/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W527
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	28+	1	--	--	--	--	--	--	--	--	muck
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W527 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Thuja occidentalis*	80	Y	FACW
2.	--			--
3.	--			--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	80		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	40	Y	FAC
2.	*Fraxinus nigra*	10	N	FACW
3.	*Acer spicatum*	10	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Herb Stratum (Plot size: 2 meter radius)

1.	*Rubus pubescens*	25	Y	FACW
2.	*Galium tinctorium*	15	Y	OBL
3.	*Phegopteris connectilis*	10	N	FACU
4.	*Thuja occidentalis*	10	N	FACW
5.	*Aralia nudicaulis*	3	N	FACU
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	63		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	15	x 1 =	15
FACW spp.	125	x 2 =	250
FAC spp.	40	x 3 =	120
FACU spp.	23	x 4 =	92
UPL spp.	0	x 5 =	0
Total	203 (A)		477 (B)

Prevalence Index = B/A = ***2.350***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	Upland
Landform:	Terrace	Local Relief:	Concave
Slope (%):	0	Latitude: 46.454814	Longitude: -68.07962
Datum:	--		

Date:	07/24/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W026_1
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☐ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 13	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: NR	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted and Howland very stony loams — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	1	Black	--	--	--	--	--	sapric organic
0	4	2	10YR 4/6	100	--	--	--	--	silt loam
4	12	3	10YR 5/8	98	10YR 3/6	2	C	M	silt loam
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: rock Depth: 14"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm — Wetland ID: T9R3_W026_1 Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	20	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	75	Y	FAC
2.	*Thuja occidentalis*	25	Y	FACW
3.	*Picea rubens*	25	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	125		

Herb Stratum (Plot size: 2 meter radius)

1.	*Cornus canadensis*	2	Y	FAC
2.	*Acer rubrum*	2	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	4		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***83.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	25	x 2 =	50
FAC spp.	99	x 3 =	297
FACU spp.	25	x 4 =	100
UPL spp.	0	x 5 =	0
Total	149 (A)		447 (B)

Prevalence Index = B/A = ***3.000***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	PSS
Landform:	Terrace	Local Relief:	Concave
Slope (%):	0	Latitude: 46.454728	Longitude: -68.079674
Datum:	--		

Date:	07/24/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W026_1
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 2	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted and Howland very stony loams — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Type	Location	Texture (e.g. clay, sand, loam)
0	4	1	10YR 3/2	98	10YR 4/6	2	C	M	mucky silt loam
4	18	2	5Y 5/1	93	7.5YR 4/6	7	C	M	clay loam
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☑ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W026_1 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	50	Y	FAC
2.	*Picea rubens*	40	Y	FACU
3.	*Thuja occidentalis*	10	N	FACW
4.	*Alnus incana*	5	N	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	105		

Herb Stratum (Plot size: 2 meter radius)

1.	*Cornus canadensis*	2	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	2		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***66.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	15	x 2 =	30
FAC spp.	52	x 3 =	156
FACU spp.	40	x 4 =	160
UPL spp.	0	x 5 =	0
Total	107 (A)		346 (B)

Prevalence Index = B/A = ***3.234***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	Upland
Landform:	Summit	Local Relief:	NR
Slope (%):	0-8	Latitude: 46.453666	Longitude: -68.081267
Datum:	--		

Date:	07/24/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W026_2
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
1	0	Duff	--	--	--	--	--	--	--	--	--
1	4	1	7.5YR	4/4	100	--	--	--	--	--	silt loam
4	8	2	10YR	5/6	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
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--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rocky till Depth: 8"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm — Wetland ID: T9R3_W026_2 Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	35	Y	FAC
2.	*Acer rubrum*	25	Y	FAC
3.	*Betula papyrifera*	20	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	80		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	40	Y	FAC
2.	*Picea rubens*	10	N	FACU
3.	*Acer rubrum*	5	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	55		

Herb Stratum (Plot size: 2 meter radius)

1.	*Dryopteris intermedia*	5	Y	FAC
2.	*Cornus canadensis*	3	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	8		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***83.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	113	x 3 =	339
FACU spp.	30	x 4 =	120
UPL spp.	0	x 5 =	0
Total	143 (A)		459 (B)

Prevalence Index = B/A = ***3.210***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	PFO
Landform:	Summit	Local Relief:	Concave
Slope (%):	0-8	Latitude: 46.454274	Longitude: -68.080536 Datum: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/24/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W026_2
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 0	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
40	--	1	--	NR	--	--	--	--	muck
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm — Wetland ID: T9R3_W026_2 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Picea mariana*	25	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	25		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Chamaedaphne calyculata*	50	Y	OBL
2.	*Rhododendron groenlandicum*	20	Y	OBL
3.	*Picea mariana*	15	N	FACW
4.	*Picea rubens*	10	N	FACU
5.	*Alnus incana*	5	N	FACW
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	100		

Herb Stratum (Plot size: 2 meter radius)

1.	*Eriophorum virginicum*	45	Y	OBL
2.	*Rhododendron groenlandicum*	15	N	OBL
3.	*Carex trisperma*	15	N	OBL
4.	*Scirpus cyperinus*	3	N	OBL
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	78		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	148	x 1 =	148
FACW spp.	45	x 2 =	90
FAC spp.	0	x 3 =	0
FACU spp.	10	x 4 =	40
UPL spp.	0	x 5 =	0
Total	203 (A)		278 (B)

Prevalence Index = B/A = ***1.369***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	195600919	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Bill Leopold	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	
Landform:	Depression	Local Relief:	Concave
Slope (%):	0-8	Latitude: 46.457774	Longitude: -68.071997
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/24/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W048
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted and Howland very stony loams — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	6	1	7.5YR	3/4	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Hard packed gravel Depth: 6"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: 195600919 Wetland ID: T9R3_W048 Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*Melilotus officinalis*	40	Y	FACU
2.	*Trifolium repens*	20	Y	FACU
3.	*Sanicula canadensis*	20	Y	FACU
4.	*Schedonorus arundinaceus*	20	Y	FACU
5.	*Fragaria virginiana*	10	N	FACU
6	*Rubus idaeus*	10	N	FACU
7.	*Leucanthemum vulgare*	5	N	UPL
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	125		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***0.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	120	x 4 =	480
UPL spp.	5	x 5 =	25
Total	125 (A)		505 (B)

Prevalence Index = B/A = ***4.040***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Bill Leopold	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	PEM
Landform:	Depression	Local Relief:	Concave
Slope (%):	0-8	Latitude: 46.457665	Longitude: -68.072252
Datum:	--		

Date:	07/24/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W048
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☑ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: NR	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted and Howland very stony loams — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	3	1	7.5YR	3/1	100	--	--	--	--	--	silt loam
3	10	2	7.5YR	4/2	80	7.5YR	4/6	20	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 10"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W048 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer rubrum*	5	Y	FAC
2.	*Fraxinus nigra*	5	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	10		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fraxinus nigra*	25	Y	FACW
2.	*Betula alleghaniensis*	20	Y	FAC
3.	*Tsuga canadensis*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex crinita*	30	Y	OBL
2.	*Scirpus cyperinus*	50	Y	OBL
3.	*Glyceria striata*	10	N	OBL
4.	*Typha latifolia*	10	N	OBL
5.	*Impatiens capensis*	5	N	FACW
6	*Carex scoparia*	5	N	FACW
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	110		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	100	x 1 =	100
FACW spp.	40	x 2 =	80
FAC spp.	25	x 3 =	75
FACU spp.	5	x 4 =	20
UPL spp.	0	x 5 =	0
Total	170 (A)		275 (B)

Prevalence Index = B/A = ***1.618***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Monarda and Burnham very stony silt loams	NWI/WWI Classification:	Upland
Landform:	Till plains	Local Relief:	Convex
Slope (%):	0-8	Latitude: 46.445554	Longitude: -68.04477
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☑, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	08/25/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W074
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks: Plot is located in a recently harvested area and soil disturbed by harvesting activities.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Monarda and Burnham very stony silt loams — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Epiaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
8	0	1	--	--	--	--	--	--	--	--	organic
0	1	2	2.5Y	6/2	100	--	--	--	--	--	silt loam
1	9	3	7.5YR	4/6	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Hard pack Depth: 17"

Hydric Soil Present? ☐ Yes ☑ No

Remarks: Organic layer is a mixture of duff, woody material, and muck.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind | Wetland ID: T9R3_W074 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Thuja occidentalis*	40	Y	FACW
2.	*Abies balsamea*	30	Y	FAC
3.	*Picea rubens*	15	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	85		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	50	Y	FAC
2.	*Thuja occidentalis*	15	Y	FACW
3.	*Betula papyrifera*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	70		

Herb Stratum (Plot size: 2 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	0		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks: No species in herb stratum.

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	55	x 2 =	110
FAC spp.	80	x 3 =	240
FACU spp.	20	x 4 =	80
UPL spp.	0	x 5 =	0
Total	155 (A)		430 (B)

Prevalence Index = B/A = ***2.774***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Monarda and Burnham very stony silt loams	NWI/WWI Classification:	PFO
Landform:	Till plains	Local Relief:	Concave
Slope (%):	0-8	Latitude: 46.445637	Longitude: -68.044821
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/26/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W074
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☑ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Monarda and Burnham very stony silt loams — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Epiaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
6	0	1	--	NR	--	--	--	--	--	--	muck
0	4	2	2.5Y	5/1	100	--	--	--	--	--	silt loam
4	12	3	2.5Y	5/1	80	10YR	5/4	20	C	M	silt loam
--	--	--				--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Hard pack Depth: 18"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W074 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Thuja occidentalis*	40	Y	FACW
2.	*Abies balsamea*	20	Y	FAC
3.	*Picea rubens*	15	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	75		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Thuja occidentalis*	40	Y	FACW
2.	*Alnus incana*	40	Y	FACW
3.	*Abies balsamea*	15	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	95		

Herb Stratum (Plot size: 2 meter radius)

1.	*Dryopteris intermedia*	8	Y	FAC
2.	*Thalictrum pubescens*	6	Y	FACW
3.	*Tiarella cordifolia*	3	Y	FACU
4.	*Galium tinctorium*	3	Y	OBL
5.	*Rubus pubescens*	2	N	FACW
6	*Arisaema triphyllum*	2	Y	FAC
7.	*Onoclea sensibilis*	2	Y	FACW
8.	*Parathelypteris noveboracensis*	2	N	FAC
9.	*Gymnocarpium dryopteris*	2	N	FACU
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	30		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 9 (A)

Total Number of Dominant Species Across All Strata: 11 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***81.8%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	3	x 1 =	3
FACW spp.	130	x 2 =	260
FAC spp.	47	x 3 =	141
FACU spp.	20	x 4 =	80
UPL spp.	0	x 5 =	0
Total	200 (A)		484 (B)

Prevalence Index = B/A = ***2.420***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Convex
Slope (%):	20	Latitude: 46.423311	Longitude: -68.013786
Datum:	--		

Date:	08/21/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W090
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
5	0	1	5YR	2.5/2	100	--	--	--	--	--	hemic organic
0	2	2	7.5YR	6/2	100	--	--	--	--	--	loam
2	4	3	7.5YR	3/3	100	--	--	--	--	--	loam
4	13	4	5YR	4/6	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☐ Yes ☑ No

Remarks: Second horizon is an albic E-horizon.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W090 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Tsuga canadensis*	40	Y	FACU
2.	*Abies balsamea*	20	Y	FAC
3.	*Betula alleghaniensis*	10	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	70		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	20	Y	FAC
2.	*Acer pensylvanicum*	5	N	FACU
3.	*Tsuga canadensis*	5	N	FACU
4.	*Picea rubens*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	35		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer pensylvanicum*	3	Y	FACU
2.	*Abies balsamea*	2	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	5		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***60.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	52	x 3 =	156
FACU spp.	58	x 4 =	232
UPL spp.	0	x 5 =	0
Total	110 (A)		388 (B)

Prevalence Index = B/A = ***3.527***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	PFO
Landform:	Side slope	Local Relief:	Concave
Slope (%):	10	Latitude: 46.429375	Longitude: -68.051169
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/21/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W090
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☑ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: NR	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: NR	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
3	0	1	10YR	3/1	100	--	--	--	--	--	muck
0	4	2	2.5Y	5/1	95	2.5Y	5/6	5	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 7"

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Presumed that the second horizon extends beyond refusal and meets the depth requirement of the F3 indicator.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W090 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	25	Y	FAC
2.	*Abies balsamea*	10	N	FAC
3.	*Acer saccharum*	10	N	FACU
4.	*Acer pensylvanicum*	10	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	55		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	25	Y	FAC
2.	*Acer spicatum*	10	Y	FACU
3.	*Tsuga canadensis*	5	N	FACU
4.	*Abies balsamea*	5	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex scabrata*	70	Y	OBL
2.	*Osmunda claytoniana*	2	N	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	72		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***75.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	70	x 1 =	70
FACW spp.	0	x 2 =	0
FAC spp.	67	x 3 =	201
FACU spp.	35	x 4 =	140
UPL spp.	0	x 5 =	0
Total	172 (A)		411 (B)

Prevalence Index = B/A = ***2.390***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Bill Leopold	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Convex
Slope (%):	3	Latitude: 46.423878	Longitude: -68.059693
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/21/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W101
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted and Howland very stony loams — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	2	1	7.5YR	4/3	100	--	--	--	--	--	silt loam
2	5	2	7.5YR	5/3	60	7.5YR	4/2	40	--	M	silt
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑:

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Gravel Depth: 5"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W101 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Picea rubens*	20	Y	FACU
2.	*Acer rubrum*	5	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	25		

Herb Stratum (Plot size: 2 meter radius)

1.	*Festuca rubra*	70	Y	FACU
2.	*Melilotus officinalis*	20	N	FACU
3.	*Senecio sylvaticus*	10	N	UPL
4.	*Leucanthemum vulgare*	5	N	UPL
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	105		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***33.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	5	x 3 =	15
FACU spp.	110	x 4 =	440
UPL spp.	15	x 5 =	75
Total	130 (A)		530 (B)

Prevalence Index = B/A = ***4.077***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Bill Leopold	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	PEM
Landform:	Side slope	Local Relief:	Concave
Slope (%):	4	Latitude: 46.423933	Longitude: -68.059482
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/21/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W101
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: 3	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 8	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 2	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted and Howland very stony loams — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
4	0	1	--	--	--	--	--	--	--	--	muck
0	4	2	7.5YR	4/2	70	7.5YR	5/6	30	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Hard packed gravel Depth: 8"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W101 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Picea mariana*	15	Y	FACW
2.	*Acer rubrum*	5	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Herb Stratum (Plot size: 2 meter radius)

1.	*Scirpus atrovirens*	20	Y	OBL
2.	*Carex crinita*	20	Y	OBL
3.	*Juncus effusus*	15	Y	OBL
4.	*Scirpus cyperinus*	15	Y	OBL
5.	*Carex scoparia*	10	N	FACW
6	*Carex vulpinoidea*	10	N	OBL
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	90		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	80	x 1 =	80
FACW spp.	25	x 2 =	50
FAC spp.	5	x 3 =	15
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	110 (A)		145 (B)

Prevalence Index = B/A = ***1.318***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chuck Ferris	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	Upland
Landform:	Backslope	Local Relief:	NR
Slope (%):	0-8	Latitude: 46.424535	Longitude: -68.068841
Datum:	--		

Date:	07/21/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W117
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	☐ Yes ☑ No	Hydric Soils Present?	☐ Yes ☑ No
Wetland Hydrology Present?	☐ Yes ☑ No	Is This Sampling Point Within A Wetland?	☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐)

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted and Howland very stony loams — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
4	0	Duff	--	--	--	--	--	--	--	--	--
0	12	1	10YR	4/4	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐)

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 12"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W117 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Picea rubens*	15	Y	FACU
2.	*Betula alleghaniensis*	15	Y	FAC
3.	*Abies balsamea*	5	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	35		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Viburnum lantanoides*	30	Y	FACU
2.	*Hamamelis virginiana*	30	Y	FACU
3.	*Betula alleghaniensis*	15	N	FAC
4.	*Acer pensylvanicum*	10	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	85		

Herb Stratum (Plot size: 2 meter radius)

1.	*Viburnum lantanoides*	5	Y	FACU
2.	*Osmunda claytoniana*	5	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	10		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***33.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	40	x 3 =	120
FACU spp.	90	x 4 =	360
UPL spp.	0	x 5 =	0
Total	130 (A)		480 (B)

Prevalence Index = B/A = ***3.692***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chuck Ferris	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	PFO
Landform:	Summit	Local Relief:	NR
Slope (%):	0-8	Latitude: 46.424519	Longitude: -68.068756
Datum:	--		

Date:	07/21/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W117
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted and Howland very stony loams — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	8	1	2.5Y	3/1	100	--	--	--	--	--	silt loam
8	16	2	2.5Y	5/2	90	10YR	5/6	10	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 16"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W117 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	25	Y	FAC
2.	*Abies balsamea*	5	N	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	45	Y	FAC
2.	*Alnus incana*	20	Y	FACW
3.	*Fraxinus nigra*	15	N	FACW
4.	*Picea rubens*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	85		

Herb Stratum (Plot size: 2 meter radius)

1.	*Glyceria striata*	15	Y	OBL
2.	*Impatiens capensis*	15	Y	FACW
3.	*Rubus pubescens*	10	Y	FACW
4.	*Osmunda claytoniana*	5	N	FAC
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	45		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	15	x 1 =	15
FACW spp.	60	x 2 =	120
FAC spp.	80	x 3 =	240
FACU spp.	5	x 4 =	20
UPL spp.	0	x 5 =	0
Total	160 (A)		395 (B)

Prevalence Index = B/A = ***2.469***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Josh Brown	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	Upland
Landform:	Summit	Local Relief:	NR
Slope (%):	6	Latitude: 46.412233	Longitude: -68.081871
Datum:	--		

Date:	08/18/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W145
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☑, or Hydrology ☑ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Vegetation, soils, and hydrology disturbed from road side ditching.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	12	1	10YR	3/3	100	--	--	--	--	--	fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 12"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W145 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Populus tremuloides*	40	Y	FACU
2.	*Abies balsamea*	10	N	FAC
3.	*Betula alleghaniensis*	5	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	55		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer saccharum*	25	Y	FACU
2.	*Betula alleghaniensis*	25	Y	FAC
3.	*Fraxinus nigra*	5	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	55		

Herb Stratum (Plot size: 2 meter radius)

1.	*Actaea rubra*	7	Y	FACU
2.	*Rubus idaeus*	7	Y	FACU
3.	*Acer saccharum*	7	Y	FACU
4.	*Rubus pubescens*	3	N	FACW
5.	*Gymnocarpium dryopteris*	3	N	FACU
6	*Fraxinus nigra*	2	N	FACW
7.	*Fragaria virginiana*	2	N	FACU
8.	*Acer rubrum*	2	N	FAC
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	33		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***16.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	10	x 2 =	20
FAC spp.	42	x 3 =	126
FACU spp.	91	x 4 =	364
UPL spp.	0	x 5 =	0
Total	143 (A)		510 (B)

Prevalence Index = B/A = ***3.566***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Josh Brown	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	PSS
Landform:	Summit	Local Relief:	NR
Slope (%):	NR	Latitude: 46.412225	Longitude: -68.081966
Datum:	--		

Date:	08/18/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W145
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☑, or Hydrology ☑ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Disturbed vegetation, soils, and hydrology from road side ditching.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 6	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	3	1	10YR	3/2	100	--	--	--	--	--	silt loam
3	18	2	10YR	4/2	98	10YR	3/6	2	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 18"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W145 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Populus tremuloides*	20	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fraxinus nigra*	30	Y	FACW
2.	*Betula alleghaniensis*	20	Y	FAC
3.	*Alnus incana*	15	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	65		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex gynandra*	40	Y	OBL
2.	*Glyceria melicaria*	40	Y	OBL
3.	*Impatiens capensis*	30	Y	FACW
4.	*Acer rubrum*	10	N	FAC
5.	*Salix bebbiana*	5	N	FACW
6	*Scirpus cyperinus*	5	N	OBL
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	130		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***85.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	85	x 1 =	85
FACW spp.	80	x 2 =	160
FAC spp.	30	x 3 =	90
FACU spp.	20	x 4 =	80
UPL spp.	0	x 5 =	0
Total	215 (A)		415 (B)

Prevalence Index = B/A = ***1.930***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Josh Brown	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	Upland
Landform:	Terrace	Local Relief:	Convex
Slope (%):	8	Latitude: 46.409816	Longitude: -68.057587
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/15/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W208
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	6	1	10YR	2/1	100	--	--	--	--	--	silt loam
6	9	2	10YR	4/3	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 9"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W208 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer saccharum*	25	--	FACU
2.	*Betula papyrifera*	25	--	FACU
3.	*Abies balsamea*	5	--	FAC
4.	*Salix bebbiana*	5	--	FACW
5.	*Thuja occidentalis*	3	--	FACW
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	63		

Herb Stratum (Plot size: 2 meter radius)

1.	*Impatiens capensis*	15	Y	FACW
2.	*Fragaria virginiana*	5	Y	FACU
3.	*Eurybia macrophylla*	5	Y	UPL
4.	*Acer saccharum*	5	Y	FACU
5.	*Acer pensylvanicum*	5	Y	FACU
6	*Pyrola americana*	1	N	FAC
7.	*Glyceria striata*	1	N	OBL
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	37		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***20.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	1	x 1 =	1
FACW spp.	23	x 2 =	46
FAC spp.	6	x 3 =	18
FACU spp.	65	x 4 =	260
UPL spp.	5	x 5 =	25
Total	100 (A)		350 (B)

Prevalence Index = B/A = ***3.500***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Josh Brown	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	PSS
Landform:	Side slope	Local Relief:	Concave
Slope (%):	3	Latitude: 46.40975	Longitude: -68.057606
Datum:	--		

Date:	08/15/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W208
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☑, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Soils disturbed - likely related to previous timber harvesting in the area.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	8	--	2.5Y 4/1	98	10YR 4/6	2	C	M	loam
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 8"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W208 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Thuja occidentalis*	10	Y	FACW
2.	*Abies balsamea*	5	Y	FAC
3.	*Acer rubrum*	5	Y	FAC
4.	*Salix bebbiana*	5	Y	FACW
5.	*Salix lucida*	3	N	FACW
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	28		

Herb Stratum (Plot size: 2 meter radius)

1.	*Glyceria melicaria*	40	Y	OBL
2.	*Carex gynandra*	30	Y	OBL
3.	*Symphyotrichum lateriflorum*	10	N	FAC
4.	*Glyceria striata*	8	N	OBL
5.	*Onoclea sensibilis*	3	N	FACW
6	*Typha latifolia*	1	N	OBL
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	92		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	79	x 1 =	79
FACW spp.	21	x 2 =	42
FAC spp.	20	x 3 =	60
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	120 (A)		181 (B)

Prevalence Index = B/A = ***1.508***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Jacob Gallus	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	Upland
Landform:	Summit	Local Relief:	NR
Slope (%):	NR	Latitude: 46.409525	Longitude: -68.056536
Datum:	--		

Date:	08/15/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W209
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	☐ Yes ☑ No	Hydric Soils Present?	☐ Yes ☑ No
Wetland Hydrology Present?	☐ Yes ☑ No	Is This Sampling Point Within A Wetland?	☐ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	Duff	--	--	--	--	--	--	--	--	--
0	10	1	10YR	4/4	100	--	--	--	--	--	fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 10"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W209 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	10	Y	FACU
2.	*Picea rubens*	10	Y	FACU
3.	*Abies balsamea*	5	N	FAC
4.	*Fraxinus nigra*	5	N	FACW
5.		--	--	--
6.		--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer saccharum*	30	Y	FACU
2.	*Acer pensylvanicum*	20	Y	FACU
3.	*Fagus grandifolia*	15	N	FACU
4.	*Betula alleghaniensis*	10	N	FAC
5.	*Fraxinus nigra*	10	N	FACW
6.	*Viburnum lantanoides*	10	N	FACU
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	95		

Herb Stratum (Plot size: 2 meter radius)

1.	*Impatiens capensis*	40	Y	FACW
2.	*Viburnum lantanoides*	15	Y	FACU
3.	*Acer saccharum*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	60		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***16.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	55	x 2 =	110
FAC spp.	15	x 3 =	45
FACU spp.	115	x 4 =	460
UPL spp.	0	x 5 =	0
Total	185 (A)		615 (B)

Prevalence Index = B/A = ***3.324***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Jacob Gallus	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	PSS
Landform:	Summit	Local Relief:	Concave
Slope (%):	10	Latitude: 46.409483	Longitude: -68.05657
Datum:	--		

Date:	08/15/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W209
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 8	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 1	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	6	1	10YR	3/1	50	10YR	4/3	50	--	M	silt loam
6	12	2	2.5Y	5/2	96	10YR	5/6	2	C	M	silt loam
--	--	--	--	--	--	10YR	6/2	2	D	M	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 12"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W209 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Picea rubens*	20	Y	FACU
2.	*Fraxinus nigra*	15	Y	FACW
3.	*Acer saccharum*	10	N	FACU
4.	*Acer rubrum*	5	N	FAC
5.	*Abies balsamea*	3	Y	FAC
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	53		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer saccharum*	19	Y	FACU
2.	*Acer pensylvanicum*	3	N	FACU
3.	*Tilia americana*	3	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	25		

Herb Stratum (Plot size: 2 meter radius)

1.	*Impatiens capensis*	55	Y	FACW
2.	*Corylus cornuta*	25	Y	FACU
3.	*Acer saccharum*	5	Y	FACU
4.	*Fagus grandifolia*	5	N	FACU
5.	*Scirpus cyperinus*	5	N	OBL
6	*Dryopteris carthusiana*	5	N	FACW
7.	*Glyceria melicaria*	5	N	OBL
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	105		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***42.9%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	10	x 1 =	10
FACW spp.	75	x 2 =	150
FAC spp.	8	x 3 =	24
FACU spp.	90	x 4 =	360
UPL spp.	0	x 5 =	0
Total	183 (A)		544 (B)

Prevalence Index = B/A = ***2.973***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Jacob Gallus	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	Upland
Landform:	Summit	Local Relief:	Convex
Slope (%):	0-3	Latitude: 46.407532	Longitude: -68.049429
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/14/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W211
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	7	1	10YR	4/4	100	--	--	--	--	--	fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 7"

Hydric Soil Present? ☐ Yes ☑ No

Remarks: 1" of duff over soil surface.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W211 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	40	Y	FACU
2.	*Betula alleghaniensis*	30	Y	FAC
3.	*Fagus grandifolia*	20	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	90		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	20	Y	FAC
2.	*Acer pensylvanicum*	20	Y	FACU
3.	*Viburnum lantanoides*	10	N	FACU
4.	*Fagus grandifolia*	10	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Herb Stratum (Plot size: 2 meter radius)

1.	*Fagus grandifolia*	20	Y	FACU
2.	*Viburnum lantanoides*	10	Y	FACU
3.	*Trientalis borealis*	5	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	35		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***28.6%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	55	x 3 =	165
FACU spp.	130	x 4 =	520
UPL spp.	0	x 5 =	0
Total	185 (A)		685 (B)

Prevalence Index = B/A = ***3.703***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Jacob Gallus	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	PFO
Landform:	Summit	Local Relief:	NR
Slope (%):	0-3	Latitude: 46.407559	Longitude: -68.049384
Datum:	--		

Date:	08/14/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W211
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: NR	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	6	1	10YR 6/1	85	10YR 4/6	15	C	M	NR
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 6"

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Based upon mapped soil unit, soil texture presumed to be loam or other fine soil texture.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W211 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	70	Y	FAC
2.	*Acer saccharum*	15	N	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	85		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	50	Y	FAC
2.	*Acer pensylvanicum*	15	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	65		

Herb Stratum (Plot size: 2 meter radius)

1.	*Onoclea sensibilis*	30	Y	FACW
2.	*Carex sp.*	15	Y	NL
3.	*Impatiens capensis*	15	Y	FACW
4.	*Parathelypteris noveboracensis*	5	N	FAC
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	65		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***66.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	45	x 2 =	90
FAC spp.	125	x 3 =	375
FACU spp.	30	x 4 =	120
UPL spp.	0	x 5 =	0
Total	200 (A)		585 (B)

Prevalence Index = B/A = ***2.925***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Josh Brown	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	NR
Slope (%):	6	Latitude: 46.405849	Longitude: -68.046684
Datum:	--		

Date:	08/14/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W218
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑:

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
3	0	1	--	NR	--	--	--	--	--	--	organic
0	3	2	10YR	3/4	100	--	--	--	--	--	silt loam
3	12	3	7.5YR	3/4	100	--	--	--	--	--	silt loam
12	17	4	2.5Y	5/4	100	--	--	--	--	--	fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑:

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 17"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W218 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	10	Y	FACU
2.	*Abies balsamea*	5	Y	FAC
3.	*Picea rubens*	3	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	18		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	30	Y	FAC
2.	*Viburnum lantanoides*	10	Y	FACU
3.	*Acer pensylvanicum*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

Herb Stratum (Plot size: 2 meter radius)

1.	*Viburnum lantanoides*	90	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	90		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***40.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	35	x 3 =	105
FACU spp.	118	x 4 =	472
UPL spp.	0	x 5 =	0
Total	153 (A)		577 (B)

Prevalence Index = B/A = ***3.771***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Josh Brown	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	PFO
Landform:	Summit	Local Relief:	NR
Slope (%):	NR	Latitude: 46.405783	Longitude: -68.046648
Datum:	--		

Date:	08/14/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W218
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: 4	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
5	0	1	--	NR	--	--	--	--	--	muck
0	7	2	10YR	5/2	95	10YR	5/1	5	D	M	fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 12"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W218 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	35	Y	FAC
2.	*Fraxinus nigra*	10	N	FACW
3.	*Acer saccharum*	5	N	FACU
4.	*Abies balsamea*	5	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	55		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fraxinus nigra*	30	Y	FACW
2.	*Acer spicatum*	10	Y	FACU
3.	*Betula papyrifera*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

Herb Stratum (Plot size: 2 meter radius)

1.	*Osmundastrum cinnamomeum*	40	Y	FACW
2.	*Impatiens capensis*	40	Y	FACW
3.	*Dryopteris carthusiana*	5	N	FACW
4.	*Glyceria striata*	3	N	OBL
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	88		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***80.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	3	x 1 =	3
FACW spp.	125	x 2 =	250
FAC spp.	40	x 3 =	120
FACU spp.	20	x 4 =	80
UPL spp.	0	x 5 =	0
Total	188 (A)		453 (B)

Prevalence Index = B/A = ***2.410***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	Upland
Landform:	Toeslope	Local Relief:	Convex
Slope (%):	5	Latitude: 46.404434	Longitude: -68.042153
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/18/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W223
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐)

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
7	0	1	Black	--	--	--	--	--	--	--	hemic organic
0	2	2	5YR	5/2	98	10YR	4/6	2	C	M	silt loam
2	4	3	5YR	3/4	100	--	--	--	--	--	silt loam
4	13	4	7.5YR	5/8	98	5YR	4/6	2	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐)

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W223 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	10	Y	FAC
2.	*Picea rubens*	5	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	15		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Picea rubens*	50	Y	FACU
2.	*Viburnum lantanoides*	25	Y	FACU
3.	*Acer pensylvanicum*	25	Y	FACU
4.	*Acer rubrum*	10	N	FAC
5.	*Abies balsamea*	10	N	FAC
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	120		

Herb Stratum (Plot size: 2 meter radius)

1.	*Aralia nudicaulis*	10	Y	FACU
2.	*Coptis trifolia*	5	Y	FACW
3.	*Maianthemum canadense*	5	Y	FACU
4.	*Rubus pubescens*	3	N	FACW
5.	*Trientalis borealis*	2	N	FAC
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	25		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***25.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	8	x 2 =	16
FAC spp.	32	x 3 =	96
FACU spp.	120	x 4 =	480
UPL spp.	0	x 5 =	0
Total	160 (A)		592 (B)

Prevalence Index = B/A = ***3.700***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	PSS
Landform:	Toeslope	Local Relief:	Concave
Slope (%):	0	Latitude: 46.404342	Longitude: -68.042147
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/18/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W223
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 2	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
9	0	1	10YR	2/1	100	--	--	--	--	--	muck
0	3	2	10YR	5/1	95	10YR	4/6	5	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W223 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fraxinus nigra*	10	Y	FACW
2.	*Picea rubens*	10	Y	FACU
3.	*Abies balsamea*	5	N	FAC
4.	*Salix bebbiana*	5	N	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex gynandra*	80	Y	OBL
2.	*Rubus pubescens*	20	N	FACW
3.	*Solidago gigantea*	10	N	FACW
4.	*Symphyotrichum novae-angliae*	5	N	FACW
5.	*Glyceria melicaria*	3	N	OBL
6	*Equisetum sylvaticum*	2	N	FACW
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	120		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***66.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	83	x 1 =	83
FACW spp.	52	x 2 =	104
FAC spp.	5	x 3 =	15
FACU spp.	10	x 4 =	40
UPL spp.	0	x 5 =	0
Total	150 (A)		242 (B)

Prevalence Index = B/A = ***1.613***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Jacob Gallus	Investigator #2:	Josh Brown
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	Upland
Landform:	Summit	Local Relief:	NR
Slope (%):	0-8	Latitude: 46.40109	Longitude: -68.044517
Datum:	--		

Date:	08/13/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W236
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	1	--	NR	--	--	--	--	--	--	organic
0	8	2	10YR	4/3	100	--	--	--	--	--	fine sandy loam
8	12	3	10YR	4/2	95	10YR	5/6	5	C	M	fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 14"

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Presumed that the third horizon continues beyond point of refusal so the depth requirement of F3 indicator is met.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W236 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	30	Y	FACU
2.	*Abies balsamea*	25	Y	FAC
3.	*Fraxinus nigra*	5	N	FACW
4.	*Acer rubrum*	5	N	FAC
5.	*Betula alleghaniensis*	5	N	FAC
6.	*Acer pensylvanicum*	5	N	FACU
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	75		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer spicatum*	20	Y	FACU
2.	*Acer pensylvanicum*	15	Y	FACU
3.	*Fraxinus nigra*	10	Y	FACW
4.	*Betula alleghaniensis*	5	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer spicatum*	25	Y	FACU
2.	*Rubus pubescens*	10	Y	FACW
3.	*Dryopteris carthusiana*	5	N	FACW
4.	*Osmundastrum cinnamomeum*	5	N	FACW
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	45		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***42.9%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	35	x 2 =	70
FAC spp.	40	x 3 =	120
FACU spp.	95	x 4 =	380
UPL spp.	0	x 5 =	0
Total	170 (A)		570 (B)

Prevalence Index = B/A = ***3.353***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Jacob Gallus	Investigator #2:	Josh Brown
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	PFO
Landform:	Depression	Local Relief:	Concave
Slope (%):	0	Latitude: 46.401112	Longitude: -68.044582
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/13/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W236
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 10	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	10	1	10YR	2/1	100	--	--	--	--	--	silt loam
10	18	2	10YR	4/2	70	10YR	4/6	30	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 18"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W236 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	10	Y	FACU
2.	*Betula alleghaniensis*	10	Y	FAC
3.	*Fraxinus nigra*	10	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	50	Y	FAC
2.	*Alnus incana*	10	N	FACW
3.	*Acer spicatum*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	65		

Herb Stratum (Plot size: 2 meter radius)

1.	*Glyceria melicaria*	60	Y	OBL
2.	*Dryopteris carthusiana*	40	Y	FACW
3.	*Impatiens capensis*	10	N	FACW
4.	*Rubus idaeus*	2	N	FACU
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	112		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***83.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	60	x 1 =	60
FACW spp.	70	x 2 =	140
FAC spp.	60	x 3 =	180
FACU spp.	17	x 4 =	68
UPL spp.	0	x 5 =	0
Total	207 (A)		448 (B)

Prevalence Index = B/A = ***2.164***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Josh Brown	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	Upland
Landform:	Summit	Local Relief:	NR
Slope (%):	8-15	Latitude: 46.39807	Longitude: -68.043541
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/13/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W261
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
5	0	1	--	NR	--	--	--	--	--	--	organic
0	1	2	10YR	6/2	100	--	--	--	--	--	fine sandy loam
1	10	3	10YR	4/6	100	--	--	--	--	--	fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 10"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W261 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula papyrifera*	25	Y	FACU
2.	*Betula alleghaniensis*	20	Y	FAC
3.	*Picea rubens*	10	N	FACU
4.	*Acer rubrum*	10	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	65		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer rubrum*	10	Y	FAC
2.	*Picea rubens*	10	Y	FACU
3.	*Betula alleghaniensis*	10	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	*Dryopteris carthusiana*	30	Y	FACW
2.	*Cornus canadensis*	20	Y	FAC
3.	*Athyrium angustum*	8	N	FAC
4.	*Maianthemum canadense*	8	N	FACU
5.	*Betula alleghaniensis*	5	N	FAC
6	*Acer rubrum*	5	N	FAC
7.	*Viburnum lantanoides*	5	N	FACU
8.	*Trientalis borealis*	1	N	FAC
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	82		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***71.4%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	30	x 2 =	60
FAC spp.	89	x 3 =	267
FACU spp.	58	x 4 =	232
UPL spp.	0	x 5 =	0
Total	177 (A)		559 (B)

Prevalence Index = B/A = ***3.158***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Josh Brown	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	PFO
Landform:	Summit	Local Relief:	NR
Slope (%):	8-15	Latitude: 46.398087	Longitude: -68.043646
Datum:	--		

Date:	08/13/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W261
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	☑ Yes ☐ No	Hydric Soils Present?	☑ Yes ☐ No
Wetland Hydrology Present?	☑ Yes ☐ No	Is This Sampling Point Within A Wetland?	☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	1	--	NR	--	--	--	--	muck
0	2	2	10YR	3/2	100	--	--	--	silt loam
2	12	3	10YR	4/2	96	10YR	4/6	4	C	M	fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 12"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W261 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	Betula alleghaniensis	35	Y	FAC
2.	Acer rubrum	20	Y	FAC
3.	Betula papyrifera	10	N	FACU
4.	Abies balsamea	5	N	FAC
5.	Picea rubens	5	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	75		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	Betula papyrifera	40	Y	FACU
2.	Acer rubrum	15	Y	FAC
3.	Betula alleghaniensis	15	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	70		

Herb Stratum (Plot size: 2 meter radius)

1.	Osmundastrum cinnamomeum	90	Y	FACW
2.	Betula alleghaniensis	15	N	FAC
3.	Picea rubens	5	N	FACU
4.	Acer pensylvanicum	5	N	FACU
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	115		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***83.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	90	x 2 =	180
FAC spp.	105	x 3 =	315
FACU spp.	65	x 4 =	260
UPL spp.	0	x 5 =	0
Total	260 (A)		755 (B)

Prevalence Index = B/A = ***2.904***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	Upland
Landform:	Terrace	Local Relief:	Level
Slope (%):	0-3	Latitude: 46.383247	Longitude: -68.076614
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/15/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W312
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
1	0	1	--	NR	--	--	--	--	fibric organic
0	7	2	7.5YR 4/4	100	--	--	--	--	sandy loam
7	19	3	10YR 4/4	100	--	--	--	--	sandy loam
19	23	4	10YR 4/4	NR	2.5Y 5/3	NR	D	M	sandy loam
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W312 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Fagus grandifolia*	60	Y	FACU
2.	*Acer pensylvanicum*	20	Y	FACU
3.	*Betula alleghaniensis*	10	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	90		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fagus grandifolia*	40	Y	FACU
2.	*Acer pensylvanicum*	15	Y	FACU
3.	*Viburnum lantanoides*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Herb Stratum (Plot size: 2 meter radius)

1.	*Dryopteris intermedia*	13	Y	FAC
2.	*Maianthemum canadense*	7	Y	FACU
3.	*Rubus idaeus*	5	N	FACU
4.	*Acer saccharum*	3	N	FACU
5.	*Oxalis montana*	2	N	FACU
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	30		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***16.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	23	x 3 =	69
FACU spp.	157	x 4 =	628
UPL spp.	0	x 5 =	0
Total	180 (A)		697 (B)

Prevalence Index = B/A = ***3.872***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	PEM
Landform:	Terrace	Local Relief:	Concave
Slope (%):	0-3	Latitude: 46.383192	Longitude: -68.076676
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/15/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W312
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☑ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: NR	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
1	0	1	--	NR	--	--	--	--	--	--	peat
0	3	2	2.5Y	4/2	NR	NR	NR	NR	C	M	loam
--	--	--	--	--		NR	NR	NR	D	M	--
3	9	3	5Y	4/3	NR	NR	NR	NR	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 10"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W312 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex crinita*	60	Y	OBL
2.	*Juncus effusus*	20	Y	OBL
3.	*Carex interior*	15	N	OBL
4.	*Juncus canadensis*	5	N	OBL
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	100	x 1 =	100
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	100 (A)		100 (B)

Prevalence Index = B/A = ***1.000***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renweables		
Investigator #1:	Kenny Presgreaves	Investigator #2:	
Soil Unit:	Thorndike very rocky silt loam	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	NR
Slope (%):	NR	Latitude: 46.387102	Longitude: -68.06487
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/27/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W323
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike very rocky silt loam — Series Drainage Class: somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
4	0	1	7.5YR	2/1	100	--	--	--	--	--	organic
0	6	2	10YR	3/2	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock and gravel Depth: 10"

Hydric Soil Present? ☐ Yes ☑ No

Remarks: Second horizon includes gavel mixed with loam.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T9R3_W323 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Fagus grandifolia*	40	Y	FACU
2.	*Acer saccharum*	20	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fagus grandifolia*	20	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Herb Stratum (Plot size: 2 meter radius)

1.	*Arisaema triphyllum*	2	Y	FAC
2.	*Parathelypteris noveboracensis*	2	Y	FAC
3.	*Polygonatum biflorum*	1	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	5		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***33.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	4	x 3 =	12
FACU spp.	81	x 4 =	324
UPL spp.	0	x 5 =	0
Total	85 (A)		336 (B)

Prevalence Index = B/A = ***3.953***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	195600919	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Kenny Presgreaves	Investigator #2:	
Soil Unit:	Thorndike very rocky silt loam	NWI/WWI Classification:	PFO
Landform:	Terrace	Local Relief:	Concave
Slope (%):	NR	Latitude: 46.387151	Longitude: -68.064873
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/27/14
County:	Aroostook
State:	Maine
Wetland ID:	T9R3_W323
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike very rocky silt loam — Series Drainage Class: somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	8	1	10YR	2/1	100	--	--	--	--	--	mucky loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☑ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☑ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 8

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: 195600919 Wetland ID: T9R3_W323 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer rubrum*	20	Y	FAC
2.	*Betula alleghaniensis*	15	Y	FAC
3.	*Fagus grandifolia*	15	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	15	Y	FAC
2.	*Picea rubens*	5	Y	FACU
3.	*Viburnum lantanoides*	5	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	25		

Herb Stratum (Plot size: 2 meter radius)

1.	*Impatiens capensis*	40	Y	FACW
2.	*Carex scoparia*	15	N	FACW
3.	*Dryopteris intermedia*	10	Y	FAC
4.	*Parathelypteris noveboracensis*	5	N	FAC
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	70		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***62.5%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	55	x 2 =	110
FAC spp.	65	x 3 =	195
FACU spp.	25	x 4 =	100
UPL spp.	0	x 5 =	0
Total	145 (A)		405 (B)

Prevalence Index = B/A = ***2.793***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Concave
Slope (%):	2	Latitude: 46.511945	Longitude: -68.053516
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/09/14
County:	Aroostook
State:	Maine
Wetland ID:	T10R3_W007
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T10 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	1	Black	--	--	--	--	--	--	--	fibric organic
0	2	2	7.5YR	5/2	100	--	--	--	--	--	fine sandy loam
2	14	3	7.5YR	5/6	100	--	--	--	--	--	fine sandy loam
14	16	4	2.5Y	5/4	95	10YR	4/4	5	C	M	fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 18"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T10R3_W007 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	25	Y	FAC
2.	*Abies balsamea*	15	Y	FAC
3.	*Acer rubrum*	15	Y	FAC
4.	*Fagus grandifolia*	10	N	FACU
5.	*Tsuga canadensis*	10	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	75		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer pensylvanicum*	30	Y	FACU
2.	*Fagus grandifolia*	30	Y	FACU
3.	*Acer rubrum*	10	N	FAC
4.	*Viburnum lantanoides*	10	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	80		

Herb Stratum (Plot size: 2 meter radius)

1.	*Fagus grandifolia*	25	Y	FACU
2.	*Tsuga canadensis*	10	Y	FACU
3.	*Acer rubrum*	5	N	FAC
4.	*Betula alleghaniensis*	3	N	FAC
5.	*Abies balsamea*	2	N	FAC
6	*Acer saccharum*	3	N	FACU
7.	*Acer pensylvanicum*	2	N	FACU
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	50		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***42.9%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	75	x 3 =	225
FACU spp.	130	x 4 =	520
UPL spp.	0	x 5 =	0
Total	205 (A)		745 (B)

Prevalence Index = B/A = ***3.634***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	PEM
Landform:	Toeslope	Local Relief:	Concave
Slope (%):	0	Latitude: 46.511772	Longitude: -68.05364
Datum:	--		

Date:	07/09/14
County:	Aroostook
State:	Maine
Wetland ID:	T10R3_W007
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T10 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: NR	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 0	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
8	0	1	10YR 2/2	–	-- --	--	--	--	muck
0	4	2	10YR 4/2	98	5YR 3/6	2	C	M	silt loam
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 12"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T10R3_W007 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Picea rubens*	10	Y	FACU
2.	*Acer rubrum*	5	Y	FAC
3.	*Betula alleghaniensis*	5	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Picea rubens*	15	Y	FACU
2.	*Betula alleghaniensis*	5	Y	FAC
3.	*Abies balsamea*	5	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	25		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex trisperma*	60	Y	OBL
2.	*Carex intumescens*	30	Y	FACW
3.	*Scutellaria galericulata*	5	N	OBL
4.	*Cornus canadensis*	2	N	FAC
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	97		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***75.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	65	x 1 =	65
FACW spp.	30	x 2 =	60
FAC spp.	22	x 3 =	66
FACU spp.	25	x 4 =	100
UPL spp.	0	x 5 =	0
Total	142 (A)		291 (B)

Prevalence Index = B/A = ***2.049***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	Upland
Landform:	Depression	Local Relief:	Convex
Slope (%):	3-6	Latitude: 46.509129	Longitude: -68.050829
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/10/14
County:	Aroostook
State:	Maine
Wetland ID:	T10R3_W013
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T10 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	1	--	NR	--	--	--	--	--	--	fibric organic
0	2	2	10YR	4/2	100	--	--	--	--	--	loam
2	11	3	2.5Y	5/3	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 13"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T10R3_W013 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Picea rubens*	35	Y	FACU
2.	*Abies balsamea*	20	Y	FAC
3.	*Betula alleghaniensis*	8	N	FAC
4.	*Acer saccharum*	7	N	FACU
5.	*Tsuga canadensis*	5	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	75		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer pensylvanicum*	20	Y	FACU
2.	*Abies balsamea*	10	Y	FAC
3.	*Picea rubens*	5	N	FACU
4.	*Betula alleghaniensis*	3	N	FAC
5.	*Viburnum lantanoides*	2	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

Herb Stratum (Plot size: 2 meter radius)

1.	*Parathelypteris noveboracensis*	50	Y	FAC
2.	*Cornus canadensis*	20	Y	FAC
3.	*Maianthemum canadense*	10	N	FACU
4.	*Trillium undulatum*	8	N	FACU
5.	*Acer spicatum*	2	N	FACU
6	*Clintonia borealis*	2	N	FAC
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	92		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***66.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	113	x 3 =	339
FACU spp.	94	x 4 =	376
UPL spp.	0	x 5 =	0
Total	207 (A)		715 (B)

Prevalence Index = B/A = ***3.454***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	PFO
Landform:	Depression	Local Relief:	Linear
Slope (%):	0-3	Latitude: 46.509147	Longitude: -68.050701
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/10/14
County:	Aroostook
State:	Maine
Wetland ID:	T10R3_W013
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T10 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☑ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: NR	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
9	0	1	--	NR	--	--	--	--	--	--	muck
0	4	2	10Y	3/1	NR	NR	NR	NR	D	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 13"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T10R3_W013 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Fraxinus nigra*	40	Y	FACW
2.	*Picea rubens*	30	Y	FACU
3.	*Betula alleghaniensis*	5	N	FAC
4.	--		--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	75		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Picea rubens*	10	Y	FACU
2.	*Alnus incana*	10	Y	FACW
3.	*Fraxinus nigra*	7	Y	FACW
4.	*Abies balsamea*	3	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	*Rubus pubescens*	40	Y	FACW
2.	*Maianthemum canadense*	15	N	FACU
3.	*Onoclea sensibilis*	15	N	FACW
4.	*Osmundastrum cinnamomeum*	10	N	FACW
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	80		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***66.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	122	x 2 =	244
FAC spp.	8	x 3 =	24
FACU spp.	55	x 4 =	220
UPL spp.	0	x 5 =	0
Total	185 (A)		488 (B)

Prevalence Index = B/A = ***2.638***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Convex
Slope (%):	7	Latitude: 46.510493	Longitude: -68.056145
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/09/14
County:	Aroostook
State:	Maine
Wetland ID:	T10R3_W023
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T10 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	1	1	7.5YR	3/2	100	--	--	--	--	--	loam
1	6	2	10YR	4/4	100	--	--	--	--	--	loam
6	12	3	10YR	4/2	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 12"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T10R3_W023 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	25	Y	FACU
2.	*Acer pensylvanicum*	20	Y	FACU
3.	*Tsuga canadensis*	10	N	FACU
4.	*Picea rubens*	10	N	FACU
5.	*Betula alleghaniensis*	5	N	FAC
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	70		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	15	Y	FAC
2.	*Acer pensylvanicum*	10	Y	FACU
3.	*Corylus cornuta*	5	N	FACU
4.	*Acer saccharum*	5	N	FACU
5.	*Abies balsamea*	5	N	FAC
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

Herb Stratum (Plot size: 2 meter radius)

1.	*Dryopteris intermedia*	40	Y	FAC
2.	*Rubus idaeus*	15	Y	FACU
3.	*Fragaria virginiana*	7	N	FACU
4.	*Juncus sp*	8	N	NL
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	70		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***33.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	65	x 3 =	195
FACU spp.	107	x 4 =	428
UPL spp.	0	x 5 =	0
Total	172 (A)		623 (B)

Prevalence Index = B/A = ***3.622***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	PEM
Landform:	Side slope	Local Relief:	Convex
Slope (%):	3	Latitude: 46.510472	Longitude: -68.056197
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/09/14
County:	Aroostook
State:	Maine
Wetland ID:	T10R3_W023
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T10 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☑ C3 - Oxidized Rhizospheres on Living Roots
- ☑ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☑ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☐ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	2	1	2.5Y 5/2	100	-- --	--	--	--	silt loam
2	7	2	5Y 4/2	NR	NR NR	NR	D	M	silt loam
--	--	--	-- --	--	NR NR	NR	C	M, PL	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Dense aquitard Depth: 7"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T10R3_W023 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	10	Y	FAC
2.	*Acer saccharum*	5	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	15		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex crinita*	60	Y	OBL
2.	*Onoclea sensibilis*	15	N	FACW
3.	*Festuca rubra*	10	N	FACU
4.	*Juncus canadensis*	8	N	OBL
5.	*Impatiens capensis*	7	N	FACW
6	*Lycopus uniflorus*	5	N	OBL
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	105		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***66.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	73	x 1 =	73
FACW spp.	22	x 2 =	44
FAC spp.	10	x 3 =	30
FACU spp.	15	x 4 =	60
UPL spp.	0	x 5 =	0
Total	120 (A)		207 (B)

Prevalence Index = B/A = ***1.725***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Convex
Slope (%):	7	Latitude: 46.511524	Longitude: -68.06062
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/08/14
County:	Aroostook
State:	Maine
Wetland ID:	T10R3_W031
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T10 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
3	0	1	--	NR	--	--	--	--	fibric organic
0	2	2	7.5YR	6/2	100	--	--	--	fine sandy loam
2	10	3	7.5YR	4/6	100	--	--	--	fine sandy loam
10	15	4	10YR	4/4	100	--	--	--	sandy loam
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 18"

Hydric Soil Present? ☐ Yes ☑ No

Remarks: Second horizon is an albic E-horizon.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T10R3_W031 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	30	Y	FACU
2.	*Betula alleghaniensis*	25	Y	FAC
3.	*Picea rubens*	20	Y	FACU
4.	*Acer pensylvanicum*	8	N	FACU
5.	*Abies balsamea*	7	N	FAC
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	90		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Viburnum lantanoides*	20	Y	FACU
2.	*Betula alleghaniensis*	10	Y	FAC
3.	*Acer saccharum*	8	N	FACU
4.	*Acer pensylvanicum*	8	N	FACU
5.	*Fagus grandifolia*	8	N	FACU
6.	*Corylus cornuta*	6	N	FACU
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Herb Stratum (Plot size: 2 meter radius)

1.	*Maianthemum canadense*	10	Y	FACU
2.	*Gymnocarpium dryopteris*	10	Y	FACU
3.	*Acer saccharum*	8	Y	FACU
4.	*Acer pensylvanicum*	7	N	FACU
5.	*Trientalis borealis*	5	N	FAC
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	40		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***25.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	47	x 3 =	141
FACU spp.	143	x 4 =	572
UPL spp.	0	x 5 =	0
Total	190 (A)		713 (B)

Prevalence Index = B/A = ***3.753***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	PFO
Landform:	Depression	Local Relief:	Linear
Slope (%):	2	Latitude: 46.51155	Longitude: -68.060676
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/08/14
County:	Aroostook
State:	Maine
Wetland ID:	T10R3_W031
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T10 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐)

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☑ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: NR	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
14	0	1	--	NR	--	--	--	--	muck
0	3	2	5Y	5/2	100	--	--	--	sandy loam
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐)

- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 17"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T10R3_W031 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	40	Y	FAC
2.	*Fraxinus pennsylvanica*	20	Y	FACW
3.	*Ulmus americana*	7	N	FACW
4.	*Picea glauca*	3	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	70		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer saccharum*	10	Y	FACU
2.	*Corylus cornuta*	10	Y	FACU
3.	*Fraxinus nigra*	6	Y	FACW
4.	*Acer pensylvanicum*	4	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	*Impatiens capensis*	30	Y	FACW
2.	*Matteuccia struthiopteris*	25	Y	FAC
3.	*Cornus alternifolia*	25	Y	FACU
4.	*Rubus pubescens*	15	N	FACW
5.	*Geum macrophyllum*	3	N	FACW
6	*Dryopteris intermedia*	2	N	FAC
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***62.5%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	81	x 2 =	162
FAC spp.	67	x 3 =	201
FACU spp.	52	x 4 =	208
UPL spp.	0	x 5 =	0
Total	200 (A)		571 (B)

Prevalence Index = B/A = ***2.855***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	Upland
Landform:	Terrace	Local Relief:	NR
Slope (%):	0-8	Latitude: 46.511724	Longitude: -68.063021
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/08/14
County:	Aroostook
State:	Maine
Wetland ID:	T10R3_W033
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T10 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
1	0	1	black	--	--	--	--	--	--	--	fibric organic
0	2	2	5YR	5/2	100	--	--	--	--	--	sandy loam
2	16	3	5YR	3/4	100	--	--	--	--	--	sandy loam
16	19	4	10YR	4/6	98	7.5YR	3/4	2	C	M	sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T10R3_W033 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	50	Y	FACU
2.	*Fagus grandifolia*	25	Y	FACU
3.	*Betula alleghaniensis*	10	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	85		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Viburnum lantanoides*	60	Y	FACU
2.	*Acer saccharum*	15	N	FACU
3.	*Fagus grandifolia*	10	N	FACU
4.	*Acer pensylvanicum*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	90		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer saccharum*	10	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	10		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***0.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	10	x 3 =	30
FACU spp.	175	x 4 =	700
UPL spp.	0	x 5 =	0
Total	185 (A)		730 (B)

Prevalence Index = B/A = ***3.946***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	PEM
Landform:	Terrace	Local Relief:	Concave
Slope (%):	0	Latitude: 46.511594	Longitude: -68.063336
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/08/14
County:	Aroostook
State:	Maine
Wetland ID:	T10R3_W033
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T10 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: 3-6	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 0	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
3	0	1	--	NR	--	--	--	--	mucky peat
0	5	2	10YR	5/2	90	10YR 3/6	10	C	M	sandy loam
5	14	3	10YR	6/2	85	10YR 4/4	15	C	M	sandy clay loam
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 17"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T10R3_W033 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Picea rubens*	25	Y	FACU
2.	*Betula alleghaniensis*	15	Y	FAC
3.	*Abies balsamea*	10	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Picea rubens*	20	Y	FACU
2.	*Betula alleghaniensis*	5	N	FAC
3.	*Acer rubrum*	5	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex trisperma*	50	Y	OBL
2.	*Carex crinita*	20	Y	OBL
3.	*Scirpus atrocinctus*	5	N	OBL
4.	*Acer rubrum*	3	N	FAC
5.	*Equisetum pratense*	2	N	FACW
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	80		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***66.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	75	x 1 =	75
FACW spp.	2	x 2 =	4
FAC spp.	38	x 3 =	114
FACU spp.	45	x 4 =	180
UPL spp.	0	x 5 =	0
Total	160 (A)		373 (B)

Prevalence Index = B/A = ***2.331***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Convex
Slope (%):	5	Latitude: 46.508246	Longitude: -68.08756
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/07/14
County:	Aroostook
State:	Maine
Wetland ID:	T10R3_W040
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T10 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
3	0	1	--	NR	--	--	--	--	--	--	fibric organic
0	1	2	5YR	5/2	100	--	--	--	--	--	fine sandy loam
1	8	3	5YR	3/4	100	--	--	--	--	--	fine sandy loam
8	14	4	10YR	4/6	100	--	--	--	--	--	sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 17"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T10R3_W040 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Tsuga canadensis*	28	Y	FACU
2.	*Fagus grandifolia*	25	Y	FACU
3.	*Acer pensylvanicum*	18	N	FACU
4.	*Betula alleghaniensis*	12	N	FAC
5.	*Abies balsamea*	8	N	FAC
6.	*Picea rubens*	7	N	FACU
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	98		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Viburnum lantanoides*	12	Y	FACU
2.	*Acer spicatum*	12	Y	FACU
3.	*Acer pensylvanicum*	12	Y	FACU
4.	*Picea rubens*	4	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

Herb Stratum (Plot size: 2 meter radius)

1.	*Viburnum lantanoides*	16	Y	FACU
2.	*Betula alleghaniensis*	19	Y	FAC
3.	*Acer spicatum*	17	Y	FACU
4.	*Abies balsamea*	3	N	FAC
5.	*Aralia nudicaulis*	2	N	FACU
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	57		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***12.5%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	42	x 3 =	126
FACU spp.	153	x 4 =	612
UPL spp.	0	x 5 =	0
Total	195 (A)		738 (B)

Prevalence Index = B/A = ***3.785***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	PFO
Landform:	Depression	Local Relief:	Linear
Slope (%):	0	Latitude: 46.508338	Longitude: -68.087511
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/07/14
County:	Aroostook
State:	Maine
Wetland ID:	T10R3_W040
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T10 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☑ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☑ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: 3	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: NR	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: NR	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
3	0	1	--	NR	--	--	--	--	--	--	mucky peat
0	6	2	10YR	5/1	100	--	--	--	--	--	silt loam
6	9	3	10YR	5/1	NR	NR	NR	NR	C	M	silt loam
9	12	4	2.5Y	5/3	NR	NR	NR	NR	D	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 15"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T10R3_W040 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Fraxinus nigra*	18	Y	FACW
2.	*Betula alleghaniensis*	17	Y	FAC
3.	*Acer pensylvanicum*	8	N	FACU
4.	*Tsuga canadensis*	7	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fraxinus nigra*	20	Y	FACW
2.	*Betula alleghaniensis*	15	Y	FAC
3.	*Acer pensylvanicum*	15	Y	FACU
4.	*Acer spicatum*	10	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex stipata*	20	Y	OBL
2.	*Festuca rubra*	20	Y	FACU
3.	*Dryopteris cristata*	20	Y	OBL
4.	*Impatiens capensis*	20	Y	FACW
5.	*Lycopus uniflorus*	5	N	OBL
6	*Rubus pubescens*	5	N	FACW
7.	*Onoclea sensibilis*	5	N	FACW
8.	*Galium asprellum*	5	N	OBL
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***77.8%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	50	x 1 =	50
FACW spp.	68	x 2 =	136
FAC spp.	32	x 3 =	96
FACU spp.	60	x 4 =	240
UPL spp.	0	x 5 =	0
Total	210 (A)		522 (B)

Prevalence Index = B/A = ***2.486***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Convex
Slope (%):	10	Latitude: 46.497781	Longitude: -68.133708
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	09/10/14
County:	Aroostook
State:	Maine
Wetland ID:	T10R3_W088
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T10 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑)

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
5	0	1	7.5YR	2.5/1	100	--	--	--	--	--	hemic organic
0	2	2	7.5YR	6/1	100	--	--	--	--	--	loam
2	6	3	10YR	3/6	100	--	--	--	--	--	loam
6	13	4	2.5Y	5/6	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑)

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T10R3_W088 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer rubrum*	40	Y	FAC
2.	*Acer saccharum*	40	Y	FACU
3.	*Abies balsamea*	20	N	FAC
4.	*Fagus grandifolia*	20	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	120		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fagus grandifolia*	30	Y	FACU
2.	*Picea rubens*	15	Y	FACU
3.	*Viburnum lantanoides*	5	N	FACU
4.	*Acer pensylvanicum*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	55		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer pensylvanicum*	5	Y	FACU
2.	*Picea rubens*	2	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	7		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***16.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	60	x 3 =	180
FACU spp.	122	x 4 =	488
UPL spp.	0	x 5 =	0
Total	182 (A)		668 (B)

Prevalence Index = B/A = ***3.670***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brennemen	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	PFO
Landform:	Side slope	Local Relief:	Concave
Slope (%):	5	Latitude: 46.497732	Longitude: -68.133902
Datum:	--		

Date:	09/10/14
County:	Aroostook
State:	Maine
Wetland ID:	T10R3_W088
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T10 R3 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
9	0	1	--	NR	--	--	--	--	--	muck
0	3	2	Gley 1	4/N	95	10YR	3/6	5	C	M	clay
3	6	3	5Y	4/2	85	10YR	3/6	15	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T10R3_W088 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	15	Y	FAC
2.	*Fraxinus nigra*	15	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	30	Y	FAC
2.	*Fraxinus nigra*	15	Y	FACW
3.	*Acer rubrum*	5	N	FAC
4.	*Tsuga canadensis*	5	N	FACU
5.	*Salix sp*	2	N	NL
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	57		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex scabrata*	50	Y	OBL
2.	*Osmunda claytoniana*	30	Y	FAC
3.	*Athyrium angustum*	20	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	50	x 1 =	50
FACW spp.	30	x 2 =	60
FAC spp.	100	x 3 =	300
FACU spp.	5	x 4 =	20
UPL spp.	0	x 5 =	0
Total	185 (A)		430 (B)

Prevalence Index = B/A = ***2.324***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Bill Leopold	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Convex
Slope (%):	3	Latitude: 46.444888	Longitude: -67.974876
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/28/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W009
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	6	1	5YR	4/2	100	--	--	--	--	--	loam
6	10	2	7.5YR	4/3	80	7.5YR	5/4	20	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Bedrock Depth: 10"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W009 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer rubrum*	10	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	10		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer pensylvanicum*	40	Y	FACU
2.	*Betula alleghaniensis*	30	Y	FAC
3.	*Acer rubrum*	10	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	80		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer rubrum*	20	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	20		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***75.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	70	x 3 =	210
FACU spp.	40	x 4 =	160
UPL spp.	0	x 5 =	0
Total	110 (A)		370 (B)

Prevalence Index = B/A = ***3.364***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Bill Leopold	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	PFO/PSS
Landform:	Side slope	Local Relief:	Concave
Slope (%):	2	Latitude: 46.443695	Longitude: -67.974261
Datum:	--		

Date:	07/28/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W009
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: 1	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 8	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	7	1	2.5Y 3/1	90	5YR 3/4	10	C	PL	silt loam
7	8	2	5YR 4/2	80	5YR 5/6	20	C	M	silty clay loam
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Bedrock Depth: 8"

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Presumed that the second horizon extends below point of refusal thereby meeting depth requirements of F3 indicator.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W009 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	40	Y	FAC
2.	*Picea rubens*	20	Y	FACU
3.	*Fraxinus nigra*	10	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	70		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	20	Y	FAC
2.	*Tsuga canadensis*	20	Y	FACU
3.	*Fraxinus nigra*	10	N	FACW
4.	*Picea rubens*	10	N	FACU
5.	*Acer rubrum*	10	N	FAC
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	70		

Herb Stratum (Plot size: 2 meter radius)

1.	*Glyceria melicaria*	40	Y	OBL
2.	*Impatiens capensis*	20	Y	FACW
3.	*Carex crinita*	10	N	OBL
4.	*Dryopteris sp*	10	N	NL
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	80		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***66.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	50	x 1 =	50
FACW spp.	40	x 2 =	80
FAC spp.	70	x 3 =	210
FACU spp.	50	x 4 =	200
UPL spp.	0	x 5 =	0
Total	210 (A)		540 (B)

Prevalence Index = B/A = ***2.571***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	Upland
Landform:	NR	Local Relief:	Convex
Slope (%):	10	Latitude: 46.443170	Longitude: -67.973283
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	08/27/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W018
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks: Vegetation altered by timber harvesting.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑:

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
4	0	1	Black	--	--	--	--	--	--	--	hemic organic
0	1	2	5YR	5/2	100	--	--	--	--	--	loam
1	8	3	5YR	4/6	100	--	--	--	--	--	loam
8	11	4	5YR	3/4	100	--	--	--	--	--	loam
11	14	5	7.5YR	3/3	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑:

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W018 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Fagus grandifolia*	10	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	10		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fagus grandifolia*	30	Y	FACU
2.	*Abies balsamea*	5	N	FAC
3.	*Viburnum lantanoides*	5	N	FACU
4.	*Acer pensylvanicum*	2	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	42		

Herb Stratum (Plot size: 2 meter radius)

1.	*Aralia nudicaulis*	2	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	2		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***0.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	5	x 3 =	15
FACU spp.	49	x 4 =	196
UPL spp.	0	x 5 =	0
Total	54 (A)		211 (B)

Prevalence Index = B/A = ***3.907***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	PFO
Landform:	Side slope	Local Relief:	Concave
Slope (%):	2-5	Latitude: 46.44318	Longitude: -67.973426
Datum:	--		

Date:	08/27/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W018
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐)

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	8	1	10YR	3/1	95	7.5YR	3/4	5	C	M	silt loam
8	10	2	10YR	4/2	90	10YR	4/6	10	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐)

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 10"

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Presumed that second horizon extends beyond refusal and meets the depth requirement of the F3 indicator.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W018 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	25	Y	FAC
2.	*Fraxinus nigra*	5	N	FACW
3.	*Acer saccharum*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	35		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	20	Y	FAC
2.	*Fagus grandifolia*	2	N	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	22		

Herb Stratum (Plot size: 2 meter radius)

1.	*Glyceria melicaria*	100	Y	OBL
2.	*Impatiens capensis*	2	N	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	102		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	100	x 1 =	100
FACW spp.	7	x 2 =	14
FAC spp.	45	x 3 =	135
FACU spp.	7	x 4 =	28
UPL spp.	0	x 5 =	0
Total	159 (A)		277 (B)

Prevalence Index = B/A = ***1.742***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Convex
Slope (%):	5	Latitude: 46.4422	Longitude: -67.980256
Datum:	--		

Date:	09/16/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W025
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐)

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	9	1	10YR	3/2	100	--	--	--	--	--	silt loam
9	15	2	10YR	3/2	98	10YR	4/6	2	C	M	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐)

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W025 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	35	Y	FAC
2.	*Acer saccharum*	10	Y	FACU
3.	*Fagus grandifolia*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fagus grandifolia*	25	Y	FACU
2.	*Acer pensylvanicum*	15	Y	FACU
3.	*Abies balsamea*	10	N	FAC
4.	*Viburnum lantanoides*	5	N	FACU
5.	*Betula alleghaniensis*	2	N	FAC
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	57		

Herb Stratum (Plot size: 2 meter radius)

1.	*Viburnum lantanoides*	5	Y	FACU
2.	*Rubus idaeus*	2	Y	FACU
3.	*Unknown fern*	2	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	9		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***28.6%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	49	x 3 =	147
FACU spp.	67	x 4 =	268
UPL spp.	0	x 5 =	0
Total	116 (A)		415 (B)

Prevalence Index = B/A = ***3.578***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	PFO
Landform:	Side slope	Local Relief:	Concave
Slope (%):	2	Latitude: 46.442143	Longitude: -67.980158
Datum:	--		

Date:	09/16/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W025
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☑, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Mixed vegetation due to large area of pit and mound topography.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: NR	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: NR	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	6	1	10YR	3/1	98	10YR	3/3	2	C	M	mucky silt loam
6	18	2	2.5Y	5/2	95	10YR	4/6	5	C	M	fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☑ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W025 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	20	Y	FACU
2.	*Abies balsamea*	15	Y	FAC
3.	*Carpinus caroliniana*	5	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer saccharum*	20	Y	FACU
2.	*Fagus grandifolia*	15	Y	FACU
3.	*Fraxinus nigra*	5	N	FACW
4.	*Acer pensylvanicum*	5	N	FACU
5.	*Abies balsamea*	5	N	FAC
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 2 meter radius)

1.	*Glyceria melicaria*	40	Y	OBL
2.	*Carex scabrata*	40	Y	OBL
3.	*Impatiens capensis*	10	N	FACW
4.	*Abies balsamea*	2	N	FAC
5.	*Viburnum lantanoides*	3	N	FACU
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	95		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	80	x 1 =	80
FACW spp.	15	x 2 =	30
FAC spp.	27	x 3 =	81
FACU spp.	63	x 4 =	252
UPL spp.	0	x 5 =	0
Total	185 (A)		443 (B)

Prevalence Index = B/A = ***2.395***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Bill Leopold	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Convex
Slope (%):	3	Latitude: 46.439217	Longitude: -67.984042
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/27/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W033
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	6	1	7.5YR	3/4	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Bedrock Depth: 6"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W033 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer rubrum*	20	Y	FAC
2.	*Picea rubens*	10	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fraxinus nigra*	15	Y	FACW
2.	*Rubus idaeus*	10	Y	FACU
3.	*Picea glauca*	5	N	FACU
4.	*Acer rubrum*	5	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	35		

Herb Stratum (Plot size: 2 meter radius)

1.	*Fragaria virginiana*	20	Y	FACU
2.	*Fraxinus nigra*	20	Y	FACW
3.	*Impatiens capensis*	15	Y	FACW
4.	*Solidago canadensis*	10	N	FACU
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	65		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***57.1%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	50	x 2 =	100
FAC spp.	25	x 3 =	75
FACU spp.	55	x 4 =	220
UPL spp.	0	x 5 =	0
Total	130 (A)		395 (B)

Prevalence Index = B/A = ***3.038***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Bill Leopold	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	PFO
Landform:	Terrace	Local Relief:	Concave
Slope (%):	0	Latitude: 46.439164	Longitude: -67.984206
Datum:	--		

Date:	08/27/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W033
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: NR	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 12	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	7	1	10R	3/1	100	--	--	--	--	--	silt loam
7	8	2	10Y	3/1	100	--	--	--	--	--	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☑ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Bedrock Depth: 8"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W033 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Tsuga canadensis*	30	Y	FACU
2.	*Betula alleghaniensis*	10	N	FAC
3.	*Fraxinus nigra*	10	N	FACW
4.	*Picea rubens*	10	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	15	Y	FAC
2.	*Tsuga canadensis*	10	Y	FACU
3.	*Thuja occidentalis*	5	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	*Impatiens capensis*	50	Y	FACW
2.	*Carex intumescens*	20	Y	FACW
3.	*Glyceria melicaria*	5	N	OBL
4.	*Calamagrostis canadensis*	5	N	OBL
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	80		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***60.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	10	x 1 =	10
FACW spp.	85	x 2 =	170
FAC spp.	25	x 3 =	75
FACU spp.	50	x 4 =	200
UPL spp.	0	x 5 =	0
Total	170 (A)		455 (B)

Prevalence Index = B/A = ***2.676***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Mixed alluvial land	NWI/WWI Classification:	Upland
Landform:	Stream Valley	Local Relief:	Convex
Slope (%):	5	Latitude: 46.437763	Longitude: -67.9992
Datum:	--		

Date:	08/26/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W046
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐)

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Mixed alluvial land — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Fluvaquents

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	3	1	7.5YR	3/3	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐)

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 3"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W046 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Picea rubens*	30	Y	FACU
2.	*Abies balsamea*	30	Y	FAC
3.	*Betula alleghaniensis*	10	N	FAC
4.	*Acer rubrum*	10	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	80		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	40	Y	FAC
2.	*Picea rubens*	40	Y	FACU
3.	*Acer spicatum*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	85		

Herb Stratum (Plot size: 2 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	0		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	90	x 3 =	270
FACU spp.	75	x 4 =	300
UPL spp.	0	x 5 =	0
Total	165 (A)		570 (B)

Prevalence Index = B/A = ***3.455***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks: No herbaceous vegetation observed at plot location

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Mixed alluvial land	NWI/WWI Classification:	PSS
Landform:	Stream Valley	Local Relief:	Concave
Slope (%):	1-5	Latitude: 46.437711	Longitude: -67.999341
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/26/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W046
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☑ B2 - Sediment Deposits
- ☑ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☑ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☑ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☑ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: NR	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: NR	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Mixed alluvial land — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Fluvaquents

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	20	1	10YR	3/1	95	10YR	3/6	5	C	M	muck
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W046 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Alnus incana*	30	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	*Calamagrostis canadensis*	100	Y	OBL
2.	*Eutrochium maculatum*	25	N	OBL
3.	*Onoclea sensibilis*	5	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	130		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	125	x 1 =	125
FACW spp.	35	x 2 =	70
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	160 (A)		195 (B)

Prevalence Index = B/A = ***1.219***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	Upland
Landform:	Terrace	Local Relief:	Concave
Slope (%):	1	Latitude: 46.448308	Longitude: -67.985499
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/30/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W051
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	4	1	10YR	3/3	100	--	--	--	--	--	loam
4	10	2	10YR	3/6	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 10"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W051 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Fagus grandifolia*	35	Y	FACU
2.	*Acer rubrum*	15	Y	FAC
3.	*Abies balsamea*	15	Y	FAC
4.	*Betula alleghaniensis*	5	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	70		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fagus grandifolia*	20	Y	FACU
2.	*Acer saccharum*	10	Y	FACU
3.	*Corylus cornuta*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	35		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer rubrum*	2	Y	FAC
2.	*Corylus cornuta*	2	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	4		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***42.9%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	37	x 3 =	111
FACU spp.	72	x 4 =	288
UPL spp.	0	x 5 =	0
Total	109 (A)		399 (B)

Prevalence Index = B/A = ***3.661***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	PEM
Landform:	Terrace	Local Relief:	Concave
Slope (%):	1	Latitude: 46.448413	Longitude: -67.985367
Datum:	--		

Date:	07/30/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W051
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☑ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 8	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	1	10YR	2/2	--	--	--	--	--	--	muck
0	0.5	2	10YR	3/2	100	--	--	--	--	--	sand
0.5	3	3	10YR	6/2	95	10YR	4/6	5	C	M	sand
3	14	4	10YR	4/6	90	5YR	3/6	10	C	M	sand
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☑ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Soil meets the IX, Spodosol, indicator from the *Field Indicators for Identifying Hydric Soils in New England*.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W051 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	10	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	10		

Herb Stratum (Plot size: 2 meter radius)

1.	*Calamagrostis canadensis*	30	Y	OBL
2.	*Onoclea sensibilis*	10	Y	FACW
3.	*Osmundastrum cinnamomeum*	10	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	50		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	30	x 1 =	30
FACW spp.	20	x 2 =	40
FAC spp.	10	x 3 =	30
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	60 (A)		100 (B)

Prevalence Index = B/A = ***1.667***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Bill Leopold	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	Upland
Landform:	Terrace	Local Relief:	Convex
Slope (%):	3	Latitude: 46.448104	Longitude: -67.98547
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/30/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W052
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	3	1	2.5Y	3/2	100	--	--	--	--	--	NR
3	7	2	2.5Y	4/4	80	2.5Y	4/2	20	D	M	NR
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Bedrock Depth: 7"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W052 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Tsuga canadensis*	5	Y	FACU
2.	*Betula alleghaniensis*	5	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	10		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer pensylvanicum*	20	Y	FACU
2.	*Betula alleghaniensis*	20	Y	FAC
3.	*Pinus strobus*	10	N	FACU
4.	*Betula populifolia*	5	N	FAC
5.	*Picea glauca*	5	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Herb Stratum (Plot size: 2 meter radius)

1.	*Dryopteris marginalis*	20	Y	FACU
2.	*Tsuga canadensis*	5	N	FACU
3.	*Elymus glaucus*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	30		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***40.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	30	x 3 =	90
FACU spp.	70	x 4 =	280
UPL spp.	0	x 5 =	0
Total	100 (A)		370 (B)

Prevalence Index = B/A = ***3.700***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Bill Leopold	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	PSS
Landform:	Depression	Local Relief:	Concave
Slope%	3	Latitude: 46.448078	Longitude: -67.985535
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☑, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	07/30/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W052
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks: Roadside ditch, previously excavated, large stones in ditch

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☑ B1 - Water Marks
- ☑ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☑ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: large stones, rocks Depth: 0"

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Soils recently disturbed by excavation of ditch, unable to dig soil test pit due to exposed rock and large stones.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W052 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Vaccinium corymbosum*	15	Y	FACW
2.	*Tsuga canadensis*	15	Y	FACU
3.	*Salix bebbiana*	10	Y	FACW
4.	*Betula alleghaniensis*	5	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

Herb Stratum (Plot size: 2 meter radius)

1.	*Scirpus cyperinus*	30	Y	OBL
2.	*Carex crinita*	20	Y	OBL
3.	*Equisetum hyemale*	5	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	55		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***80.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	50	x 1 =	50
FACW spp.	25	x 2 =	50
FAC spp.	10	x 3 =	30
FACU spp.	15	x 4 =	60
UPL spp.	0	x 5 =	0
Total	100 (A)		190 (B)

Prevalence Index = B/A = ***1.900***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	Upland
Landform:	Terrace	Local Relief:	Concave
Slope (%):	0	Latitude: 46.448162	Longitude: -67.981122
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/29/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W053
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	☐ Yes	☑ No	Hydric Soils Present?	☐ Yes	☑ No
Wetland Hydrology Present?	☐ Yes	☑ No	Is This Sampling Point Within A Wetland?	☐ **Yes**	☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	1	Black	--	--	--	--	--	--	--	sapric organic
0	1	2	7.5YR	5/2	100	--	--	--	--	--	silt loam
1	3	3	7.5YR	3/4	100	--	--	--	--	--	silt loam
3	13	4	7.5YR	5/6	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W053 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	50	Y	FAC
2.	*Tsuga canadensis*	10	N	FACU
3.	*Acer saccharum*	10	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	70		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer pensylvanicum*	30	Y	FACU
2.	*Viburnum lantanoides*	20	Y	FACU
3.	*Betula alleghaniensis*	10	N	FAC
4.	*Picea rubens*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	65		

Herb Stratum (Plot size: 2 meter radius)

1.	*Maianthemum canadense*	25	Y	FACU
2.	*Lonicera canadensis*	5	N	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	30		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***25.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	60	x 3 =	180
FACU spp.	105	x 4 =	420
UPL spp.	0	x 5 =	0
Total	165 (A)		600 (B)

Prevalence Index = B/A = ***3.636***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	PFO
Landform:	Terrace	Local Relief:	Concave
Slope (%):	0	Latitude: 46.447969	Longitude: -67.981054
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/29/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W053
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☑ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: NR	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 1	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
8	0	1	10YR 2/2	–	-- --	--	--	--	muck
0	2	2	10YR 6/2	75	7.5YR 5/8	15	C	M	loam
--	--	–	– --	–	10YR 4/6	10	C	M	--
--	--	–	– --	–	-- --	--	--	--	--
--	--	–	– --	–	-- --	--	--	--	--
--	--	–	– --	–	-- --	--	--	--	--
--	--	–	– --	–	-- --	--	--	--	--
--	--	–	– --	–	-- --	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 10"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W053 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	15	Y	FAC
2.	*Acer saccharum*	10	Y	FACU
3.	*Acer rubrum*	10	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	35		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Corylus cornuta*	10	Y	FACU
2.	*Acer pensylvanicum*	5	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	15		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex vulpinoidea*	40	Y	OBL
2.	*Impatiens capensis*	20	Y	FACW
3.	*Scirpus cyperinus*	5	N	OBL
4.	*Fraxinus nigra*	5	N	FACW
5.	*Acer rubrum*	5	N	FAC
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	75		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***57.1%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	45	x 1 =	45
FACW spp.	25	x 2 =	50
FAC spp.	30	x 3 =	90
FACU spp.	25	x 4 =	100
UPL spp.	0	x 5 =	0
Total	125 (A)		285 (B)

Prevalence Index = B/A = ***2.280***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chris Dorion	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	Upland
Landform:	Backslope	Local Relief:	Convex
Slope (%):	20	Latitude: 46.448941	Longitude: -67.977971
Datum:	--		

Date:	08/12/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W057
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	3	1	7.5YR	2.5/1	100	--	--	--	--	--	NR
3	5	2	7.5YR	5/2	100	--	--	--	--	--	sandy loam
5	11	3	7.5YR	3/4	100	--	--	--	--	--	sandy loam
11	16	4	7.5YR	4/4	100	--	--	--	--	--	sandy loam
16	20	5	10YR	3/3	100	--	--	--	--	--	sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W057 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Fagus grandifolia*	40	Y	FACU
2.	*Picea rubens*	35	Y	FACU
3.	*Betula alleghaniensis*	15	N	FAC
4.	*Betula papyrifera*	15	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	105		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Picea rubens*	60	Y	FACU
2.	*Fagus grandifolia*	10	N	FACU
3.	*Acer pensylvanicum*	10	N	FACU
4.	*Viburnum lantanoides*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	85		

Herb Stratum (Plot size: 2 meter radius)

1.	*Maianthemum canadense*	30	Y	FACU
2.	*Clintonia borealis*	8	N	FAC
3.	*Oclemena acuminata*	5	N	FACU
4.	*Acer pensylvanicum*	5	N	FACU
5.	*Viburnum lantanoides*	5	N	FACU
6	*Aralia nudicaulis*	2	N	FACU
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	55		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***0.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	23	x 3 =	69
FACU spp.	222	x 4 =	888
UPL spp.	0	x 5 =	0
Total	245 (A)		957 (B)

Prevalence Index = B/A = ***3.906***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chris Dorion	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	PFO
Landform:	Toeslope	Local Relief:	Level
Slope (%):	1	Latitude: 46.449159	Longitude: -67.978122
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/12/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W057
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☑ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 4	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	11	1	10YR	3/1	100	--	--	--	--	--	mucky silt loam
11	14	2	7.5YR	2.5/2	100	--	--	--	--	--	muck
14	18	3	Gley 1	5/5G	100	--	--	--	--	--	very fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☑ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 18"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W057 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Fraxinus pennsylvanica*	30	Y	FACW
2.	*Betula alleghaniensis*	40	Y	FAC
3.	*Abies balsamea*	20	N	FAC
4.	*Picea rubens*	5	N	FACU
5.	*Thuja occidentalis*	5	N	FACW
6.	*Ulmus americana*	2	N	FACW
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	102		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	17	Y	FAC
2.	*Acer pensylvanicum*	7	Y	FACU
3.	*Betula alleghaniensis*	3	N	FAC
4.	*Thuja occidentalis*	3	N	FACW
5.	*Fraxinus pennsylvanica*	2	N	FACW
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	32		

Herb Stratum (Plot size: 2 meter radius)

1.	*Lycopus uniflorus*	15	Y	OBL
2.	*Impatiens capensis*	12	Y	FACW
3.	*Onoclea sensibilis*	5	N	FACW
4.	*Osmundastrum cinnamomeum*	5	N	FACW
5.	*Rubus pubescens*	2	N	FACW
6	*Linnaea borealis*	2	N	FAC
7.	*Carex sp.*	1	N	NL
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	42		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***83.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	15	x 1 =	15
FACW spp.	66	x 2 =	132
FAC spp.	82	x 3 =	246
FACU spp.	12	x 4 =	48
UPL spp.	0	x 5 =	0
Total	175 (A)		441 (B)

Prevalence Index = B/A = ***2.520***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Thorndike very rocky silt loam	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Convex
Slope (%):	5-7	Latitude: 46.44972	Longitude: -67.994447
Datum:	--		

Date:	07/15/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W099
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 8	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 3	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike very rocky silt loam — Series Drainage Class: somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	8	1	10YR	3/1	98	10YR	3/6	2	C	M	silt loam
8	17	2	10YR	5/4	95	7.5YR	5/8	5	C	M	silt loam
17	22	3	2.5Y	5/3	90	10YR	5/6	10	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W099 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	20	Y	FAC
2.	*Carpinus caroliniana*	10	Y	FAC
3.	*Fagus grandifolia*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	35		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fagus grandifolia*	20	Y	FACU
2.	*Acer pensylvanicum*	20	Y	FACU
3.	*Acer saccharum*	10	N	FACU
4.	*Viburnum lantanoides*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	55		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer saccharum*	5	Y	FACU
2.	*Viburnum lantanoides*	5	Y	FACU
3.	*Acer pensylvanicum*	5	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	15		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***28.6%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	30	x 3 =	90
FACU spp.	75	x 4 =	300
UPL spp.	0	x 5 =	0
Total	105 (A)		390 (B)

Prevalence Index = B/A = ***3.714***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Thorndike very rocky silt loam	NWI/WWI Classification:	PEM
Landform:	Side slope	Local Relief:	Concave
Slope (%):	5-7	Latitude: 46.449766	Longitude: -67.994296
Datum:	--		

Date:	07/15/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W099
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☑ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: 3-6	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 6	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike very rocky silt loam — Series Drainage Class: somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	1	10YR 2/2	100	-- --	--	--	--	muck
0	4	2	10YR 3/2	85	10YR 5/1	15	C	M	silt loam
4	10	3	2.5Y 5/2	75	5YR 4/6	25	C	M	fine sandy loam
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☑ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 12"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W099 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer saccharum*	10	Y	FACU
2.	*Corylus cornuta*	2	N	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	12		

Herb Stratum (Plot size: 2 meter radius)

1.	*Osmunda claytoniana*	30	Y	FAC
2.	*Impatiens capensis*	25	Y	FACW
3.	*Glyceria striata*	15	Y	OBL
4.	*Carex crinita*	5	N	OBL
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	75		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***75.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	20	x 1 =	20
FACW spp.	25	x 2 =	50
FAC spp.	30	x 3 =	90
FACU spp.	12	x 4 =	48
UPL spp.	0	x 5 =	0
Total	87 (A)		208 (B)

Prevalence Index = B/A = ***2.391***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Kenny Presgreaves	Investigator #2:	
Soil Unit:	Stetson gravelly loam	NWI/WWI Classification:	Upland
Landform:	Summit	Local Relief:	NR
Slope (%):	NR	Latitude: 46.444885	Longitude: -68.043702
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/26/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W115
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Stetson gravelly loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Typic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	8	1	10YR	3/2	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Compact gravel Depth: 8"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W115 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	50	Y	FACU
2.	*Betula alleghaniensis*	25	Y	FAC
3.	*Picea rubens*	15	N	FACU
4.	*Thuja occidentalis*	15	N	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	105		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer saccharum*	25	Y	FACU
2.	*Picea rubens*	15	Y	FACU
3.	*Thuja occidentalis*	5	N	FACW
4.	*Cornus alternifolia*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 2 meter radius)

1.	*Parathelypteris noveboracensis*	10	Y	FAC
2.	*Carex sp.*	5	Y	NL
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	15		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***33.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	20	x 2 =	40
FAC spp.	35	x 3 =	105
FACU spp.	110	x 4 =	440
UPL spp.	0	x 5 =	0
Total	165 (A)		585 (B)

Prevalence Index = B/A = ***3.545***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Kenny Presgreaves	Investigator #2:	
Soil Unit:	Stetson gravelly loam	NWI/WWI Classification:	PFO
Landform:	Summit	Local Relief:	NR
Slope (%):	NR	Latitude: 46.444902	Longitude: -68.043862
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/26/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W115
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T9 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 8	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Stetson gravelly loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Typic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
12	0	1	10YR	2/1	100	--	--	--	--	--	muck
0	8	2	2.5Y	5/2	70	10YR	5/6	30	C	M	fine sandy clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W115 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Picea rubens*	40	Y	FACU
2.	*Acer rubrum*	20	Y	FAC
3.	*Tsuga canadensis*	15	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	75		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Picea rubens*	20	Y	FACU
2.	*Acer rubrum*	10	Y	FAC
3.	*Fraxinus pennsylvanica*	10	Y	FACW
4.	*Betula alleghaniensis*	10	Y	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 2 meter radius)

1.	*Parathelypteris noveboracensis*	40	Y	FAC
2.	*Glyceria striata*	25	Y	OBL
3.	*Impatiens capensis*	15	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	80		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***66.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	25	x 1 =	25
FACW spp.	25	x 2 =	50
FAC spp.	80	x 3 =	240
FACU spp.	75	x 4 =	300
UPL spp.	0	x 5 =	0
Total	205 (A)		615 (B)

Prevalence Index = B/A = ***3.000***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Bill Leopold	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Concave
Slope (%):	4	Latitude: 46.436214	Longitude: -68.016338
Datum:	--		

Date:	08/26/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W150
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	5	1	5YR	4/3	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Bedrock Depth: 5"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W150 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	20	Y	FAC
2.	*Tsuga canadensis*	20	Y	FACU
3.	*Picea mariana*	5	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Viburnum lantanoides*	20	Y	FACU
2.	*Acer pensylvanicum*	10	Y	FACU
3.	*Acer pensylvanicum*	10	Y	FACU
4.	*Acer saccharum*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

Herb Stratum (Plot size: 2 meter radius)

1.	*Dryopteris intermedia*	30	Y	FAC
2.	*Acer pensylvanicum*	10	Y	FACU
3.	*Thuja occidentalis*	5	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	45		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***28.6%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	10	x 2 =	20
FAC spp.	50	x 3 =	150
FACU spp.	75	x 4 =	300
UPL spp.	0	x 5 =	0
Total	135 (A)		470 (B)

Prevalence Index = B/A = ***3.481***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Bill Leopold	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	PFO
Landform:	Side slope	Local Relief:	Concave
Slope (%):	3	Latitude: 46.436236	Longitude: -68.016228
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/26/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W150
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: 0-2	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 5	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	3	1	5YR	4/2	100	--	--	--	--	--	silt loam
3	7	2	5YR	2.5/1	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☑ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Bedrock Depth: 7"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W150 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Thuja occidentalis*	20	Y	FACW
2.	*Tsuga canadensis*	20	Y	FACU
3.	*Picea rubens*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	10	Y	FAC
2.	*Acer rubrum*	5	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	15		

Herb Stratum (Plot size: 2 meter radius)

1.	*Glyceria melicaria*	50	Y	OBL
2.	*Carex lurida*	30	Y	OBL
3.	*Impatiens capensis*	10	N	FACW
4.	*Dryopteris intermedia*	10	N	FAC
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***83.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	80	x 1 =	80
FACW spp.	30	x 2 =	60
FAC spp.	25	x 3 =	75
FACU spp.	25	x 4 =	100
UPL spp.	0	x 5 =	0
Total	160 (A)		315 (B)

Prevalence Index = B/A = ***1.969***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	Upland
Landform:	Stream Valley	Local Relief:	Convex
Slope (%):	10	Latitude: 46.435459	Longitude: -68.021074
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/26/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W153
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐)

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
7	0	1	5YR	2.5/1	100	--	--	--	--	--	sapric organic
0	1	2	7.5YR	5/4	100	--	--	--	--	--	silt loam
1	6	3	5YR	4/6	100	--	--	--	--	--	silt loam
6	11	4	10YR	6/6	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐)

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W153 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	25	Y	FAC
2.	*Acer saccharum*	10	Y	FACU
3.	*Abies balsamea*	10	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	10	Y	FAC
2.	*Betula alleghaniensis*	10	Y	FAC
3.	*Acer pensylvanicum*	5	N	FACU
4.	*Fagus grandifolia*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	*Maianthemum canadense*	5	Y	FACU
2.	*Viburnum lantanoides*	5	Y	FACU
3.	*Aralia nudicaulis*	2	N	FACU
4.	*Clintonia borealis*	3	Y	FAC
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	15		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***62.5%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	58	x 3 =	174
FACU spp.	32	x 4 =	128
UPL spp.	0	x 5 =	0
Total	90 (A)		302 (B)

Prevalence Index = B/A = ***3.356***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	PFO
Landform:	Stream Valley	Local Relief:	Concave
Slope (%):	2	Latitude: 46.435583	Longitude: -68.021067
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☑, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/25/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W153
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Hydrology disturbed by existing gravel road.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: NR	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 4	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	25	1	10YR	2/1	100	--	--	--	--	--	muck
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 25"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W153 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	40	Y	FAC
2.	*Abies balsamea*	15	Y	FAC
3.	*Acer rubrum*	5	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer spicatum*	5	Y	FACU
2.	*Alnus incana*	5	Y	FACW
3.	*Thuja occidentalis*	5	Y	FACW
4.	*Acer rubrum*	5	Y	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Herb Stratum (Plot size: 2 meter radius)

1.	*Impatiens capensis*	20	Y	FACW
2.	*Calamagrostis canadensis*	20	Y	OBL
3.	*Osmundastrum cinnamomeum*	20	Y	FACW
4.	*Glyceria melicaria*	20	Y	OBL
5.	*Carex gynandra*	20	Y	OBL
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 10 (A)

Total Number of Dominant Species Across All Strata: 11 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***90.9%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	60	x 1 =	60
FACW spp.	50	x 2 =	100
FAC spp.	65	x 3 =	195
FACU spp.	5	x 4 =	20
UPL spp.	0	x 5 =	0
Total	180 (A)		375 (B)

Prevalence Index = B/A = ***2.083***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chuck Ferris	Investigator #2:	
Soil Unit:	Thorndike very rocky silt loam	NWI/WWI Classification:	Upland
Landform:	Summit	Local Relief:	NR
Slope (%):	NR	Latitude: 46.423441	Longitude: -68.013929
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/21/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W175
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike very rocky silt loam — Series Drainage Class: somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
4	0	Duff	--	--	--	--	--	--	--	--	--
0	1	1	10YR	3/1	100	--	--	--	--	--	silt loam
1	8	2	10YR	4/4	100	--	--	--	--	--	silt loam
8	16	3	2.5Y	5/3	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W175 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	5	Y	FAC
2.	*Abies balsamea*	5	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	10		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer saccharum*	25	Y	FACU
2.	*Fagus grandifolia*	25	Y	FACU
3.	*Abies balsamea*	10	N	FAC
4.	*Viburnum lantanoides*	3	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	63		

Herb Stratum (Plot size: 2 meter radius)

1.	*Osmunda claytoniana*	10	Y	FAC
2.	*Dryopteris intermedia*	2	N	FAC
3.	*Maianthemum canadense*	1	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	13		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***60.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	32	x 3 =	96
FACU spp.	54	x 4 =	216
UPL spp.	0	x 5 =	0
Total	86 (A)		312 (B)

Prevalence Index = B/A = ***3.628***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chuck Ferris	Investigator #2:	
Soil Unit:	Thorndike very rocky silt loam	NWI/WWI Classification:	PFO
Landform:	Summit	Local Relief:	NR
Slope (%):	NR	Latitude: 46.423311	Longitude: -68.013786
Datum:	--		

Date:	08/21/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W175
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 0	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike very rocky silt loam — Series Drainage Class: somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
6	0	1	--	NR	--	--	--	--	--	muck
0	16	2	Gley 1	5/5GY	90	NR	NR	10	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☑ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W175 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	20	Y	FAC
2.	*Picea rubens*	15	Y	FACU
3.	*Abies balsamea*	5	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Alnus incana*	30	Y	FACW
2.	*Betula alleghaniensis*	10	Y	FAC
3.	*Abies balsamea*	5	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

Herb Stratum (Plot size: 2 meter radius)

1.	*Impatiens capensis*	25	Y	FACW
2.	*Onoclea sensibilis*	10	Y	FACW
3.	*Athyrium angustum*	5	N	FAC
4.	*Carex crinita*	2	N	OBL
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	42		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***83.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	2	x 1 =	2
FACW spp.	65	x 2 =	130
FAC spp.	45	x 3 =	135
FACU spp.	15	x 4 =	60
UPL spp.	0	x 5 =	0
Total	127 (A)		327 (B)

Prevalence Index = B/A = ***2.575***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	Upland
Landform:	Stream Valley	Local Relief:	Concave
Slope (%):	0-8	Latitude: 46.432357	Longitude: -68.041975
Datum:	--		

Date:	07/31/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W191
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑:

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	10	1	7.5YR	2.5/2	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑:

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 10"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W191 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Tsuga canadensis*	30	Y	FACU
2.	*Abies balsamea*	20	Y	FAC
3.	*Acer saccharum*	10	N	FACU
4.	*Betula alleghaniensis*	10	N	FAC
5.	*Picea rubens*	10	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	80		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	25	Y	FAC
2.	*Acer pensylvanicum*	35	Y	FACU
3.	*Tsuga canadensis*	10	N	FACU
4.	*Viburnum lantanoides*	10	N	FACU
5.	*Thuja occidentalis*	10	N	FACW
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	90		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer saccharum*	2	Y	FACU
2.	*Viburnum lantanoides*	2	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	4		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***33.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	10	x 2 =	20
FAC spp.	55	x 3 =	165
FACU spp.	109	x 4 =	436
UPL spp.	0	x 5 =	0
Total	174 (A)		621 (B)

Prevalence Index = B/A = ***3.569***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	PSS
Landform:	Stream Valley	Local Relief:	Concave
Slope (%):	0	Latitude: 46.432418	Longitude: -68.0418
Datum:	--		

Date:	07/30/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W191
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Wetland includes PFO and PSS communities. Plot located in the PSS community.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: NR	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: NR	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: NR	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
12	0	1	10YR 2/2	100	-- --	--	--	--	muck
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 12"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W191 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Alnus incana*	40	Y	FACW
2.	*Acer rubrum*	20	Y	FAC
3.	*Betula alleghaniensis*	20	Y	FAC
4.	*Abies balsamea*	20	Y	FAC
5.	*Thuja occidentalis*	5	N	FACW
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	105		

Herb Stratum (Plot size: 2 meter radius)

1.	*Glyceria melicaria*	100	Y	OBL
2.	*Acer spicatum*	5	N	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	105		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	100	x 1 =	100
FACW spp.	45	x 2 =	90
FAC spp.	60	x 3 =	180
FACU spp.	5	x 4 =	20
UPL spp.	0	x 5 =	0
Total	210 (A)		390 (B)

Prevalence Index = B/A = ***1.857***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renwables		
Investigator #1:	Bill Leopold	Investigator #2:	
Soil Unit:	Mixed alluvial land	NWI/WWI Classification:	Upland
Landform:	Terrace	Local Relief:	Convex
Slope (%):	2	Latitude: 46.436649	Longitude: -68.033875
Datum:	--		

Date:	08/25/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W200
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Mixed alluvial land — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Fluvaquents

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	14	1	2.5Y	4/4	100	--	--	--	--	--	sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 14"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W200 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Tsuga canadensis*	40	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	30	Y	FAC
2.	*Acer pensylvanicum*	5	N	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	35		

Herb Stratum (Plot size: 2 meter radius)

1.	*Onoclea sensibilis*	40	Y	FACW
2.	*Dryopteris intermedia*	20	Y	FAC
3.	*Fraxinus pennsylvanica*	10	N	FACW
4.	*Impatiens capensis*	10	N	FACW
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	80		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***75.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	60	x 2 =	120
FAC spp.	50	x 3 =	150
FACU spp.	45	x 4 =	180
UPL spp.	0	x 5 =	0
Total	155 (A)		450 (B)

Prevalence Index = B/A = ***2.903***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Bill Leopold	Investigator #2:	
Soil Unit:	Mixed alluvial land	NWI/WWI Classification:	PFO
Landform:	Terrace	Local Relief:	Concave
Slope (%):	0	Latitude: 46.436657	Longitude: -68.033635
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/25/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W200
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☑ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Mixed alluvial land — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Fluvaquents

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	13	1	10YR	4/1	95	5YR	5/8	5	C	M	silt loam
13	15	2	5YR	5/1	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 15"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W200 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Tsuga canadensis*	30	Y	FACU
2.	*Picea rubens*	10	Y	FACU
3.	*Betula alleghaniensis*	10	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	20	Y	FAC
2.	*Tsuga canadensis*	5	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	25		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex lurida*	40	Y	OBL
2.	*Glyceria melicaria*	25	Y	OBL
3.	*Impatiens capensis*	20	Y	FACW
4.	*Onoclea sensibilis*	10	N	FACW
5.	*Glyceria striata*	5	N	OBL
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***62.5%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	70	x 1 =	70
FACW spp.	30	x 2 =	60
FAC spp.	30	x 3 =	90
FACU spp.	45	x 4 =	180
UPL spp.	0	x 5 =	0
Total	175 (A)		400 (B)

Prevalence Index = B/A = ***2.286***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Rewnewables		
Investigator #1:	Mike de Villers	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	NR
Slope (%):	5	Latitude: 46.409769	Longitude: -68.035289
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/29/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W242
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
3	0	1	--	NR	--	--	--	--	organic
0	13	2	10YR	4/3	98	10YR	4/6	2	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 16"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W242 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	30	Y	FAC
2.	*Acer saccharum*	20	Y	FACU
3.	*Thuja occidentalis*	20	Y	FACW
4.	*Betula papyrifera*	10	N	FACU
5.	*Abies balsamea*	5	N	FAC
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	85		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer pensylvanicum*	10	Y	FACU
2.	*Acer saccharum*	10	Y	FACU
3.	*Abies balsamea*	10	Y	FAC
4.	*Acer spicatum*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	35		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer saccharum*	20	Y	FACU
2.	*Viburnum lantanoides*	20	Y	FACU
3.	*Dryopteris intermedia*	10	Y	FAC
4.	*Alnus incana*	5	N	FACW
5.	*Osmunda claytoniana*	5	N	FAC
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	60		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***44.4%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	25	x 2 =	50
FAC spp.	60	x 3 =	180
FACU spp.	95	x 4 =	380
UPL spp.	0	x 5 =	0
Total	180 (A)		610 (B)

Prevalence Index = B/A = ***3.389***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Mike de Villers	Investigator #2:	
Soil Unit:	Plaisted very stony loam	NWI/WWI Classification:	PEM
Landform:	Terrace	Local Relief:	Concave
Slope (%):	2	Latitude: 46.409734	Longitude: -68.035396
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	07/29/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W242
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: 1	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: NR	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: NR	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted very stony loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
3	0	1	--	NR	--	--	--	--	muck
0	9	2	10YR	4/1	95	10YR	3/6	5	C	PL	silt loam
9	13	3	Gley 1	3/10Y	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 16"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W242 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	10	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	10		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	10	Y	FAC
2.	*Thuja occidentalis*	10	Y	FACW
3.	*Abies balsamea*	5	N	FAC
4.	*Acer rubrum*	5	N	FAC
5.	*Alnus incana*	5	N	FACW
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	35		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex crinita*	30	Y	OBL
2.	*Glyceria striata*	30	Y	OBL
3.	*Impatiens capensis*	20	Y	FACW
4.	*Carex scoparia*	10	N	FACW
5.	*Onoclea sensibilis*	10	N	FACW
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	60	x 1 =	60
FACW spp.	55	x 2 =	110
FAC spp.	30	x 3 =	90
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	145 (A)		260 (B)

Prevalence Index = B/A = ***1.793***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chuck Ferris	Investigator #2:	
Soil Unit:	Thorndike very rocky silt loam	NWI/WWI Classification:	Upland
Landform:	Summit	Local Relief:	NR
Slope (%):	15-25	Latitude: 46.410934	Longitude: -68.020671
Datum:	--		

Date:	07/30/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W260
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike very rocky silt loam — Series Drainage Class: somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
4	0	Duff	--	--	--	--	--	--	--	--	--
0	0.5	1	NR	NR	NR	--	--	--	--	--	NR
0.5	6	2	10YR	4/6	100	--	--	--	--	--	NR
6	16	3	10YR	5/6	100	--	--	--	--	--	NR
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W260 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Picea rubens*	10	Y	FACU
2.	*Fagus grandifolia*	10	Y	FACU
3.	*Acer saccharum*	5	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	25		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer pensylvanicum*	25	Y	FACU
2.	*Fagus grandifolia*	20	Y	FACU
3.	*Viburnum lantanoides*	20	Y	FACU
4.	*Acer saccharum*	15	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	80		

Herb Stratum (Plot size: 2 meter radius)

1.	*Dryopteris intermedia*	30	Y	FAC
2.	*Viburnum lantanoides*	25	Y	FACU
3.	*Aralia nudicaulis*	5	N	FACU
4.	*Acer saccharum*	5	N	FACU
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	65		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***12.5%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	30	x 3 =	90
FACU spp.	140	x 4 =	560
UPL spp.	0	x 5 =	0
Total	170 (A)		650 (B)

Prevalence Index = B/A = ***3.824***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chuck Ferris	Investigator #2:	
Soil Unit:	Thorndike very rocky silt loam	NWI/WWI Classification:	PEM
Landform:	Summit	Local Relief:	NR
Slope (%):	NR	Latitude: 46.41096	Longitude: -68.020724
Datum:	--		

Date:	07/30/14
County:	Aroostook
State:	Maine
Wetland ID:	TDR2_W260
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	TD R2 WELS
Range:	-- Dir: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Thorndike very rocky silt loam — Series Drainage Class: somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
8	0	1	--	--	--	--	--	--	--	--	muck
0	8	2	5Y	4/1	90	10YR	5/6	10	C	M	NR
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Compacted layer Depth: 16"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TDR2_W260 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex scabrata*	30	Y	OBL
2.	*Impatiens capensis*	25	Y	FACW
3.	*Athyrium angustum*	10	N	FAC
4.	*Glyceria melicaria*	5	N	OBL
5.	*Glyceria striata*	2	N	OBL
6	*Solidago canadensis*	2	N	FACU
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	74		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	37	x 1 =	37
FACW spp.	25	x 2 =	50
FAC spp.	10	x 3 =	30
FACU spp.	2	x 4 =	8
UPL spp.	0	x 5 =	0
Total	74 (A)		125 (B)

Prevalence Index = B/A = ***1.689***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

WETLAND DETERMINATION DATA FORMS: NORTH GENERATOR LEAD

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chris Dorian	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams, 8-15% slopes	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Linear
Slope (%):	3	Latitude: 46.239989	Longitude: -68.037657
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	09/11/14
County:	Aroostook
State:	Maine
Wetland ID:	HAMM_W015
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	Hammond
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Plaisted and Howland very stony loams, 8-15% slopes Series Drainage Class: Well drained/Moderately well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods/Aquic Haplorthod

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
3	0	1	7.5YR	2.5/2	100	--	--	--	--	--	fibric organic
0	2	2	7.5YR	6/2	100	--	--	--	--	--	loam
2	6	3	7.5YR	5/4	100	--	--	--	--	--	loam
6	12	4	10YR	5/4	100	--	--	--	--	--	silt loam
12	14	5	10YR	5/3	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Dense horizon (Cd) Depth: 15"

Hydric Soil Present? ☐ Yes ☑ No

Remarks: Soil is a spododol and the second horizon is an albic E-horizon.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAMM_W015 | Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Fagus grandifolia*	75	Y	FACU
2.	*Betula alleghaniensis*	30	Y	FAC
3.	*Acer saccharum*	20	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	125		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Corylus cornuta*	60	Y	FACU
2.	*Acer saccharum*	40	Y	FACU
3.	*Betula alleghaniensis*	25	N	FAC
4.	*Fagus grandifolia*	15	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	140		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer saccharum*	20	Y	FACU
2.	*Corylus cornuta*	20	Y	FACU
3.	*Viburnum lantanoides*	10	N	FACU
4.	*Dryopteris intermedia*	10	N	FAC
5.	*Aralia nudicaulis*	5	N	FACU
6	*Lycopodium clavatum*	2	N	FAC
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	67		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***16.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	67	x 3 =	201
FACU spp.	265	x 4 =	1060
UPL spp.	0	x 5 =	0
Total	332 (A)		1261 (B)

Prevalence Index = B/A = ***3.798***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chris Dorian	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams, 8-15% slopes	NWI/WWI Classification:	PEM
Landform:	Footslope	Local Relief:	Linear
Slope (%):	2	Latitude: 46.240168	Longitude: -68.037513
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☑, or Hydrology ☑ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	09/10/14
County:	Aroostook
State:	Maine
Wetland ID:	HAMM_W015
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	Hammond
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Plot loacted in shallow borrow area created during construction of logging road.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 11	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Plaisted and Howland very stony loams, 8-15% slopes — Series Drainage Class: Well drained/Moderately well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods/Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	6	1	10YR	4/2	80	7.5YR	4/4	20	C	PL	mucky loam
6	11	2	2.5Y	3/2	100	--	--	--	--	--	mucky loam
11	18	3	5Y	5/2	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☑ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAMM_W015 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer rubrum*	2	N	FAC
2.	*Salix lucida*	1	N	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	3		

Herb Stratum (Plot size: 2 meter radius)

1.	*Scirpus cyperinus*	100	Y	OBL
2.	*Impatiens capensis*	15	N	FACW
3.	*Persicaria sagittata*	15	N	OBL
4.	*Rubus idaeus*	10	N	FACU
5.	*Euthamia graminifolia*	5	N	FAC
6	*Carex gynandra*	5	N	OBL
7.	*Athyrium angustum*	2	N	FAC
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	152		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	120	x 1 =	120
FACW spp.	16	x 2 =	32
FAC spp.	9	x 3 =	27
FACU spp.	10	x 4 =	40
UPL spp.	0	x 5 =	0
Total	155 (A)		219 (B)

Prevalence Index = B/A = ***1.413***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks: Sapling/shrub statum had ness than 5% total cover and was not included in the dominance calculation.

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chris Dorian	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams, 8-15% slopes	NWI/WWI Classification:	Upland
Landform:	Footslope	Local Relief:	Concave
Slope (%):	3	Latitude: 46.237461	Longitude: -68.007144
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☑, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☐ Yes ☑No

Date:	09/09/14
County:	Aroostook
State:	Maine
Wetland ID:	HAMM_W037
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	--
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Area was regraded approximately 30-40 years prior for forestry log yard.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Plaisted and Howland very stony loams, 8-15% slopes Series Drainage Class: Well drained/Moderately well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods/Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix	Matrix %	Mottles Color (Moist)	Mottles	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
4	0	1	--	NR	--	--	--	--	--	--	fibric organic
4	6	2	10YR	5/3	100	--	--	--	--	--	loam
6	11	3	10YR	4/3	100	--	--	--	--	--	loam
11	14	4	2.5Y	4/3	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Dense horizon (Cd) Depth: 14"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAMM_W037 | Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	25	Y	FACU
2.	*Picea rubens*	15	Y	FACU
3.	*Betula alleghaniensis*	12	Y	FAC
4.	*Fraxinus americana*	2	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	54		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer saccharum*	80	Y	FACU
2.	*Corylus cornuta*	30	Y	FACU
3.	*Acer pensylvanicum*	15	N	FACU
4.	*Fraxinus nigra*	5	N	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	130		

Herb Stratum (Plot size: 2 meter radius)

1.	*Viburnum lantanoides*	25	Y	FACU
2.	*Acer saccharum*	20	Y	FACU
3.	*Dryopteris intermedia*	10	N	FAC
4.	*Aralia nudicaulis*	2	N	FACU
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	57		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***14.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	5	x 2 =	10
FAC spp.	22	x 3 =	66
FACU spp.	214	x 4 =	856
UPL spp.	0	x 5 =	0
Total	241 (A)		932 (B)

Prevalence Index = B/A = ***3.867***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chris Dorian	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams, 8-15% slopes	NWI/WWI Classification:	PEM
Landform:	Toeslope	Local Relief:	Convex
Slope (%):	1	Latitude: 46.237611	Longitude: -68.006925 Datum: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☐ Yes ☑No

Date:	09/09/14
County:	Aroostook
State:	Maine
Wetland ID:	HAMM_W037
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	Hammond
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Old log yard area; vegetation significantly altered by clearing.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 6	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Plaisted and Howland very stony loams, 8-15% slopes Series Drainage Class: Well drained/Moderately well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods/Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	7	1	10YR	3/1	100	--	--	--	--	--	mucky silt
7	15	2	5Y	4/2	100	--	--	--	--	--	silty clay loam
15	18	3	2.5Y	5/3	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☑ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Dense horizon (Cd) Depth: 15"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAMM_W037 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Corylus cornuta*	2	N	FACU
2.	*Abies balsamea*	1	N	FAC
3.	*Salix bebbiana*	1	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	4		

Herb Stratum (Plot size: 2 meter radius)

1.	*Scirpus cyperinus*	60	Y	OBL
2.	*Impatiens capensis*	30	Y	FACW
3.	*Epilobium ciliatum*	20	N	FACW
4.	*Onoclea sensibilis*	10	N	FACW
5.	*Solidago canadensis*	5	N	FACU
6	*Glyceria canadensis*	5	N	OBL
7.	*Rubus idaeus*	5	N	FACU
8.	*Symphyotrichum novi-belgii*	2	N	FACW
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	137		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	65	x 1 =	65
FACW spp.	63	x 2 =	126
FAC spp.	1	x 3 =	3
FACU spp.	12	x 4 =	48
UPL spp.	0	x 5 =	0
Total	141 (A)		242 (B)

Prevalence Index = B/A = ***1.716***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks: Shrub/sapling stratum had less than 5% total cover and was not included in dominance calculation.

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chuck Ferris	Investigator #2:	
Soil Unit:	Monarda and Burnham very stony silt loams	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	NR
Slope (%):	NR	Latitude: 46.245638	Longitude: -67.959384
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	09/04/14
County:	Aroostook
State:	Maine
Wetland ID:	HAMM_W062
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	Hammond
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 12	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 8	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Monarda and Burnham very stony silt loams — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Epiaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
6	0	--	--	--	--	--	--	--	--	--	Duff
0	4	1	10YR	5/4	100	--	--	--	--	--	silt loam
4	16	2	10YR	4/3	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAMM_W062 | Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	50	Y	FAC
2.	*Tsuga canadensis*	45	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	95		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Tsuga canadensis*	25	Y	FACU
2.	*Abies balsamea*	20	Y	FAC
3.	*Thuja occidentalis*	10	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	55		

Herb Stratum (Plot size: 2 meter radius)

1.	*Cornus canadensis*	10	Y	FAC
2.	*Aralia nudicaulis*	5	Y	FACU
3.	*Dryopteris intermedia*	5	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	20		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***57.1%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	10	x 2 =	20
FAC spp.	85	x 3 =	255
FACU spp.	75	x 4 =	300
UPL spp.	0	x 5 =	0
Total	170 (A)		575 (B)

Prevalence Index = B/A = ***3.382***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chuck Ferris	Investigator #2:	
Soil Unit:	Monarda and Burnham very stony silt loams	NWI/WWI Classification:	PFO
Landform:	Side slope	Local Relief:	NR
Slope (%):	NR	Latitude: 46.245571	Longitude: -67.95932
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	09/04/14
County:	Aroostook
State:	Maine
Wetland ID:	HAMM_W062
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	Hammond
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 10	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Monarda and Burnham very stony silt loams Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Epiaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
16	0	1	--	NR	--	--	--	--	--	--	muck
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 16"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAMM_W062 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Tsuga canadensis*	30	Y	FACU
2.	*Thuja occidentalis*	20	Y	FACW
3.	*Abies balsamea*	15	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	65		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Thuja occidentalis*	50	Y	FACW
2.	*Tsuga canadensis*	30	Y	FACU
3.	*Abies balsamea*	20	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	100		

Herb Stratum (Plot size: 2 meter radius)

1.	*Aralia nudicaulis*	5	Y	FACU
2.	*Dryopteris intermedia*	2	Y	FAC
3.	*Rubus pubescens*	2	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	9		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***66.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	72	x 2 =	144
FAC spp.	37	x 3 =	111
FACU spp.	65	x 4 =	260
UPL spp.	0	x 5 =	0
Total	174 (A)		515 (B)

Prevalence Index = B/A = ***2.960***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chuck Ferris	Investigator #2:	
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	Upland
Landform:	Backslope	Local Relief:	NR
Slope (%):	NR	Latitude: 46.234012	Longitude: -67.949601
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	09/03/14
County:	Aroostook
State:	Maine
Wetland ID:	HAMM_W071
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	Hammond
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Thorndike shaly silt loam — Series Drainage Class: Somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	--	--	--	--	--	--	--	--	--	Duff
0	1	1	10YR	5/2	100	--	--	--	--	--	NR
1	16	2	10YR	4/6	100	--	--	--	--	--	NR
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAMM_W071 | Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Picea rubens*	35	Y	FACU
2.	*Abies balsamea*	30	Y	FAC
3.	*Fagus grandifolia*	15	N	FACU
4.	*Betula alleghaniensis*	10	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	90		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer saccharum*	60	Y	FACU
2.	*Viburnum lantanoides*	15	N	FACU
3.	*Tsuga canadensis*	10	N	FACU
4.	*Abies balsamea*	10	N	FAC
5.	*Corylus cornuta*	5	N	FACU
6.	*Fraxinus pennsylvanica*	5	N	FACW
7.	*Acer pensylvanicum*	5	N	FACU
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	110		

Herb Stratum (Plot size: 2 meter radius)

1.	*Dryopteris intermedia*	1	N	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	1		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***33.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	5	x 2 =	10
FAC spp.	51	x 3 =	153
FACU spp.	145	x 4 =	580
UPL spp.	0	x 5 =	0
Total	201 (A)		743 (B)

Prevalence Index = B/A = ***3.697***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks: Vegetation cover in the herbaceous stratum was less than 5% and therefore was not included in the dominance calculation

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chuck Ferries	Investigator #2:	
Soil Unit:	Monarda and Burnham very stony silt loams	NWI/WWI Classification:	PFO
Landform:	Side slope	Local Relief:	Linear
Slope (%):	NR	Latitude: 46.233956	Longitude: -67.949387
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	09/03/14
County:	Aroostook
State:	Maine
Wetland ID:	HAMM_W071
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	Hammond
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 8	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Monarda and Burnham very stony silt loams — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Epiaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix	Matrix %	Mottles Color (Moist)	Mottles	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
10	0	1	--	NR	--	--	--	--	--	--	muck
0	12	2	5Y	3/1	100	--	--	--	--	--	NR
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock/gravel Depth: 22"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAMM_W071 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	30	Y	FAC
2.	*Thuja occidentalis*	10	Y	FACW
3.	*Picea rubens*	10	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Thuja occidentalis*	30	Y	FACW
2.	*Viburnum lantanoides*	20	Y	FACU
3.	*Abies balsamea*	15	Y	FAC
4.	*Betula alleghaniensis*	10	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	75		

Herb Stratum (Plot size: 2 meter radius)

1.	*Osmundastrum cinnamomeum*	35	Y	FACW
2.	*Onoclea sensibilis*	30	Y	FACW
3.	*Symphyotrichum puniceum*	5	N	OBL
4.	*Equisetum sylvaticum*	5	N	FACW
5.	*Carex crinita*	2	N	OBL
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	77		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***75.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	7	x 1 =	7
FACW spp.	110	x 2 =	220
FAC spp.	55	x 3 =	165
FACU spp.	30	x 4 =	120
UPL spp.	0	x 5 =	0
Total	202 (A)		512 (B)

Prevalence Index = B/A = ***2.535***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Colton gravely sandy loam, dark materials, 0-2% slopes	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Convex
Slope (%):	15	Latitude: 46.204841	Longitude: -67.917667
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	08/28/14
County:	Aroostook
State:	Maine
Wetland ID:	HAMM_W099
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	--
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Colton gravely sandy loam, dark materials, 0-2% slopes Series Drainage Class: Excessively drained

Taxonomy (Subgroup): Typic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	3	1	7.5YR	3/2	100	--	--	--	--	--	stony sandy loam
3	11	2	10YR	3/4	100	--	--	--	--	--	very stony sandy loam
11	15	3	10YR	4/4	100	--	--	--	--	--	very stony sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAMM_W099 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	50	Y	FACU
2.	*Abies balsamea*	15	N	FAC
3.	*Tsuga canadensis*	8	N	FACU
4.	*Betula alleghaniensis*	7	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	80		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Viburnum nudum*	18	Y	FACW
2.	*Abies balsamea*	5	Y	FAC
3.	*Corylus cornuta*	2	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	25		

Herb Stratum (Plot size: 2 meter radius)

1.	*Dryopteris intermedia*	20	Y	FAC
2.	*Phegopteris connectilis*	8	Y	FACU
3.	*Cornus canadensis*	2	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	30		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***60.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	18	x 2 =	36
FAC spp.	49	x 3 =	147
FACU spp.	68	x 4 =	272
UPL spp.	0	x 5 =	0
Total	135 (A)		455 (B)

Prevalence Index = B/A = ***3.370***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	
Soil Unit:	Monarda and Burnham silt loams, 0-2% slopes	NWI/WWI Classification:	PEM/PSS
Landform:	Floodplain	Local Relief:	Linear
Slope (%):	1	Latitude: 46.204819	Longitude: -67.917432
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	08/28/14
County:	Aroostook
State:	Maine
Wetland ID:	HAMM_W099
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	Hammond
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Floodplain along B Stream

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☑ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☑ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☑ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☑ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: w/in 12	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Monarda and Burnham silt loams, 0-2% slopes — Series Drainage Class: Poorly to very pooly drained

Taxonomy (Subgroup): Aeric Epiaquepts/Histic Humaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	2	1	7.5YR	3/2	100	--	--	--	--	--	mucky sandy loam
2	7	2	10YR	4/2	NR	--	NR	NR	C	PL	mucky sandy loam
7	12	3	10YR	4/2	100	--	--	--	--	--	gravely loamy sand
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Horizon 1 is a recent alluvium deposit.

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAMM_W099 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Ulmus americana*	8	Y	FACW
2.	*Betula alleghaniensis*	2	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	10		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Salix bebbiana*	20	Y	FACW
2.	*Alnus incana*	10	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	*Calamagrostis canadensis*	70	Y	OBL
2.	*Eutrochium maculatum*	20	Y	OBL
3.	*Symphyotrichum puniceum*	8	N	OBL
4.	*Onoclea sensibilis*	2	N	FACW
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	98	x 1 =	98
FACW spp.	40	x 2 =	80
FAC spp.	2	x 3 =	6
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	140 (A)		184 (B)

Prevalence Index = B/A = ***1.314***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Thorndike and Howland soils	NWI/WWI Classification:	Upland
Landform:	Backslope	Local Relief:	NR
Slope (%):	NR	Latitude: 46.204108	Longitude: -67.908972
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	11/12/14
County:	Aroostook
State:	Maine
Wetland ID:	HAMM_W123
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	Hammond
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Note that data for this plot was collected with several inches of snow on the ground.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Thorndike and Howland soils — Series Drainage Class: somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	--	--	--	--	--	--	--	--	--	Duff
0	0.5	1	7.5YR	5/1	100	--	--	--	--	--	silt loam
0.5	3.5	2	10YR	4/6	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Dense rocky till Depth: 3.5"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAMM_W123 | Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	60	Y	FAC
2.	*Acer rubrum*	15	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	75		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	40	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

Herb Stratum (Plot size: 2 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	0		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	115	x 3 =	345
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	115 (A)		345 (B)

Prevalence Index = B/A = ***3.000***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks: Due to snow cover, no vegetation was observed within herbaceous stratum.

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Thorndike and Howland soils	NWI/WWI Classification:	PFO
Landform:	Backslope	Local Relief:	NR
Slope (%):	NR	Latitude: 46.204254	Longitude: -67.909207
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	11/12/14
County:	Aroostook
State:	Maine
Wetland ID:	HAMM_W123
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	Hammond
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Note that data for this plot was collected with several inches of snow on the ground.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 0	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Thorndike and Howland soils — Series Drainage Class: somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
5	0	1	--	NR	--	--	--	--	muck
0	10	2	10YR 4/1	90	10YR 4/4	10	C	M	fine sandy loam
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Dense rocky till Depth: 15"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAMM_W123 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	50	Y	FAC
2.	*Fraxinus nigra*	20	Y	FACW
3.	*Acer rubrum*	10	N	FAC
4.	*Betula alleghaniensis*	5	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	85		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	50	Y	FAC
2.	*Acer rubrum*	15	Y	FAC
3.	*Fraxinus nigra*	5	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	70		

Herb Stratum (Plot size: 2 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	0		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	25	x 2 =	50
FAC spp.	130	x 3 =	390
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	155 (A)		440 (B)

Prevalence Index = B/A = ***2.839***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks: Due to snow cover, no vegetation was observed in the herbaceous stratum.

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chris Dorian	Investigator #2:	
Soil Unit:	Plaistead and Howland v. stony loam, 8-15% slopes	NWI/WWI Classification:	Upland
Landform:	Footslope	Local Relief:	Linear
Slope (%):	NR	Latitude: 46.239989	Longitude: -68.037657
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	09/10/14
County:	Aroostook
State:	Maine
Wetland ID:	HAMM_W131
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	Hammond
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Shallow borrow area for logging road construction

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Plaistead and Howland v. stony loam, 8-15% slopes — Series Drainage Class: Well drained/Moderately well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods/Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	3	1	7.5YR	2.5/2	100	--	--	--	--	--	fibric organic
3	5	2	7.5YR	6/2	100	--	--	--	--	--	loam
5	9	3	7.5YR	5/4	100	--	--	--	--	--	loam
9	15	4	10YR	5/4	100	--	--	--	--	--	silt loam
15	17	5	10YR	5/3	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Cd Depth: 15"

Hydric Soil Present? ☐ Yes ☑ No

Remarks: Second horizon is an albic E-horizon.

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAMM_W131 | Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Fagus grandifolia*	75	Y	FACU
2.	*Betula alleghaniensis*	30	Y	FAC
3.	*Acer saccharum*	20	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	125		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Corylus cornuta*	60	Y	FACU
2.	*Acer saccharum*	40	Y	FACU
3.	*Betula alleghaniensis*	25	N	FAC
4.	*Fagus grandifolia*	15	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	140		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer saccharum*	20	Y	FACU
2.	*Corylus cornuta*	20	Y	FACU
3.	*Viburnum lantanoides*	10	N	FACU
4.	*Dryopteris intermedia*	10	N	FAC
5.	*Aralia nudicaulis*	5	N	FACU
6	*Lycopodium clavatum*	2	N	FAC
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	67		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***16.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	67	x 3 =	201
FACU spp.	265	x 4 =	1060
UPL spp.	0	x 5 =	0
Total	332 (A)		1261 (B)

Prevalence Index = B/A = ***3.798***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks: Shrub layer not included in dominance calculations because total cover is less than 5%.

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chris Dorian	Investigator #2:	
Soil Unit:	Plaistead and Howland v. stony loam, 8-15% slopes	NWI/WWI Classification:	PEM
Landform:	Footslope	Local Relief:	Linear
Slope (%):	NR	Latitude: 46.240168	Longitude: -68.037513
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☑, or Hydrology ☑ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	09/10/14
County:	Aroostook
State:	Maine
Wetland ID:	HAMM_W131
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	Hammond
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Shallow borrow area for logging road construction

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☑ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 11	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Plaistead and Howland v. stony loam, 8-15% slopes — Series Drainage Class: Well drained/Moderately well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods/Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	6	1	10YR	4/2	80	7.5YR	4/4	20	C	PL	mucky loam
6	11	2	2.5Y	3/2	100	--	--	--	--	--	mucky loam
11	18	3	5Y	5/2	100	--	--	--	--	--	NR
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☑ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAMM_W131 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer rubrum*	2	N	FAC
2.	*Salix lucida*	1	N	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	3		

Herb Stratum (Plot size: 2 meter radius)

1.	*Scirpus cyperinus*	100	Y	OBL
2.	*Impatiens capensis*	15	N	FACW
3.	*Persicaria sagittata*	15	N	OBL
4.	*Rubus idaeus*	10	N	FACU
5.	*Euthamia graminifolia*	5	N	FAC
6	*Carex gynandra*	5	N	OBL
7.	*Athyrium angustum*	2	N	FAC
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	152		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	120	x 1 =	120
FACW spp.	16	x 2 =	32
FAC spp.	9	x 3 =	27
FACU spp.	10	x 4 =	40
UPL spp.	0	x 5 =	0
Total	155 (A)		219 (B)

Prevalence Index = B/A = ***1.413***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks: Shrub layer not included in dominance calculations because total cover is less than 5%.

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Colton gravelly sand loam	NWI/WWI Classification:	Upland
Landform:	Stream Valley	Local Relief:	Convex
Slope (%):	10	Latitude: 46.160925	Longitude: -67.852934
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	10/01/14
County:	Aroostook
State:	Maine
Wetland ID:	HOUL_W018
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	Houlton
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑)

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Colton gravelly sand loam — Series Drainage Class: Excessively drained

Taxonomy (Subgroup): Typic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	3	1	10YR	3/4	100	--	--	--	--	--	loam
3	22	2	10YR	4/6	100	--	--	--	--	--	sandy loam
22	26	3	10YR	5/6	98	10YR	6/2	2	D	M	fine sand
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑)

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HOUL_W018 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	75	Y	FAC
2.	*Populus tremuloides*	25	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	100		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	50	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 2 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	0		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***66.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	125	x 3 =	375
FACU spp.	25	x 4 =	100
UPL spp.	0	x 5 =	0
Total	150 (A)		475 (B)

Prevalence Index = B/A = ***3.167***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks: No vegetation observed in the herb stratum

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Colton gravelly sand loam	NWI/WWI Classification:	PFO
Landform:	Stream Valley	Local Relief:	Concave
Slope (%):	0	Latitude: 46.160794	›ngitude: -67.852803
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	10/01/14
County:	Aroostook
State:	Maine
Wetland ID:	HOUL_W018
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	Houlton
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☑ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Colton gravelly sand loam — Series Drainage Class: Excessively drained

Taxonomy (Subgroup): Typic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
13	0	1	--	--	--	--	--	--	--	--	muck
0	7	2	10YR	5/1	90	10YR	4/6	10	C	M	fine sand
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present)☐

- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HOUL_W018 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	50	Y	FAC
2.	*Thuja occidentalis*	50	Y	FACW
3.	*Larix laricina*	25	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	125		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	50	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 2 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	0		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	75	x 2 =	150
FAC spp.	100	x 3 =	300
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	175 (A)		450 (B)

Prevalence Index = B/A = ***2.571***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks: No vegetation observed in the herb stratum.

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	Upland
Landform:	Toeslope	Local Relief:	NR
Slope (%):	NR	Latitude: 46.377393	Longitude: -68.041591
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	11/05/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W572
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Note that data for this plot was collected with several inches of snow on the ground.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
3	0	--	--	--	--	--	--	--	--	--	Duff
0	1	1	10YR	4/1	100	--	--	--	--	--	silt loam
1	11	2	10YR	4/6	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 11"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W572 | Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	40	Y	FAC
2.	*Picea rubens*	40	Y	FACU
3.	*Betula alleghaniensis*	20	N	FAC
4.	*Thuja occidentalis*	15	N	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	115		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	25	Y	FAC
2.	*Picea rubens*	25	Y	FACU
3.	*Acer pensylvanicum*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	55		

Herb Stratum (Plot size: 2 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	0		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	15	x 2 =	30
FAC spp.	85	x 3 =	255
FACU spp.	70	x 4 =	280
UPL spp.	0	x 5 =	0
Total	170 (A)		565 (B)

Prevalence Index = B/A = ***3.324***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks: Due to snow cover, no vegetation was observed in the herbaceous stratum.

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	PFO
Landform:	Floodplain	Local Relief:	Linear
Slope (%):	0	Latitude: 46.377491	Longitude: -68.041657
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	11/05/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W572
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Note that data for this plot was collected with several inches of snow on the ground.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 2	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix	Matrix %	Mottles Color (Moist)	Mottles	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
6	0	1	--	NR	--	--	--	--	--	--	muck
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Boulders Depth: 6"

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Presumed that indicator A2 is met with sufficient depth of organic at other locations within wetland.

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W572 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	40	Y	FAC
2.	*Betula alleghaniensis*	30	Y	FAC
3.	*Fraxinus nigra*	20	N	FACW
4.	*Thuja occidentalis*	10	N	FACW
5.	*Picea rubens*	5	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	105		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	20	Y	FAC
2.	*Thuja occidentalis*	20	Y	FACW
3.	*Fraxinus nigra*	15	Y	FACW
4.	*Acer spicatum*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Herb Stratum (Plot size: 2 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	0		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	65	x 2 =	130
FAC spp.	90	x 3 =	270
FACU spp.	10	x 4 =	40
UPL spp.	0	x 5 =	0
Total	165 (A)		440 (B)

Prevalence Index = B/A = ***2.667***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks: Due to snow cover, no vegetation was observed in the herbaceous stratum.

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Thorndike very rocky silt loam	NWI/WWI Classification:	Upland
Landform:	Toeslope	Local Relief:	Convex
Slope (%):	1	Latitude: 46.345858	Longitude: -68.040843
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	11/04/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W587
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Thorndike very rocky silt loam — Series Drainage Class: somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	6	1	10YR	3/2	100	--	--	--	--	--	loam
6	8	2	10YR	4/3	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Dense rocky till Depth: 8"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W587 | Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	35	Y	FACU
2.	*Fagus grandifolia*	15	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer saccharum*	10	Y	FACU
2.	*Fagus grandifolia*	10	Y	FACU
3.	*Fraxinus americana*	5	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	25		

Herb Stratum (Plot size: 2 meter radius)

1.	*Rubus idaeus*	5	Y	FACU
2.	*Dryopteris intermedia*	5	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	10		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***14.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	5	x 3 =	15
FACU spp.	80	x 4 =	320
UPL spp.	0	x 5 =	0
Total	85 (A)		335 (B)

Prevalence Index = B/A = ***3.941***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Thorndike very rocky silt loam	NWI/WWI Classification:	PFO
Landform:	Depression	Local Relief:	Concave
Slope (%):	0	Latitude: 46.345904	Longitude: -68.040729
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	11/04/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W587
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 2	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Thorndike very rocky silt loam — Series Drainage Class: somewhat excessively drained

Taxonomy (Subgroup): Lithic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
12	0	1	--	NR	--	--	--	--	--	--	muck
0	2	2	10YR	4/2	95	10YR	4/4	5	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Dense rocky till Depth: 14"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W587 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	30	Y	FACU
2.	*Acer rubrum*	5	N	FAC
3.	*Betula alleghaniensis*	5	N	FAC
4.	*Fraxinus americana*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer saccharum*	10	Y	FACU
2.	*Ulmus americana*	5	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	15		

Herb Stratum (Plot size: 2 meter radius)

1.	*Glyceria striata*	30	Y	OBL
2.	*Symphyotrichum novae-angliae*	10	N	FACW
3.	*Calamagrostis canadensis*	10	N	OBL
4.	*Onoclea sensibilis*	5	N	FACW
5.	*Epilobium ciliatum*	2	N	FACW
6	*Scirpus atrocinctus*	2	N	OBL
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	59		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	42	x 1 =	42
FACW spp.	22	x 2 =	44
FAC spp.	10	x 3 =	30
FACU spp.	45	x 4 =	180
UPL spp.	0	x 5 =	0
Total	119 (A)		296 (B)

Prevalence Index = B/A = ***2.487***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	Upland
Landform:	Backslope	Local Relief:	NR
Slope (%):	NR	Latitude: 46.327278	Longitude: -68.040524
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	11/06/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W594
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Plaisted and Howland very stony loams Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	--	--	--	--	--	--	--	--	--	Duff
0	0.5	1	10YR	4/1	100	--	--	--	--	--	silt loam
0.5	6.5	2	7.5YR	4/6	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Dense rocky till Depth: 6.5"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W594 | Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Picea rubens*	50	Y	FACU
2.	*Fagus grandifolia*	5	N	FACU
3.	*Acer rubrum*	5	N	FAC
4.	*Betula papyrifera*	5	N	FACU
5.	*Betula alleghaniensis*	5	N	FAC
6.	*Thuja occidentalis*	5	N	FACW
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	75		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fagus grandifolia*	20	Y	FACU
2.	*Abies balsamea*	15	Y	FAC
3.	*Acer rubrum*	10	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

Herb Stratum (Plot size: 2 meter radius)

1.	*Abies balsamea*	5	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	5		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***60.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	5	x 2 =	10
FAC spp.	40	x 3 =	120
FACU spp.	80	x 4 =	320
UPL spp.	0	x 5 =	0
Total	125 (A)		450 (B)

Prevalence Index = B/A = ***3.600***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	PFO
Landform:	Backslope	Local Relief:	NR
Slope (%):	NR	Latitude: 46.327278	Longitude: -68.040524
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	11/06/14
County:	Aroostook
State:	Maine
Wetland ID:	T8R3_W594
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	T8 R3 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: 1	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 0	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Plaisted and Howland very stony loams — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
15	0	1	--	NR	--	--	--	--	--	--	muck
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☑ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 15"

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Likely areas in wetland interior that meet A1-Histosol

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: T8R3_W594 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Thuja occidentalis*	30	Y	FACW
2.	*Picea rubens*	30	Y	FACU
3.	*Betula alleghaniensis*	30	Y	FAC
4.	*Acer rubrum*	10	N	FAC
5.	*Abies balsamea*	10	N	FAC
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	110		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fraxinus nigra*	25	Y	FACW
2.	*Abies balsamea*	15	Y	FAC
3.	*Thuja occidentalis*	10	N	FACW
4.	*Picea rubens*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	55		

Herb Stratum (Plot size: 2 meter radius)

1.	*Dryopteris intermedia*	10	Y	FAC
2.	*Carex gynandra*	10	Y	OBL
3.	*Glyceria striata*	2	N	OBL
4.	*Osmundastrum cinnamomeum*	2	N	FACW
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	24		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***85.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	12	x 1 =	12
FACW spp.	67	x 2 =	134
FAC spp.	75	x 3 =	225
FACU spp.	35	x 4 =	140
UPL spp.	0	x 5 =	0
Total	189 (A)		511 (B)

Prevalence Index = B/A = ***2.704***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Bill Leopold	Investigator #2:	
Soil Unit:	Howland very stony loam, 8-15% slopes	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Convex
Slope (%):	4	Latitude: 46.291333	Longitude: -68.036799
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	08/29/14
County:	Aroostook
State:	Maine
Wetland ID:	TCR2_W138
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	TC R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Howland very stony loam, 8-15% slopes — Series Drainage Class: Moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix	Matrix %	Mottles Color (Moist)	Mottles	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
4	0	1	--	NR	--	--	--	--	--	--	organic
0	2	2	7.5YR	2.5/3	100	--	--	--	--	--	sandy loam
2	10	3	7.5YR	6/8	100	--	--	--	--	--	sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TCR2_W138 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer rubrum*	30	Y	FAC
2.	*Thuja occidentalis*	10	Y	FACW
3.	*Picea rubens*	10	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	15	Y	FAC
2.	*Tsuga canadensis*	10	Y	FACU
3.	*Acer pensylvanicum*	10	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	35		

Herb Stratum (Plot size: 2 meter radius)

1.	*Oxalis stricta*	30	Y	FACU
2.	*Trillium erectum*	20	Y	FACU
3.	*Unknown herbaceous species*	10	N	NL
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	60		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***37.5%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	10	x 2 =	20
FAC spp.	45	x 3 =	135
FACU spp.	80	x 4 =	320
UPL spp.	0	x 5 =	0
Total	135 (A)		475 (B)

Prevalence Index = B/A = ***3.519***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Bill Leopold	Investigator #2:	
Soil Unit:	Howland very stony loam, 8-15% slopes	NWI/WWI Classification:	PFO
Landform:	Terrace	Local Relief:	Concave
Slope (%):	1	Latitude: 46.291348	Longitude: -68.036863
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	08/29/14
County:	Aroostook
State:	Maine
Wetland ID:	TCR2_W138
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	TC R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☑ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 5	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Howland very stony loam, 8-15% slopes — Series Drainage Class: Moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	2	1	7.5YR	3/3	100	--	--	--	--	--	silt loam
2	6	2	7.5YR	3/1	100	--	--	--	--	--	silty clay loam
6	8	3	2.5Y	6/1	70	2.5Y	5/8	30	C	M	sandy clay
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Bedrock Depth: 8"

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Presumed that the third horizon extends beyond refusal and meets depth requirment for indicator F3.

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TCR2_W138 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	40	Y	FAC
2.	*Picea rubens*	10	N	FACU
3.	*Tsuga canadensis*	10	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula alleghaniensis*	20	Y	FAC
2.	*Tsuga canadensis*	10	Y	FACU
3.	*Thuja occidentalis*	5	N	FACW
4.	*Acer pensylvanicum*	5	N	FACU
5.	*Fraxinus nigra*	5	N	FACW
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

Herb Stratum (Plot size: 2 meter radius)

1.	*Osmunda claytoniana*	20	Y	FAC
2.	*Dryopteris intermedia*	10	Y	FAC
3.	*Onoclea sensibilis*	10	Y	FACW
4.	*Fraxinus nigra*	10	Y	FACW
5.	*Equisetum hyemale*	10	Y	FAC
6	*Acer rubrum*	5	N	FAC
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	65		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***87.5%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	30	x 2 =	60
FAC spp.	105	x 3 =	315
FACU spp.	35	x 4 =	140
UPL spp.	0	x 5 =	0
Total	170 (A)		515 (B)

Prevalence Index = B/A = ***3.029***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Katelin Nickerson	Investigator #2:	
Soil Unit:	Plaisted gravelly loam	NWI/WWI Classification:	Upland
Landform:	Backslope	Local Relief:	NR
Slope (%):	NR	Latitude: 46.288781	Longitude: -68.036161
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	09/17/14
County:	Aroostook
State:	Maine
Wetland ID:	TCR2_W141
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	TC R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Plaisted gravelly loam — Series Drainage Class: well drained

Taxonomy (Subgroup): Typic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
1	0	--	--	--	--	--	--	--	--	--	Duff
0	14	1	10YR	5/6	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rocky till Depth: 14"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TCR2_W141 | Sample Point Upland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Fagus grandifolia*	20	Y	FACU
2.	*Picea rubens*	20	Y	FACU
3.	*Acer pensylvanicum*	15	Y	FACU
4.	*Acer rubrum*	10	N	FAC
5.	*Tsuga canadensis*	10	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	75		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer saccharum*	15	Y	FACU
2.	*Acer pensylvanicum*	10	Y	FACU
3.	*Fagus grandifolia*	10	Y	FACU
4.	*Acer rubrum*	10	Y	FAC
5.	*Betula alleghaniensis*	5	N	FAC
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 2 meter radius)

1.	*Cornus canadensis*	60	Y	FAC
2.	*Coptis trifolia*	20	Y	FACW
3.	*Oxalis montana*	10	N	FACU
4.	*Trientalis borealis*	10	N	FAC
5.	--		--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***33.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	20	x 2 =	40
FAC spp.	95	x 3 =	285
FACU spp.	110	x 4 =	440
UPL spp.	0	x 5 =	0
Total	225 (A)		765 (B)

Prevalence Index = B/A = ***3.400***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Chuck Ferris	Investigator #2:	
Soil Unit:	Howland very stony loam	NWI/WWI Classification:	PFO
Landform:	Toeslope	Local Relief:	NR
Slope (%):	NR	Latitude: 46.288712	Longitude: -68.036523
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	09/17/14
County:	Aroostook
State:	Maine
Wetland ID:	TCR2_W141
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	TC R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Howland very stony loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
4	0	1	--	NR	--	--	--	--	--	--	muck
0	6	2	5Y	5/1	85	10YR	5/6	15	C	M	silt loam
6	14	3	5Y	5/2	70	10YR	5/6	30	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TCR2_W141 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	10	Y	FAC
2.	*Picea rubens*	10	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fraxinus nigra*	30	Y	FACW
2.	*Picea rubens*	15	Y	FACU
3.	*Thuja occidentalis*	10	N	FACW
4.	*Abies balsamea*	10	N	FAC
5.	*Betula alleghaniensis*	5	N	FAC
6.	*Acer rubrum*	3	N	FAC
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	73		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex crinita*	15	Y	OBL
2.	*Rubus pubescens*	5	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	20		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***66.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	15	x 1 =	15
FACW spp.	45	x 2 =	90
FAC spp.	28	x 3 =	84
FACU spp.	25	x 4 =	100
UPL spp.	0	x 5 =	0
Total	113 (A)		289 (B)

Prevalence Index = B/A = ***2.558***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

WETLAND DETERMINATION DATA FORMS: BRIDAL PATH GENERATOR LEAD

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Convex
Slope (%):	2	Latitude: 45.94361	Longitude: -67.999343
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	08/13/14
County:	Aroostook
State:	Maine
Wetland ID:	FORK_W001
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	Forkstown Twp
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Only moderate degree of disturbance to vegetation, soils and hydrology from clearing of Bridal Path.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Plaisted and Howland very stony loams — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	1	Black	--	--	--	--	--	--	--	hemic organic
0	3	2	7.5YR	5/3	100	--	--	--	--	--	silt loam
3	6	3	10YR	4/6	98	7.5YR	4/3	2	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑)

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 8"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: FORK_W001 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fraxinus americana*	10	Y	FACU
2.	*Carpinus caroliniana*	10	Y	FAC
3.	*Acer saccharum*	5	N	FACU
4.	*Betula alleghaniensis*	5	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	*Dennstaedtia punctilobula*	100	Y	UPL
2.	*Solidago rugosa*	10	N	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	110		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***33.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	25	x 3 =	75
FACU spp.	15	x 4 =	60
UPL spp.	100	x 5 =	500
Total	140 (A)		635 (B)

Prevalence Index = B/A = ***4.536***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	PEM
Landform:	Side slope	Local Relief:	Concave
Slope (%):	2	Latitude: 45.943441	Longitude: -67.999186 Datum: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	08/13/14
County:	Aroostook
State:	Maine
Wetland ID:	FORK_W001
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	Forkstown Twp
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Only moderate degree of disturbance related to past clearing for Bridal Path.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: NR	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name Plaisted and Howland very stony loams — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	8	1	2.5Y	5/2	98	10YR	4/6	2	C	M	sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: 8"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm Wetland ID: FORK_W001 Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Thuja occidentalis*	2	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	2		

Herb Stratum (Plot size: 2 meter radius)

1.	*Calamagrostis canadensis*	80	Y	OBL
2.	*Solidago rugosa*	10	N	FAC
3.	*Symphyotrichum puniceum*	5	N	OBL
4.	*Scirpus cyperinus*	2	N	OBL
5.	*Onoclea sensibilis*	3	N	FACW
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	87	x 1 =	87
FACW spp.	5	x 2 =	10
FAC spp.	10	x 3 =	30
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	102 (A)		127 (B)

Prevalence Index = B/A = ***1.245***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	Tom Tetreau
Soil Unit:	Monarda and Burnham silt loams	NWI/WWI Classification:	Upland
Landform:	Floodplain	Local Relief:	Convex
Slope (%):	4	Latitude: 45.872089	Longitude: -68.015403
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	10/08/14
County:	Aroostook
State:	Maine
Wetland ID:	FORK_W030
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	Forkstown Twp
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Monarda and Burnham silt loams Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Haplaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	8	1	10YR	3/2	100	--	--	--	--	--	fine sandy loam
8	12	2	10YR	3/6	100	--	--	--	--	--	fine sandy loam
12	15	3	10YR	4/6	100	--	--	--	--	--	fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present)☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: FORK_W030 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	30	Y	FAC
2.	*Thuja occidentalis*	10	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	25	Y	FAC
2.	*Thuja occidentalis*	15	Y	FACW
3.	*Prunus serotina*	14	Y	FACU
4.	*Acer saccharum*	8	N	FACU
5.	*Betula alleghaniensis*	5	N	FAC
6.	*Picea rubens*	3	N	FACU
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	70		

Herb Stratum (Plot size: 2 meter radius)

1.	*Solidago gigantea*	12	Y	FACW
2.	*Calamagrostis canadensis*	10	Y	OBL
3.	*Fragaria virginiana*	8	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	30		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***75.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	10	x 1 =	10
FACW spp.	37	x 2 =	74
FAC spp.	60	x 3 =	180
FACU spp.	33	x 4 =	132
UPL spp.	0	x 5 =	0
Total	140 (A)		396 (B)

Prevalence Index = B/A = ***2.829***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	Tom Tetreau
Soil Unit:	Colton gravelly sandy loam	NWI/WWI Classification:	PEM
Landform:	Floodplain	Local Relief:	Linear
Slope (%):	1	Latitude: 45.871945	Longitude: -68.015475
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	10/08/14
County:	Aroostook
State:	Maine
Wetland ID:	FORK_W030
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	Forkstown Twp
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☑ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☑ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Colton gravelly sandy loam — Series Drainage Class: Excessively drained

Taxonomy (Subgroup): Typic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	8	1	10YR	3/2	100	--	--	--	--	--	loam
8	15	2	5Y	4/2	NR	NR	NR	NR	C	M	fine sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present)☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: FORK_W030 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Thuja occidentalis*	20	Y	FACW
2.	*Betula alleghaniensis*	8	Y	FAC
3.	*Ulmus americana*	2	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Alnus incana*	15	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	15		

Herb Stratum (Plot size: 2 meter radius)

1.	*Calamagrostis canadensis*	80	Y	OBL
2.	*Eutrochium maculatum*	20	Y	OBL
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	100	x 1 =	100
FACW spp.	37	x 2 =	74
FAC spp.	8	x 3 =	24
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	145 (A)		198 (B)

Prevalence Index = B/A = ***1.366***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Monarda and Burnham silt loams	NWI/WWI Classification:	Upland
Landform:	Toeslope	Local Relief:	Convex
Slope (%):	5	Latitude: 45.845646	Longitude: -68.017638
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	08/12/14
County:	Aroostook
State:	Maine
Wetland ID:	HAYN_W009
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	Haynesville
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑)

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Monarda and Burnham silt loams — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Epiaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	20	1	10YR	3/1	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑)

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAYN_W009 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	50	Y	FAC
2.	*Acer rubrum*	15	N	FAC
3.	*Acer saccharum*	15	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	80		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer rubrum*	20	Y	FAC
2.	*Fraxinus nigra*	5	N	FACW
3.	*Abies balsamea*	5	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	*Dryopteris intermedia*	2	N	FAC
2.	*Corylus cornuta*	2	N	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	4		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	5	x 2 =	10
FAC spp.	92	x 3 =	276
FACU spp.	17	x 4 =	68
UPL spp.	0	x 5 =	0
Total	114 (A)		354 (B)

Prevalence Index = B/A = ***3.105***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks: Species in the herb stratum were not included in the dominance calculation since the total cover was less than 5 percent.

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Monarda and Burnham silt loams	NWI/WWI Classification:	PSS
Landform:	Toeslope	Local Relief:	Concave
Slope (%):	1	Latitude: 45.845582	Longitude: -68.017737
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	08/12/14
County:	Aroostook
State:	Maine
Wetland ID:	HAYN_W009
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	Haynesville
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐)

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: NR	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: NR	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Monarda and Burnham silt loams — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Epiaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	18	1	10YR	3/1	98	10YR	3/6	2	C	M	silt loam
18	24	2	5Y	5/2	93	10YR	3/6	7	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐)

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☑ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAYN_W009 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Alnus incana*	50	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 2 meter radius)

1.	*Onoclea sensibilis*	100	Y	FACW
2.	*Clematis virginiana*	5	N	FAC
3.	*Galium sp*	5	N	NL
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	110		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	150	x 2 =	300
FAC spp.	5	x 3 =	15
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	155 (A)		315 (B)

Prevalence Index = B/A = ***2.032***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Howland gravelly loam	NWI/WWI Classification:	Upland
Landform:	Toeslope	Local Relief:	NR
Slope (%):	0-2	Latitude: 45.832621	Longitude: -68.017466
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	08/11/14
County:	Aroostook
State:	Maine
Wetland ID:	HAYN_W018
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	Haynesville
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑)

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Howland gravelly loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
1	0	Duff	--	--	--	--	--	--	--	--	--
0	1	1	10YR	3/3	100	--	--	--	--	--	silt loam
1	4	2	10YR	4/4	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑)

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rocky till Depth: 5"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAYN_W018 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer rubrum*	15	Y	FAC
2.	*Abies balsamea*	10	Y	FAC
3.	*Betula populifolia*	10	Y	FAC
4.	*Populus tremuloides*	7	N	FACU
5.	*Picea rubens*	5	N	FACU
6.	*Betula papyrifera*	5	N	FACU
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	52		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Picea rubens*	20	Y	FACU
2.	*Abies balsamea*	20	Y	FAC
3.	*Acer rubrum*	10	N	FAC
4.	*Betula populifolia*	5	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	55		

Herb Stratum (Plot size: 2 meter radius)

1.	*Maianthemum canadense*	35	Y	FACU
2.	*Dryopteris intermedia*	20	Y	FAC
3.	*Cornus canadensis*	15	Y	FAC
4.	*Populus tremuloides*	5	N	FACU
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	75		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***75.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	105	x 3 =	315
FACU spp.	77	x 4 =	308
UPL spp.	0	x 5 =	0
Total	182 (A)		623 (B)

Prevalence Index = B/A = ***3.423***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Howland gravelly loam	NWI/WWI Classification:	PFO
Landform:	Toeslope	Local Relief:	Concave
Slope (%):	0-2	Latitude: 45.832651	Longitude: -68.017307
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	08/11/14
County:	Aroostook County
State:	Maine
Wetland ID:	HAYN_W018
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	Haynesville
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Howland gravelly loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
1	0	Duff	--	--	--	--	--	--	--	--	--
0	12	1	10YR	5/2	75	10YR	4/4	25	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present)☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Hard pack Depth: 13"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAYN_W018 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula populifolia*	35	Y	FAC
2.	*Abies balsamea*	20	Y	FAC
3.	*Picea rubens*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Betula populifolia*	15	Y	FAC
2.	*Acer rubrum*	15	Y	FAC
3.	*Abies balsamea*	5	N	FAC
4.	*Spiraea alba*	5	N	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

Herb Stratum (Plot size: 2 meter radius)

1.	*Juncus effusus*	20	Y	OBL
2.	*Onoclea sensibilis*	20	Y	FACW
3.	*Acer rubrum*	5	N	FAC
4.	*Dryopteris intermedia*	3	N	FAC
5.	*Cornus canadensis*	3	N	FAC
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	51		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	20	x 1 =	20
FACW spp.	25	x 2 =	50
FAC spp.	101	x 3 =	303
FACU spp.	5	x 4 =	20
UPL spp.	0	x 5 =	0
Total	151 (A)		393 (B)

Prevalence Index = B/A = ***2.603***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Monarda and Burnham silt loams	NWI/WWI Classification:	Upland
Landform:	Valley	Local Relief:	Concave
Slope (%):	0	Latitude: 45.830013	Longitude: -68.017298
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	08/11/14
County:	Aroostook
State:	Maine
Wetland ID:	HAYN_W020
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	Haynesville
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Monarda and Burnham silt loams Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Epiaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
4	0	1	5YR	2.5/2	100	--	--	--	--	--	fibric organic
0	3	2	7.5YR	6/2	99	7.5YR	4/4	1	C	M	very fine sandy loam
3	8	3	5YR	4/4	100	--	--	--	--	--	loam
8	14	4	2.5Y	5/6	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present)☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☐ Yes ☑ No

Remarks: Second horizon is an albic E-horizon.

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAYN_W020 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	15	Y	FAC
2.	*Acer rubrum*	5	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Acer rubrum*	10	Y	FAC
2.	*Picea rubens*	5	Y	FACU
3.	*Abies balsamea*	5	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Herb Stratum (Plot size: 2 meter radius)

1.	*Pteridium aquilinum*	60	Y	FACU
2.	*Viburnum nudum*	5	N	FACW
3.	*Cornus canadensis*	5	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	70		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***66.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	5	x 2 =	10
FAC spp.	40	x 3 =	120
FACU spp.	65	x 4 =	260
UPL spp.	0	x 5 =	0
Total	110 (A)		390 (B)

Prevalence Index = B/A = ***3.545***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Monarda and Burnham silt loams	NWI/WWI Classification:	PSS
Landform:	Valley	Local Relief:	Concave
Slope (%):	0	Latitude: 45.829886	Longitude: -68.017452
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	08/11/14
County:	Aroostook
State:	Maine
Wetland ID:	HAYN_W020
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	Haynesville
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☑ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 0	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Monarda and Burnham silt loams — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Epiaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
16+	--	1	10YR	2/1	100	--	--	--	--	--	muck
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
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NRCS Hydric Soil Field Indicators (check here if indicators are not present)☐

- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAYN_W020 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Alnus incana*	60	Y	FACW
2.	*Picea mariana*	20	Y	FACW
3.	*Thuja occidentalis*	5	N	FACW
4.	*Nemopanthus mucronatus*	5	N	OBL
5.	*Viburnum nudum*	5	N	FACW
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	95		

Herb Stratum (Plot size: 2 meter radius)

1.	*Gaultheria hispidula*	5	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	5		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	5	x 1 =	5
FACW spp.	95	x 2 =	190
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	100 (A)		195 (B)

Prevalence Index = B/A = ***1.950***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	David Brenneman
Soil Unit:	Monarda and Burnham silt loams	NWI/WWI Classification:	Upland
Landform:	Depression	Local Relief:	Convex
Slope (%):	7	Latitude: 45.822664	Longitude: -68.016572
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	10/07/14
County:	Aroostook
State:	Maine
Wetland ID:	HAYN_W023
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	Haynesville
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑)

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Monarda and Burnham silt loams — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Haplaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix	Matrix %	Mottles Color (Moist)	Mottles	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
1	0	1	--	NR	--	--	--	--	--	--	fibric organic
0	1	2	10YR	6/1	100	--	--	--	--	--	sandy loam
1	13	3	7.5YR	4/4	100	--	--	--	--	--	sandy loam
13	15	4	10YR	5/6	100	--	--	--	--	--	sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑)

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAYN_W023 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	70	Y	FAC
2.	*Acer saccharum*	15	N	FACU
3.	*Picea rubens*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	90		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	15	Y	FAC
2.	*Acer saccharum*	13	Y	FACU
3.	*Fagus grandifolia*	2	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	*Maianthemum canadense*	40	Y	FACU
2.	*Coptis trifolia*	10	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	50		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***60.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	10	x 2 =	20
FAC spp.	85	x 3 =	255
FACU spp.	75	x 4 =	300
UPL spp.	0	x 5 =	0
Total	170 (A)		575 (B)

Prevalence Index = B/A = ***3.382***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	David Brenneman
Soil Unit:	Monarda and Burnham silt loams	NWI/WWI Classification:	PFO
Landform:	Depression	Local Relief:	Linear
Slope (%):	1	Latitude: 45.822739	Longitude: -68.01658
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	10/07/14
County:	Aroostook
State:	Maine
Wetland ID:	HAYN_W023
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	Haynesville
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☑ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Monarda and Burnham silt loams Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Haplaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	3	1	10YR	2/1	100	--	--	--	--	--	stony muck
3	6	2	2.5Y	5/2	NR	NR	NR	NR	C	M	loam
6	12	3	5Y	5/1	NR	NR	NR	NR	C	M	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present)☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAYN_W023 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Populus tremuloides*	40	Y	FACU
2.	*Fraxinus nigra*	30	Y	FACW
3.	*Abies balsamea*	15	N	FAC
4.	*Picea rubens*	3	N	FACU
5.	*Acer saccharum*	2	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	90		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fraxinus nigra*	15	Y	FACW
2.	*Abies balsamea*	10	Y	FAC
3.	*Picea rubens*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	*Rubus pubescens*	18	Y	FACW
2.	*Osmundastrum cinnamomeum*	12	Y	FACW
3.	*Coptis trifolia*	10	Y	FACW
4.	*Mitella nuda*	3	N	FACW
5.	*Maianthemum canadense*	2	N	FACU
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	45		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***85.7%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	88	x 2 =	176
FAC spp.	25	x 3 =	75
FACU spp.	52	x 4 =	208
UPL spp.	0	x 5 =	0
Total	165 (A)		459 (B)

Prevalence Index = B/A = ***2.782***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	David Brenneman
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	Upland
Landform:	Lowland	Local Relief:	Convex
Slope (%):	5	Latitude: 45.820244	Longitude: -68.016463
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	10/07/14
County:	Aroostook
State:	Maine
Wetland ID:	HAYN_W025
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	Haynesville
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 4	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Thorndike shaly silt loam
Series Drainage Class: Somewhat excessively drained
Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
1	0	1	--	NR	--	--	--	--	--	--	fibric organic
0	1	2	10YR	6/1	100	--	--	--	--	--	loam
1	4	3	10YR	3/4	100	--	--	--	--	--	loam
4	12	4	2.5Y	5/4	100	--	--	--	--	--	loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑)

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAYN_W025 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	28	Y	FAC
2.	*Acer saccharum*	2	N	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Populus tremuloides*	20	Y	FACU
2.	*Populus balsamifera*	15	Y	FACW
3.	*Abies balsamea*	5	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

Herb Stratum (Plot size: 2 meter radius)

1.	*Coptis trifolia*	15	Y	FACW
2.	*Maianthemum canadense*	5	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	20		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***60.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	30	x 2 =	60
FAC spp.	33	x 3 =	99
FACU spp.	27	x 4 =	108
UPL spp.	0	x 5 =	0
Total	90 (A)		267 (B)

Prevalence Index = B/A = ***2.967***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	David Brenneman
Soil Unit:	Thorndike shaly silt loam	NWI/WWI Classification:	PSS
Landform:	Depression	Local Relief:	Concave
Slope (%):	4	Latitude: 45.820186	Longitude: -68.016512
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	10/07/14
County:	Aroostook
State:	Maine
Wetland ID:	HAYN_W025
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	Haynesville
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐)

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☑ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☑ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☑ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Thorndike shaly silt loam
Series Drainage Class: Somewhat excessively drained
Taxonomy (Subgroup): Lithic Haplothods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	10	1	10YR	2/1	100	--	--	--	--	--	stony muck
10	15	2	5Y	5/2	NR	NR	NR	NR	C	M	sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐)

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☑ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HAYN_W025 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	16	Y	FAC
2.	*Populus tremuloides*	4	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	15	Y	FAC
2.	*Populus balsamifera*	10	Y	FACW
3.	*Alnus incana*	5	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	*Rubus pubescens*	10	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	10		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***80.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	25	x 2 =	50
FAC spp.	31	x 3 =	93
FACU spp.	4	x 4 =	16
UPL spp.	0	x 5 =	0
Total	60 (A)		159 (B)

Prevalence Index = B/A = ***2.650***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	Tom Tetreau
Soil Unit:	Monarda and Burnham silt loams	NWI/WWI Classification:	Upland
Landform:	Depression	Local Relief:	Convex
Slope (%):	8	Latitude: 46.1396	Longitude: -67.854259
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	10/06/14
County:	Aroostook
State:	Maine
Wetland ID:	HOUL_W002
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	Houlton
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑)

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Monarda and Burnham silt loams
Series Drainage Class: poorly drained
Taxonomy (Subgroup): Aeric Haplaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	8	1	10YR	3/2	100	--	--	--	--	--	loam
8	13	2	10YR	4/4	100	--	--	--	--	--	sandy loam
13	16	3	2.5Y	4/3	100	--	--	--	--	--	sandy loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑)

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HOUL_W002 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Larix laricina*	25	Y	FACW
2.	*Picea rubens*	8	Y	FACU
3.	*Thuja occidentalis*	7	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Populus tremuloides*	10	Y	FACU
2.	*Larix laricina*	8	Y	FACW
3.	*Alnus incana*	8	Y	FACW
4.	*Salix bebbiana*	4	N	FACW
5.	*Cornus alba*	3	N	FACW
6.	*Abies balsamea*	1	N	FAC
7.	*Picea glauca*	1	N	FACU
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	35		

Herb Stratum (Plot size: 2 meter radius)

1.	*Pteridium aquilinum*	50	Y	FACU
2.	*Fragaria virginiana*	30	Y	FACU
3.	*Equisetum fluviatile*	15	N	OBL
4.	*Solidago canadensis*	5	N	FACU
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***42.9%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	15	x 1 =	15
FACW spp.	55	x 2 =	110
FAC spp.	1	x 3 =	3
FACU spp.	104	x 4 =	416
UPL spp.	0	x 5 =	0
Total	175 (A)		544 (B)

Prevalence Index = B/A = ***3.109***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☑ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	Tom Tetreau
Soil Unit:	Monarda and Burnham silt loams	NWI/WWI Classification:	PSS
Landform:	Depression	Local Relief:	Concave
Slope (%):	5	Latitude: 46.139643	Longitude: -67.85415
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	10/06/14
County:	Aroostook
State:	Maine
Wetland ID:	HOUL_W002
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	Houlton
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☑ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☑ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☑ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: NR	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Monarda and Burnham silt loams Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Haplaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	13	1	10YR	2/1	100	--	--	--	--	--	mucky sand
13	18	2	2.5Y	4/2	NR	NR	NR	NR	C	M	fine sandy loam
--	--	--	--	--	--	NR	NR	NR	D	M	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
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--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present)☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☑ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: HOUL_W002 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Thuja occidentalis*	15	Y	FACW
2.	*Larix laricina*	13	Y	FACW
3.	*Picea rubens*	2	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Salix bebbiana*	12	Y	FACW
2.	*Alnus incana*	8	Y	FACW
3.	*Abies balsamea*	8	Y	FAC
4.	*Cornus alba*	8	Y	FACW
5.	*Populus tremuloides*	4	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

Herb Stratum (Plot size: 2 meter radius)

1.	*Dichanthelium clandestinum*	18	Y	FACW
2.	*Cinna latifolia*	18	Y	FACW
3.	*Juncus effusus*	17	Y	OBL
4.	*Onoclea sensibilis*	16	N	FACW
5.	*Scirpus cyperinus*	14	N	OBL
6	*Equisetum fluviatile*	10	N	OBL
7.	*Fragaria virginiana*	7	N	FACU
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 9 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	41	x 1 =	41
FACW spp.	108	x 2 =	216
FAC spp.	8	x 3 =	24
FACU spp.	13	x 4 =	52
UPL spp.	0	x 5 =	0
Total	170 (A)		333 (B)

Prevalence Index = B/A = ***1.959***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Monarda and Burnham silt loams	NWI/WWI Classification:	Upland
Landform:	Till plains	Local Relief:	Convex
Slope (%):	0-2	Latitude: 46.055683	Longitude: -67.946033
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	08/14/14
County:	Aroostook
State:	Maine
Wetland ID:	LINN_W011
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	Linneus
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Monarda and Burnham silt loams — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Epiaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
1	0	Duff	--	--	--	--	--	--	--	--	--
0	0.5	1	10YR	4/4	100	--	--	--	--	--	silt loam
0.5	5.5	2	10YR	6/4	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑)

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rocky till Depth: 5.5"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: LINN_W011 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Abies balsamea*	40	Y	FAC
2.	*Betula alleghaniensis*	25	Y	FAC
3.	*Betula papyrifera*	25	Y	FACU
4.	*Thuja occidentalis*	20	N	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	110		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Abies balsamea*	25	Y	FAC
2.	*Thuja occidentalis*	15	Y	FACW
3.	*Betula alleghaniensis*	10	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 2 meter radius)

1.	*Dryopteris intermedia*	1	N	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	1		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***83.3%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	35	x 2 =	70
FAC spp.	101	x 3 =	303
FACU spp.	25	x 4 =	100
UPL spp.	0	x 5 =	0
Total	161 (A)		473 (B)

Prevalence Index = B/A = ***2.938***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks: Vegetation in herb stratum not used in dominance calculation because total cover was less than 5 percent.

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Monarda and Burnham silt loams	NWI/WWI Classification:	PFO
Landform:	Till plains	Local Relief:	Concave
Slope (%):	0-2	Latitude: 46.055701	Longitude: -67.946384
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	08/14/14
County:	Aroostook
State:	Maine
Wetland ID:	LINN_W011
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	Linneus
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐

Primary:
- ☑ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: 1-2	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Monarda and Burnham silt loams Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Epiaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
30+	--	1	--	NR	--	--	--	--	--	--	muck
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present)☐

- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: LINN_W011 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Betula alleghaniensis*	40	Y	FAC
2.	*Thuja occidentalis*	40	Y	FACW
3.	*Fraxinus nigra*	30	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	110		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Thuja occidentalis*	40	Y	FACW
2.	*Abies balsamea*	40	Y	FAC
3.	*Acer spicatum*	10	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	90		

Herb Stratum (Plot size: 2 meter radius)

1.	*Glyceria striata*	10	Y	OBL
2.	*Thuja occidentalis*	5	Y	FACW
3.	*Rubus pubescens*	3	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	18		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	10	x 1 =	10
FACW spp.	118	x 2 =	236
FAC spp.	80	x 3 =	240
FACU spp.	10	x 4 =	40
UPL spp.	0	x 5 =	0
Total	218 (A)		526 (B)

Prevalence Index = B/A = ***2.413***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	Tom Tetreau
Soil Unit:	Conant silt loam	NWI/WWI Classification:	Upland
Landform:	Depression	Local Relief:	Linear
Slope (%):	5	Latitude: 46.051525	Longitude: -67.953133	Datum: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	10/07/14
County:	Aroostook
State:	Maine
Wetland ID:	LINN_W014
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	Linneus
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Conant silt loam — Series Drainage Class: moderately well drained

Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	5	1	10YR	3/2	100	--	--	--	--	--	silt loam
5	10	2	10YR	4/4	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present)☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Firm layer Depth: 10"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: LINN_W014 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Fraxinus americana*	12	Y	FACU
2.	*Acer saccharum*	10	Y	FACU
3.	*Betula populifolia*	8	Y	FAC
4.	*Picea rubens*	5	N	FACU
5.	*Fagus grandifolia*	3	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	38		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Cornus alba*	58	Y	FACW
2.	*Sambucus racemosa*	2	N	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Herb Stratum (Plot size: 2 meter radius)

1.	*Rubus idaeus*	20	Y	FACU
2.	*Solidago gigantea*	10	Y	FACW
3.	*Solidago rugosa*	5	N	FAC
4.	*Fragaria virginiana*	5	N	FACU
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	40		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	68	x 2 =	136
FAC spp.	13	x 3 =	39
FACU spp.	57	x 4 =	228
UPL spp.	0	x 5 =	0
Total	138 (A)		403 (B)

Prevalence Index = B/A = ***2.920***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Rodney Kelshaw	Investigator #2:	Tom Tetreau
Soil Unit:	Conant silt loam	NWI/WWI Classification:	PSS
Landform:	Depression	Local Relief:	Linear
Slope (%):	2	Latitude: 46.051554	Longitude: -67.952956
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	10/07/14
County:	Aroostook
State:	Maine
Wetland ID:	LINN_W014
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	Linneus
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☑ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☑ D3 - Shallow Aquitard
- ☑ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Conant silt loam
Series Drainage Class: moderately well drained
Taxonomy (Subgroup): Aquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	6	1	10YR	2/1	100	--	--	--	--	--	silt loam
6	12	2	2.5Y	4/2	NR	NR	NR	NR	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present)☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: NR Depth: NR

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: LINN_W014 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	3	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	3		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Cornus alba*	72	Y	FACW
2.	*Fraxinus americana*	3	N	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	75		

Herb Stratum (Plot size: 2 meter radius)

1.	*Festuca rubra*	12	Y	FACU
2.	*Equisetum fluviatile*	8	Y	OBL
3.	*Solidago rugosa*	5	N	FAC
4.	*Fragaria virginiana*	3	N	FACU
5.	*Rubus idaeus*	2	N	FACU
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	30		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	8	x 1 =	8
FACW spp.	72	x 2 =	144
FAC spp.	5	x 3 =	15
FACU spp.	23	x 4 =	92
UPL spp.	0	x 5 =	0
Total	108 (A)		259 (B)

Prevalence Index = B/A = ***2.398***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	Upland
Landform:	Backslope	Local Relief:	NR
Slope (%):	0-8	Latitude: 45.976566	Longitude: -67.990498
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☑, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	08/13/14
County:	Aroostook
State:	Maine
Wetland ID:	TAR2_W002
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	TA R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Rocky till near soil surface

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑)

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Plaisted and Howland very stony loams — Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	Duff	--	--	--	--	--	--	--	--	--
0	1	1	10YR	6/2	100	--	--	--	--	--	silt loam
		--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑)

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rocky till Depth: 3"

Hydric Soil Present? ☐ Yes ☑ No

Remarks: Second horizon is an albic E-horizon.

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TAR2_W002 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Picea rubens*	30	Y	FACU
2.	*Abies balsamea*	15	Y	FAC
3.	*Pinus strobus*	15	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Picea rubens*	30	Y	FACU
2.	*Abies balsamea*	10	Y	FAC
3.	*Acer rubrum*	10	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 2 meter radius)

1.	*Kalmia angustifolia*	40	Y	FAC
2.	*Cornus canadensis*	30	Y	FAC
3.	*Maianthemum canadense*	20	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	90		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***62.5%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	105	x 3 =	315
FACU spp.	95	x 4 =	380
UPL spp.	0	x 5 =	0
Total	200 (A)		695 (B)

Prevalence Index = B/A = ***3.475***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	Tom Tetreau	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	PFO
Landform:	Backslope	Local Relief:	Concave
Slope (%):	0-8	Latitude: 45.976714	Longitude: -67.990479
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	08/13/14
County:	Aroostook
State:	Maine
Wetland ID:	TAR2_W002
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	TA R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐:

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Plaisted and Howland very stony loams Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
30+	--	1	--	NR	--	--	--	--	--	--	muck
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present)☐

- ☑ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Depth:

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TAR2_W002 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Picea rubens*	40	Y	FACU
2.	*Larix laricina*	20	Y	FACW
3.	--	--		--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Rhododendron groenlandicum*	50	Y	OBL
2.	*Picea rubens*	40	Y	FACU
3.	*Larix laricina*	30	Y	FACW
4.	*Kalmia angustifolia*	30	Y	FAC
5.	*Thuja occidentalis*	10	N	FACW
6.	*Chamaedaphne calyculata*	5	N	OBL
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	165		

Herb Stratum (Plot size: 2 meter radius)

1.	*Rhododendron groenlandicum*	10	Y	OBL
2.	*Gaultheria hispidula*	10	Y	FACW
3.	*Larix laricina*	10	Y	FACW
4.	*Pyrola americana*	10	Y	FAC
5.	*Eriophorum virginicum*	5	N	OBL
6	*Cornus canadensis*	5	N	FAC
7.	*Coptis trifolia*	5	N	FACW
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	55		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***80.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	70	x 1 =	70
FACW spp.	85	x 2 =	170
FAC spp.	45	x 3 =	135
FACU spp.	80	x 4 =	320
UPL spp.	0	x 5 =	0
Total	280 (A)		695 (B)

Prevalence Index = B/A = ***2.482***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Plaisted and Howland very stony loams	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Convex
Slope (%):	5	Latitude: 45.968811	Longitude: -67.992332
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	08/14/14
County:	Aroostook
State:	Maine
Wetland ID:	TAR2_W005
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	TA R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Moderate level of disturbance related to past clearing for Bridal Path.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☐ Yes	☑ No	Depth:	(in.)
Saturation Present?	☐ Yes	☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Plaisted and Howland very stony loams Series Drainage Class: well drained

Taxonomy (Subgroup): Oxyaquic Haplorthods

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	4	1	10YR	3/1	100	--	--	--	--	--	silt loam
4	8	2	10YR	4/4	100	--	--	--	--	--	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present)☑

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 8"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TAR2_W005 | Sample Point **Upland**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*Calamagrostis canadensis*	100	Y	OBL
2.	*Rubus idaeus*	5	N	FACU
3.	*Fragaria sp.*	2	N	NL
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	107		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	100	x 1 =	100
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	5	x 4 =	20
UPL spp.	0	x 5 =	0
Total	105 (A)		120 (B)

Prevalence Index = B/A = ***1.143***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Number Nine Wind Farm	Stantec Project #:	195600919
Applicant:	EDP Renewables		
Investigator #1:	David Brenneman	Investigator #2:	
Soil Unit:	Monarda and Burnham silt loams	NWI/WWI Classification:	PEM
Landform:	Stream Valley	Local Relief:	Concave
Slope (%):	1	Latitude: 45.968989	Longitude: -67.992316
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐naturally problematic?

Are normal circumstances present? ☑ Yes ☐No

Date:	08/14/14
County:	Aroostook
State:	Maine
Wetland ID:	TAR2_W005
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	TA R2 WELS
Range:	-- Dir: --

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Moderate degree of disturbance related to past clearing for Bridal Path.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: NR	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: NR	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Monarda and Burnham silt loams — Series Drainage Class: poorly drained

Taxonomy (Subgroup): Aeric Epiaquepts

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix	Matrix %	Mottles Color (Moist)	Mottles	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	8	1	10YR	3/1	100	--	--	--	--	--	muck
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present)☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)
- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☑ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (**LRR K, L, R**)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (**LRR K, L**)
- ☐ S9 - Thin Dark Surface (**LRR K, L**)
- ☐ F12 - Iron-Manganese Masses (**LRR K, L, R**)
- ☐ F19 - Piedmont Floodplain Soils (**MLRA 149B**)
- ☐ TA6 - Mesic Spodic (**MLRA 144A, 145, 149B**)
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 8"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Number Nine Wind Farm | Wetland ID: TAR2_W005 | Sample Point Wetland

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*Calamagrostis canadensis*	100	Y	OBL
2.	*Carex gynandra*	10	N	OBL
3.	*Impatiens capensis*	5	N	FACW
4.	*Persicaria sagittata*	5	N	OBL
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	120		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	115	x 1 =	115
FACW spp.	5	x 2 =	10
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	120 (A)		125 (B)

Prevalence Index = B/A = ***1.042***

Hydrophytic Vegetation Indicators:

- ☑ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ☐ No

Remarks:

Additional Remarks:

Appendix E MAINE STATE VERNAL POOL ASSESSMENT FORMS

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_147CF_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rodney Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Bridgewater

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Natural wetland swale with pit/mound topography impounded by Boot Foot Road.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Large, relatively deep pool with no change in water level between first and second visits.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 75 ○ m ◉ ft Length: 200 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2015, 5/28/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	84	--		3	--		H	--		Y	--		3	--	
Spotted Salamander	3	--		3	--		M	--		N	--		--	--	
Blue-spotted Salamander	44	--		3	--		H/M	--		N	--		--	--	
Fairy Shrimp [3]	No	--		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Egg mass counts not conducted at second visit.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_147CF_N.
Date: May 14, 2015. Stantec.

Photo 2: SVP_147CF_N.
Date: May 14, 2015. Stantec.

Photo 3: SVP_147CF_N.
Date: May 14, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_05KR_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: K. Ryan, J. Leclerc

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Man-made drainagte ditch

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in wetland by ditching

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Depth, lack of vegetation in pool

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 4 ○ m ◉ ft Length: 85 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☒ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ◉ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/22/2014, 6/7/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	11	?		3	1		H	?		No	?		3	1	
Spotted Salamander	14	7		3	1		A	A		No	?		3	1	
Blue-spotted Salamander	16	?		3	1		A	?		No	?		3	1	
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool formed by ditch turnout and culvert. Water levels unchanged at 2nd visit, but water visibility was poor due to suspended silt, and egg mass/larvae counts could not be thoroughly completed as a result (hence the "?" in table above).

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_05KR_M.
May 22, 2014. Stantec.

Photo 2: VP_05KR_M.
May 22, 2014. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: C-08VP-17 **Milepost/Station:** _____ **Date:** 5/19/08

Team: C **Time of Day:** 1:30 pm **Town:** TDR2 WELS

Weather Conditions: ☐Sunny ☒Partly Sunny ☐Overcast ☐Raining ☐Snowing

Photos Taken: ☒Yes ☐No **Photo Info.:** Pic 1-Pool (south) Pic 2-Egg mass Pic 3-Stump

Observers: JL, JG

Credentials

■ Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☒Professional Wetland Scientist
- ☐Professional Biologist (concentration: _____)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other: _____

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

3 yrs + Wetlands

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1115621.22 Latitude/Northing: 1014625.75

Model of GPS Unit: Trimble GeoXH

Please Check One:

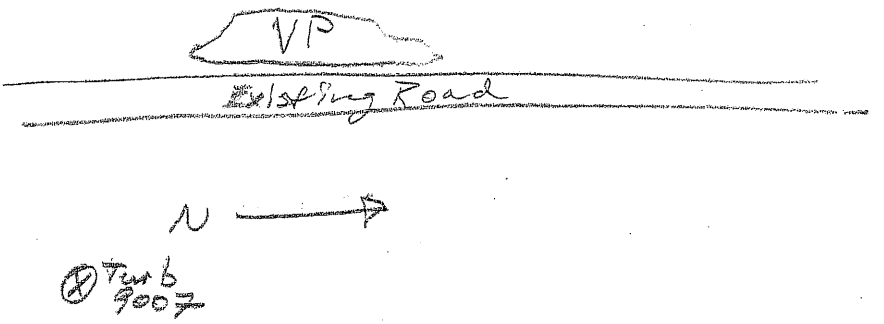
- ☒The above GPS point is at the center of the vernal pool.
- ☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations: _____

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments: VP is adjacent to existing road (bound to the east) and located w/in buffered turb. 9007 to the NW

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

60 **% Woodland** (check most dominant type) →

- ☒Hardwood (>75% deciduous)
- ☐Softwood (>75% coniferous)
- ☐Mixed (all others)

For woodland habitat, is the over story?

- ☒Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☐Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) →

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

For utility ROW, identify dominant vegetation type

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

_____ **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☐Other

_____ **% Residential**

40 **% Roads**

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 80' Maximum Width: 25'

Water Depth (inches): Max. When Observed: 15" Estimated Spring Max. 18"

Water temperature: 60 °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☒ Upland – Isolated (pool not part of a larger wetland)
- ☐ Wetland Complex (pool associated with a larger wetland habitat)
- ☐ Bottomland-isolated (pool part of a river or lake floodplain)
- ☒ Man-made **Describe:** Hydrology bound by road to east

Check all wetland types that best apply to this pool:

☒ Forested swamp	☐ Wet meadow	☐ Slow stream
☐ Shrub swamp	☐ Shallow pond	☐ Floodplain overflow
☐ Peatland (fen or bog)	☐ Abandoned beaver flowage	☐ Headwater seepage
☐ Emergent marsh	☐ Active beaver flowage	☐ Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☐ Natural ☒ Natural-Modified ☐ Unnatural ☐ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:
Pool appears to be natural depression. Possibly dammed for wood f.r.l. Outlet may also have been blocked by road.

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐ Permanent
- ☒ Semi-permanent (drying partially in all years and completely in drought years)
- ☐ Ephemeral (drying out during the growing season in most years)

High percentage of rooted grasses & ferns in pool.

Predominate substrate:

- ☐ Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☒ Mineral soil (sphagnum moss present)
- ☐ Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐ Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☐ Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☐ Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☒ Sphagnum moss (anchored or suspended)
- ☒ Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐ Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐ Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☒No inlet or outlet ☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☐Ephemeral inlet or outlet ☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☒No Were fish sampled? ☐Yes ☒No

Describe the methods used for observing/sampling fish, and list species observed:_____

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

2 % Cover Class - Trees (5m and above)

2 % Cover Class - Shrubs (0.5m to less than 5m)

2 % Cover Class - Woody debris (branches/twigs)

2 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

1 % Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

2 % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

1 % Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees Acer/Salix Shrubs Fir/Larrice Herbaceous Grasses/Sphagnum

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	—						
Spotted Salamander	23	S, H, P	3				
Blue-spotted salamander	—						
Fairy shrimp	—						

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☒Yes ☐No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: [signature] Date: 5/19/08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_C08VP19_N.
May 19, 2008.

Photo 2: SVP_C08VP19_N.
July 30, 2008.

Photo 3: SVP_C08VP19_N.
May 29, 2014. Stantec.

Photo 4: SVP_C08VP19_N.
May 29, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_88RK_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T10 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Skidder ruts in wetland

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in skidder ruts through cleared forested wetland

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Size, depth

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 30 ○ m ◉ ft Length: 90 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☒ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☒ Other: adult green frogs

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/6/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			H			Yes			3		
Spotted Salamander	88			3			A			No			3		
Blue-spotted Salamander	0			3											
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Skidder ruts through PFO swale, no indication of previous natural pool. Many wood frog tadpoles observed during pool survey.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_88RK_M.
June 6, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_117CF_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: TD R2 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Roadside excavation in wetland

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Excavation in roadside wetland

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Mineral substrate with dense herbaceous vegetation.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 25 ○ m ◉ ft Length: 125 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2015, 5/28/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	42	--		3	--		A	--		Y	-		3	-	
Spotted Salamander	53	--		3	--		M	--		N	--		--	--	
Blue-spotted Salamander	0	--		--	--		--	--		N	--		--	--	
Fairy Shrimp[3]	No	--		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Egg mass counts not conducted at second visit. Water depth at second visit approximately 18 inches.

High functioning man-made pool with egg mass counts that would meet the threshold of a significant vernal pool.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_117CF_M.
Date: May 14, 2015. Stantec.

Photo 2: VP_117CF_M.
Date: May 28, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_116CF_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: TD R2 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Roadside ditch

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Ditch in wetland adjacent to road.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Shallow pool with a mineral substrate and a leaf-litter bottom

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ○ m ◉ ft Length: 60 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): Culvert inlet - no outlet

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	5			3			H			N			--		
Spotted Salamander	6			3			M			N			--		
Blue-spotted Salamander	0			--			--			N			--		
Fairy Shrimp[3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

One adult wood frog observed.

Pool is located within 100 feet of VP_117CF_M and together these pools are considered as a single landscape unit (cluster pool) with significant egg mass numbers.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_116CF_M.
Date: May 14, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_135CF_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: E TWP

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Slash partially impounding pool

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Shallow pool depth with a think muck layer over mineral substrate

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 40 ○ m ◉ ft Length: 30 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/15/2015, 5/28/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (●) Yes ( ) No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	9	9		3	3		A	H		Y	N		3	--	
Spotted Salamander	12	12		3	3		M	H		N	N		--	--	
Blue-spotted Salamander	0	0		--	--		--	--		N	N		--	--	
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Egg masses were in a disintegrated state on 5/28/15; water depth approximately 6".

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_135CF_N.
Date: May 15, 2015. Stantec.

Photo 2: VP_135CF_N.
Date: May 28, 2015. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: C-08VP-15 **Milepost/Station:** _____ **Date:** 5/17/08

Team: C **Time of Day:** 11:22 am **Town:** TD R2 WELS

Weather Conditions: ☐Sunny ☒Partly Sunny ☐Overcast ☐Raining ☐Snowing

Photos Taken: ☒Yes ☐No **Photo Info.:** Pic 1 Pool, Pic 2 - Egg Mass, Pic 3 - Stage

Observers: TL, JG

Credentials

■ Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☒Professional Wetland Scientist
- ☐Professional Biologist (concentration: _____)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other: _____

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

Bys & Wetlands

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 111919.36 Latitude/Northing: 1016552.88

Model of GPS Unit: Trimble GeoXH

Please Check One:

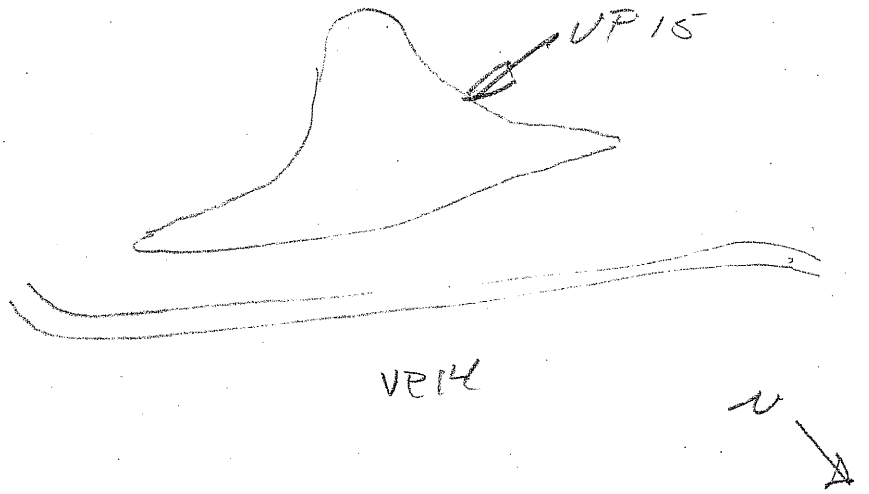
- ☒The above GPS point is at the center of the vernal pool.
- ☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations: _____

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments: Along w/ pool VP14, this pool appears to be part of a large wetland complex that was bisected by the existing roadway.

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

65 **% Woodland** (check most dominant type) → **For woodland habitat, is the over story?**

- ☐Hardwood (>75% deciduous)
- ☒Softwood (>75% coniferous)
- ☐Mixed (all others)

- ☐Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☒Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) → **For utility ROW, identify dominant vegetation type**

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

_____ **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☐Other

_____ **% Residential**

35 **% Roads**

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 65' Maximum Width: 30'

Water Depth (inches): Max. When Observed: 24" Estimated Spring Max. 28"

Water temperature: 64 °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☐Upland – Isolated (pool not part of a larger wetland)
- ☒Wetland Complex (pool associated with a larger wetland habitat)
- ☐Bottomland-isolated (pool part of a river or lake floodplain)
- ☒Man-made **Describe:** Bound to the northbound roadway.

Check all wetland types that best apply to this pool:

☒Forested swamp	☐Wet meadow	☐Slow stream
☐Shrub swamp	☐Shallow pond	☐Floodplain overflow
☒Peatland (fen or bog)	☐Abandoned beaver flowage	☐Headwater seepage
☐Emergent marsh	☐Active beaver flowage	☐Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☐Natural ☒Natural-Modified ☐Unnatural ☐Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:
Hydrologically partially maintained by roadway ditch drainage. Although the pool has been enlarged by the road the feature was existing

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

☒Permanent ☐Semi-permanent (drying partially in all years and completely in drought years) ☐Ephemeral (drying out during the growing season in most years)

Deepest portions are over 2'.

Predominate substrate:

- ☐Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐Mineral soil (sphagnum moss present)
- ☒Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☒Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☐Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☒Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☒Sphagnum moss (anchored or suspended)
- ☐Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☐No inlet or outlet ☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☒Ephemeral inlet or outlet ☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☒No Were fish sampled? ☐Yes ☒No

Describe the methods used for observing/sampling fish, and list species observed:_____

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

1 % Cover Class - Trees (5m and above)

1 % Cover Class - Shrubs (0.5m to less than 5m)

2 % Cover Class - Woody debris (branches/twigs)

3 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

1 % Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

3 % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

1 % Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees_____ Shrubs Spruce Herbaceous Scirpus fairwellii

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	35	S, H	3	3	3		
Spotted Salamander	29	S, H, P	3				
Blue-spotted salamander	1						
Fairy shrimp							

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☒Yes ☐No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature:_____ Date: 5/17/08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_C08VP15_N.
May 20, 2008.

Photo 2: SVP_C08VP15_N.
May 29, 2014. Stantec.

Photo 3: SVP_C08VP15_N.
May 29, 2014. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: C-08VP-14 **Milepost/Station:** _____ **Date:** 5/17/08

Team: C **Time of Day:** 11:11 am **Town:** TDR2 WFLS

Weather Conditions: ☐Sunny ☒Partly Sunny ☐Overcast ☐Raining ☐Snowing

Photos Taken: ☒Yes ☐No **Photo Info.:** Pic 1-Pool Pic 2-Egg Mass Pic 3-Stob

Observers: JI, JG

Credentials

■ Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☒Professional Wetland Scientist
- ☐Professional Biologist (concentration: _____)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other: _____

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

3 yrs + wetlands

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 111994.14 Latitude/Northing: 40,6545.14

Model of GPS Unit: Trimble GeoXH

Please Check One:

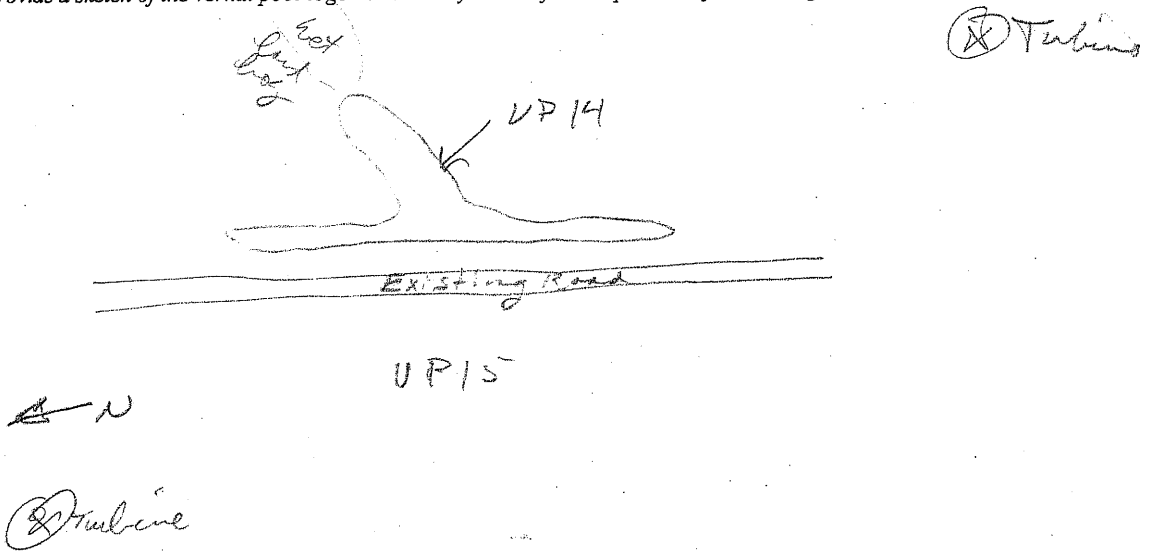
- ☒The above GPS point is at the center of the vernal pool.
- ☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations: _____

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments: Pool appears to be a modified natural feature enlarged by ditching and bound by road.

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

55 **% Woodland** (check most dominant type) →

- ☐Hardwood (>75% deciduous)
- ☒Softwood (>75% coniferous)
- ☐Mixed (all others)

For woodland habitat, is the over story?

- ☒Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☐Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) →

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

For utility ROW, identify dominant vegetation type

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

_____ **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☐Other

_____ **% Residential**

45 **% Roads**

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 35' Maximum Width: 30'

Water Depth (inches): Max. When Observed: 18" Estimated Spring Max. 22"

Water temperature: 62 °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☐Upland – Isolated (pool not part of a larger wetland)
- ☒Wetland Complex (pool associated with a larger wetland habitat)
- ☐Bottomland-isolated (pool part of a river or lake floodplain)
- ☐Man-made **Describe:**

Check all wetland types that best apply to this pool:

☐Forested swamp	☐Wet meadow	☐Slow stream
☐Shrub swamp	☐Shallow pond	☐Floodplain overflow
☒Peatland (fen or bog)	☐Abandoned beaver flowage	☐Headwater seepage
☐Emergent marsh	☐Active beaver flowage	☐Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☐Natural ☒Natural-Modified ☐Unnatural ☐Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

Pool appears to be part of a series of ponds that was bisected by railway. Pool is adjacent to VP15.

Pool later determined to be man-made.

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐Permanent
- ☒Semi-permanent (drying partially in all years and completely in drought years)
- ☐Ephemeral (drying out during the growing season in most years)

Some hummocking and emergent vegetation in pool edges.

Predominate substrate:

- ☐Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐Mineral soil (sphagnum moss present)
- ☒Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☐Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☒Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☒Sphagnum moss (anchored or suspended)
- ☐Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☐No inlet or outlet ☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☒Ephemeral inlet or outlet ☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☒No Were fish sampled? ☐Yes ☒No

Describe the methods used for observing/sampling fish, and list species observed:_____

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

1 % Cover Class - Trees (5m and above)

1 % Cover Class - Shrubs (0.5m to less than 5m)

2 % Cover Class - Woody debris (branches/twigs)

1 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

1 % Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

2 % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

1 % Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees_____ Shrubs_____ Herbaceous Sensus / grasses

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	1			S	3		
Spotted Salamander	47	S, H, P	3				
Blue-spotted salamander	1						
Fairy shrimp	1						

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*	1				
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☒Yes ☐No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: [signature] Date: 5/17/08

For MDIFW use only Reviewed by MDIFW Date: Initials:

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_C08VP14_M.
May 17, 2008.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_140DB_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rodney Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: E TWP

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [ ] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [ ] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [x] Isolated pool
- [ ] Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: (●) Natural ( ) Natural-Modified ( ) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Strip cut in adjacent upland forest - pool in remaining forest strip

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- (●) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Relatively small, shallow pool (10"). Pool was observed almost dry on July 17, 2014.

■ Maximum depth at survey: (●) 0-12" (0-1 ft.) ( ) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 30 ( ) m (●) ft Length: 45 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- (●) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [x] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [ ] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [x] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [ ] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [ ] Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (●) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	2			3			H			Y			3		
Spotted Salamander	0			--			--			N			--		
Blue-spotted Salamander	0			--			--			N			--		
Fairy Shrimp[3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Based upon pool characteristics and breeding activity at other vernal pools in the area, it is not expected that this pool would reach level of significant vernal pool.

Water striders, caddisfly larvae, mosquito larvae and amphipods observed.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_140DB_N.
Date: May 14, 2015. Stantec.

Photo 2: VP_140DB_N.
Date: July 17, 2014. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: D-08-VP-40 **Milepost/Station:** NA **Date:** 5-27-08

Team: D **Time of Day:** 0985 **Town:** E PLANT

Weather Conditions: ☒Sunny ☐Partly Sunny ☐Overcast ☐Raining ☐Snowing

Photos Taken: ☒Yes ☐No **Photo Info.:** 1-FLAG 2-POOL FACING S

Observers: JL / SG

Credentials

- Please check all that apply:
  - ☐Professional Herpetologist and/or Ecologist
  - ☐Professional Wetland Scientist
  - ☒Professional Biologist (concentration: WILD ECOL)
  - ☐Trained Citizen Scientist
  - ☐Self-informed Naturalist
  - ☐Other:
- Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

CWB + 12 YRS PROF EXP

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1120250.14 Latitude/Northing: 1024084.31

Model of GPS Unit: TRIMB GEO XH

Please Check One:

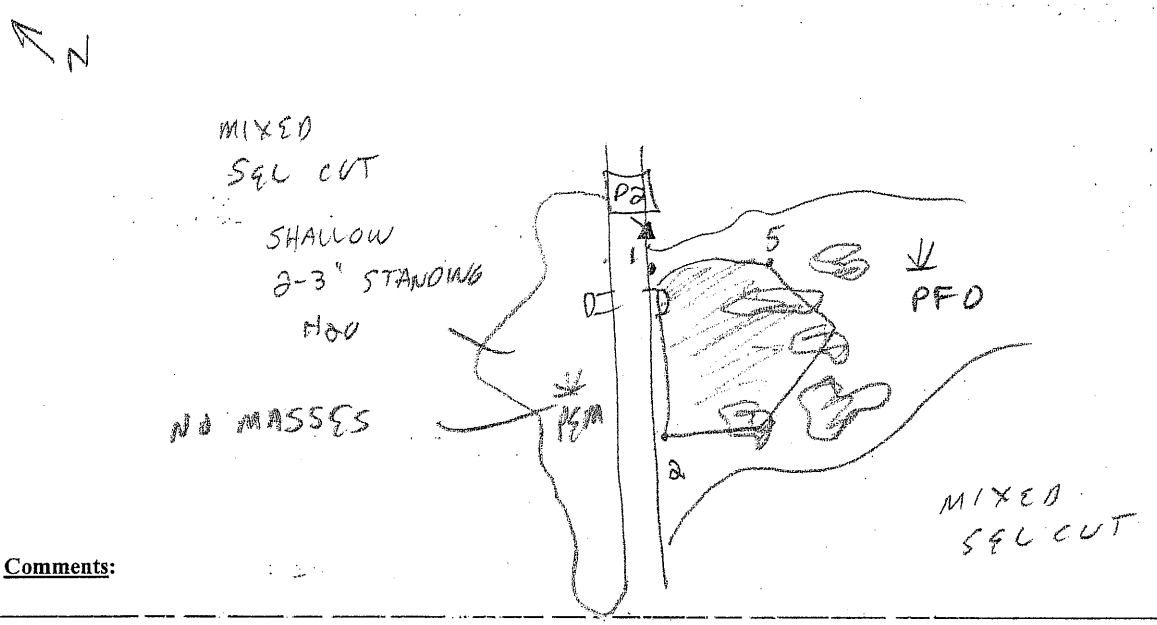
- ☒The above GPS point is at the center of the vernal pool.
- ☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations:

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments:

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

75 **% Woodland** (check most dominant type) →

- ☐Hardwood (>75% deciduous)
- ☐Softwood (>75% coniferous)
- ☒Mixed (all others) OLD SEL CUT

For woodland habitat, is the over story?

- ☐Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☒Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) →

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

For utility ROW, identify dominant vegetation type

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

15 **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☒Other ROAD EDGE HERBS/SHRUBS + PEM/PSS

_____ **% Residential**

10 **% Roads**

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 60 Maximum Width: 25

Water Depth (inches): Max. When Observed: 26 Estimated Spring Max. 30

Water temperature: 11 °C °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting):

- ☐ Upland – Isolated (pool not part of a larger wetland)
- ☒ Wetland Complex (pool associated with a larger wetland habitat)
- ☐ Bottomland-isolated (pool part of a river or lake floodplain)
- ☐ Man-made **Describe:**

Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Shallow pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow
- ☐ Headwater seepage
- ☐ Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☐ Natural ☐ Natural-Modified ☒ Unnatural ☐ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

POOL / PFO ASSOCIATED WITH ROAD CULVERT POOL LIKELY A RESULT OF A MODIFICATION TO A COMPLEX HOWEVER SITE HAS "NATURAL" QUALITIES

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐ Permanent
- ☒ Semi-permanent (drying partially in all years and completely in drought years)
- ☐ Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☒ Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐ Mineral soil (sphagnum moss present)
- ☐ Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐ Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☒ Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☒ Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☒ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐ Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐ Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☐No inlet or outlet ☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☒Ephemeral inlet or outlet VIA CULVERT ☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☒No Were fish sampled? ☐Yes ☒No

Describe the methods used for observing/sampling fish, and list species observed:_____

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

_____% Cover Class - Trees (5m and above)

1 % Cover Class - Shrubs (0.5m to less than 5m)

2 % Cover Class - Woody debris (branches/twigs)

2 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

_____% Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

_____% Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

_____% Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees_____ Shrubs RSMA SPAL Herbaceous CAREX, IMPATIENS

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	100+			S	3		
Spotted Salamander	30	S	3	100+S	3		
Blue-spotted salamander							
Fairy shrimp							

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

UNNATURAL MODIFIED W/ COMPLEX

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☐Yes ☒No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: Diane R Morse Date: 5-27-08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_D08VP40_M.
May 27, 2008.

Photo 2: VP_D08VP40_M.
July 31, 2008.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_71JL_N (formerly PSVP_71JL_N) **MDIFW Pool ID:** 2428

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: ***Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.***

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: E TWP

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Logging trail through wetland created ruts immediately adjacent to a natural pool.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Shallow water depth with a mineral soil and leaf-litter bottom substrate.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ○ m ◉ ft Length: 120 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☒ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/15/2015, 5/28/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	15	--		3	--		A	--		Y	--		3	--	
Spotted Salamander	28	--		3	--		M	--		N	--		--	--	
Blue-spotted Salamander	0	--		--	--		--	--		N	--		--	--	
Fairy Shrimp[3]	No	--		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Second visit conducted to observed the pool's hydrology. Maximum pool depth at that time was 3". No egg mass counts conducted at the second visit.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: SVP_71JL_N (MDIFW ID 2428). Skid trail portion of pool.
Date: May 15, 2015. Stantec.

Photo 2: SVP_71JL_N (MDIFW ID 2428). Natural portion of pool.
Date: May 29, 2015. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: D-08-VP-34 **Milepost/Station:** NA **Date:** 5-25-08

Team: D **Time of Day:** 1055 **Town:** E PLANT

Weather Conditions: ☐Sunny ☒Partly Sunny ☐Overcast ☐Raining ☐Snowing

Photos Taken: ☒Yes ☐No **Photo Info.:** 1- FLAG, 2- N END OF POOL FACING NW 3 END OF POOL COMPLEX FACING SW, 4- POOL COMPLEX FROM ROAD (NE)

Observers: S. GROVE / S. MURPHY

Credentials

■ Please check all that apply:

☐Professional Herpetologist and/or Ecologist

☐Professional Wetland Scientist

☒Professional Biologist (concentration: WILD ECOL)

☐Trained Citizen Scientist

☐Self-informed Naturalist

☐Other:

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

CWB + 12 YRS PROF EXP

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1109326.41 Latitude/Northing: 1026503.02

Model of GPS Unit: TRIMBLE GEO XH

Please Check One:

☒The above GPS point is at the center of the vernal pool.

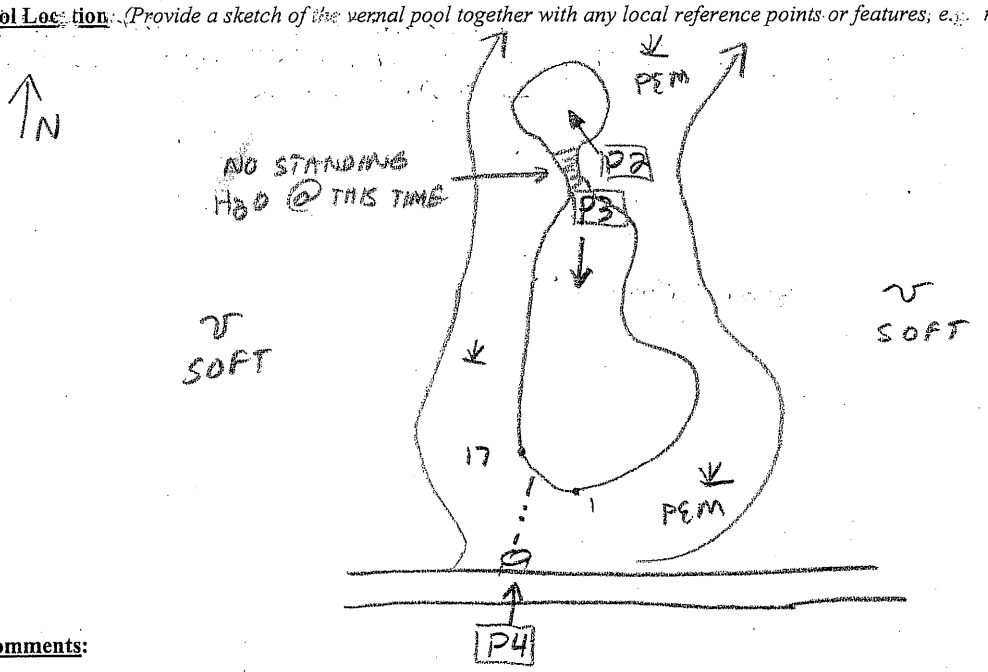
☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations:

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features; e.g. roads, structures, foot trails, etc.)*



Comments:

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

65 **% Woodland** (check most dominant type) →

- ☐Hardwood (>75% deciduous)
- ☒Softwood (>75% coniferous)
- ☐Mixed (all others)

For woodland habitat, is the over story?

- ☒Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☐Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) →

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

For utility ROW, identify dominant vegetation type

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

30 **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☒Other PEM + ROADSIDE HERBS/SHRUBS

_____ **% Residential**

5 **% Roads**

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 175' Maximum Width: 20

Water Depth (inches): Max. When Observed: 6 Estimated Spring Max. 12

Water temperature: 12° C ~~°F~~ (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☐Upland – Isolated (pool not part of a larger wetland)
- ☒Wetland Complex (pool associated with a larger wetland habitat)
- ☐Bottomland-isolated (pool part of a river or lake floodplain)
- ☐Man-made **Describe:**

Check all wetland types that best apply to this pool:

☐Forested swamp	☐Wet meadow	☐Slow stream
☐Shrub swamp	☐Shallow pond	☐Floodplain overflow
☐Peatland (fen or bog)	☐Abandoned beaver flowage	☐Headwater seepage
☒Emergent marsh	☐Active beaver flowage	☐Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☐Natural ☐Natural-Modified ☒Unnatural ☐Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

ASSOCIATED WITH ROAD CULVERT - POOLS LIKELY A RESULT OF MODIFICATION TO A WETLAND COMPLEX

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐Permanent
- ☐Semi-permanent (drying partially in all years and completely in drought years)
- ☒Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☐Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐Mineral soil (sphagnum moss present)
- ☒Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☒Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☒Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☒Sphagnum moss (anchored or suspended)
- ☒Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☐No inlet or outlet ☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☒Ephemeral inlet or outlet VIA CULVERT ☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☒No Were fish sampled? ☐Yes ☒No

Describe the methods used for observing/sampling fish, and list species observed:_____

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

_____% Cover Class - Trees (5m and above)

1 % Cover Class - Shrubs (0.5m to less than 5m)

1 % Cover Class - Woody debris (branches/twigs)

3 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

_____% Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

2 % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

_____% Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees_____ Shrubs SP ALDER Herbaceous CAREX, ONOCLEA SCIRPUS

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	6	S/H	3				
Spotted Salamander	20			S/H	3		
Blue-spotted salamander							
Fairy shrimp							

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

UNNATURAL MODIFIED ↓ COMPLEX

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☐Yes ☒No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: Stacie D. Lane Date: 5-26-08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

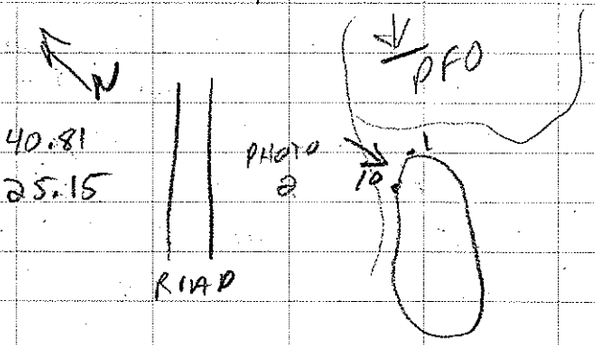
Location _____ Date 5-26-08

Project / Client _____

VP 33

FLAGS 1-10

25 SS MASSES, MANY LARVAE + WF TADPOLES. NATURAL POOL PEM IN POOL 75% + SLASH 20% - OVERSTORY RECENTLY CUT 5% COVER OVER POOL (BAFI, WHBI, YEBI, SPRU) NOTACH SLASH + PEM, POOL 10" HIGH 26" EXPOSED MASSES ON PERIM, 14°C



N1026040.81
E1105925.15

ABA 66

19 SS MASSES IN ROADSIDE DEPRESSION 0% COVER OVER POOL OLD STAGING AREA w/ several "PITS" 25' x 5' N1026690.12 E1106943.35

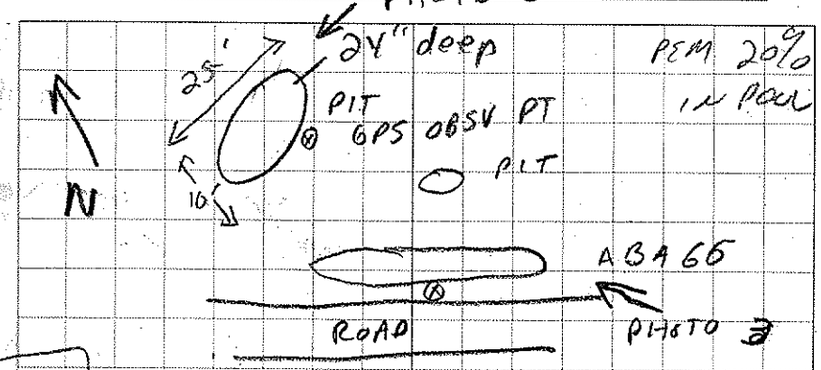
10 MASSES EXPOSED ON SHORELINE 6" DEEP - 12" HIGH AVG

NEARBY PIT NO MASSES OR TADS

Location _____ Date _____

Project / Client AWEP

PHOTO 2



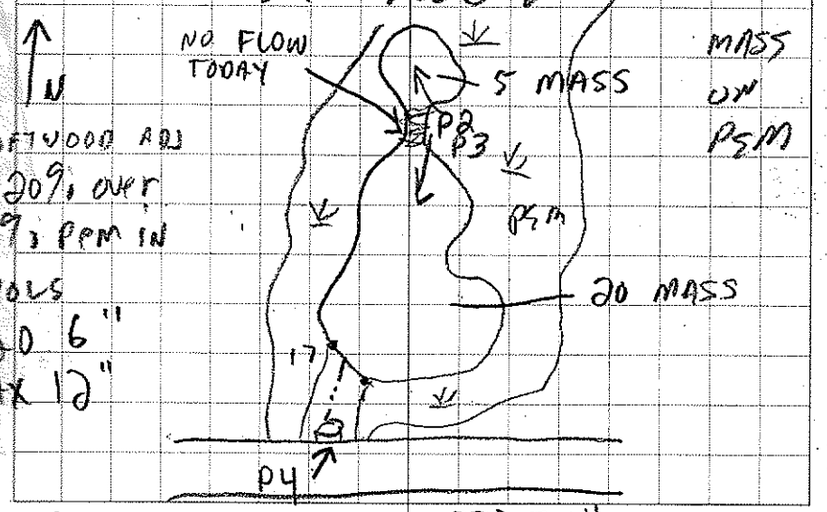
PEM 20% IN POOL

VP 34

FLAGS 1-17

12°C

POOLS IN LARGER COMPLEX ASSOCIATED W/ROAD CULVERT 2 AREAS OF MASSES, HYDRO CONNECTED, BUT NOT @ THIS TIME. 20 SS + 6 VERY OLDER WF MASSES POOL 1 5 SS IN POOL 2



MASS ON PEM

SOFTWOOD ADJ & 20% OVER 80% PEM IN POOLS

4 20 6"

MAX 12"

N1026611.55 E1110933.14

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_D08VP34_M.
May 26, 2008.

Photo 2: VP_D08VP34_M.
July 31, 2008.

Photo 3: VP_D08VP34_M.
May 29, 2014. Stantec.

Photo 4: VP_D08VP34_M, associated culvert.
May 29, 2014. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: D-08-VP-33 **Milepost/Station:** NA **Date:** 5-26-08

Team: D **Time of Day:** 0935 **Town:** E PLANT

Weather Condition: ☐Sunny ☐Partly Sunny ☒Overcast ☐Raining ☐Snowing

Photos Taken: ☒Yes ☐No **Photo Info.:** 1- FLAG, 2- POOL FACING S

Observers: S GROVE / S. MURPHY

Credentials

■ Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☐Professional Wetland Scientist
- ☒Professional Biologist (concentration: WILD ECOL)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other:

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

CWB + 12 YRS PROF EXP

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1105925.15 Latitude/Northing: 1026040.81

Model of GPS Unit: TRIMBLE GEO XH

Please Check One:

☒The above GPS point is at the center of the vernal pool.

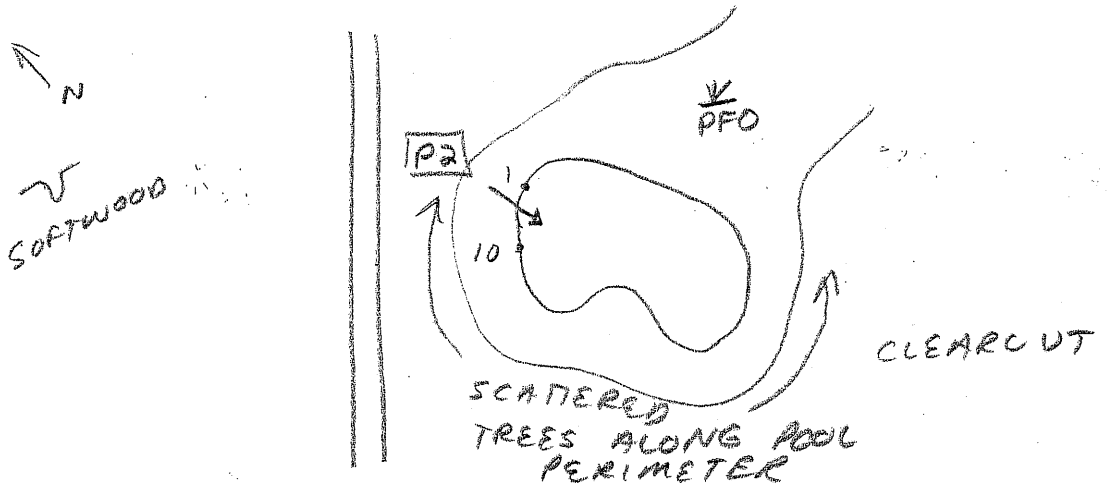
☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations:

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments: AREA HARVESTED 2 WINTERS AGO

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

40 **% Woodland** (check most dominant type) → **For woodland habitat, is the over story?**

- ☐Hardwood (>75% deciduous)
- ☒Softwood (>75% coniferous)
- ☐Mixed (all others)

- ☐Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☐Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☒Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) → **For utility ROW, identify dominant vegetation type**

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

55 **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☒Other CLEARCUT

_____ **% Residential**

5 **% Roads**

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 40 Maximum Width: 30

Water Depth (inches): Max. When Observed: 10 Estimated Spring Max. 26

Water temperature: 14°C °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☐Upland - Isolated (pool not part of a larger wetland)
- ☒Wetland Complex (pool associated with a larger wetland habitat)
- ☐Bottomland-isolated (pool part of a river or lake floodplain)
- ☐Man-made **Describe:**

Check all wetland types that best apply to this pool:

☒Forested swamp	☐Wet meadow	☐Slow stream
☐Shrub swamp	☐Shallow pond	☐Floodplain overflow
☐Peatland (fen or bog)	☐Abandoned beaver flowage	☐Headwater seepage
☐Emergent marsh	☐Active beaver flowage	☐Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☒Natural ☐Natural-Modified ☐Unnatural ☐Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

AREA HARVESTED 2 YRS AGO BUT NO OBVIOUS DIRECT IMPACTS TO POOL BUT OVERSTORY REDUCED

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐Permanent
- ☒Semi-permanent (drying partially in all years and completely in drought years)
- ☐Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☐Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐Mineral soil (sphagnum moss present)
- ☒Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☐Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☒Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☒Sphagnum moss (anchored or suspended)
- ☒Wet site ferns (e.g., royal fern, cinnamon fern)
- ☒Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☒No inlet or outlet

☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☐Ephemeral inlet or outlet

☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☒No Were fish sampled? ☐Yes ☒No

Describe the methods used for observing/sampling fish, and list species observed:_____

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

_____% Cover Class - Trees (5m and above)

1 % Cover Class - Shrubs (0.5m to less than 5m)

2 % Cover Class - Woody debris (branches/twigs)

1 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

_____% Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

4 % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

_____% Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees_____ Shrubs BUTTON BUSH Herbaceous SCIRPUS, CAREX

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	250+			S/H	3		
Spotted Salamander	25	S/H	3				
Blue-spotted salamander							
Fairy shrimp							

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

EXPOSED MASSES NOTED ON POOL PERIMETER

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

NATURAL

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☒Yes ☐No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: Stacie L Shore Date: 5-26-08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

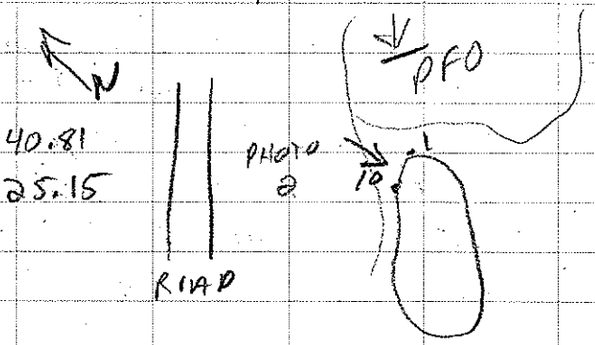
Location _____ Date 5-26-08

Project / Client _____

VP 33

FLAGS 1-10

25 SS MASSES, MANY LARVAE + WF TADPOLES. NATURAL POOL PEM IN POOL 75% + SLASH 20% - OVERSTORY RECENTLY CUT 5% COVER OVER POOL (BAFI, WHBI, YEBI, SPRU) NOTACH SLASH + PEM, POOL 10" HIGH 26" EXPOSED MASSES ON PERIM, 14°C



N1026040.81
E1105925.15

ABA 66

19 SS MASSES IN ROADSIDE DEPRESSION 0% COVER OVER POOL OLD STAGING AREA w/ several "PITS" 25' x 5' N1026690.12 E1106943.35

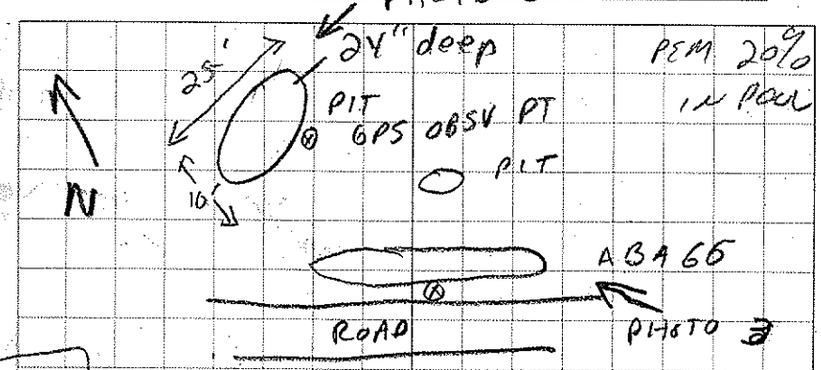
10 MASSES EXPOSED ON SHORELINE 6" DEEP - 12" HIGH AVG

NEARBY PIT NO MASSES OR TADS

Location _____ Date _____

Project / Client AWEP

PHOTO 2



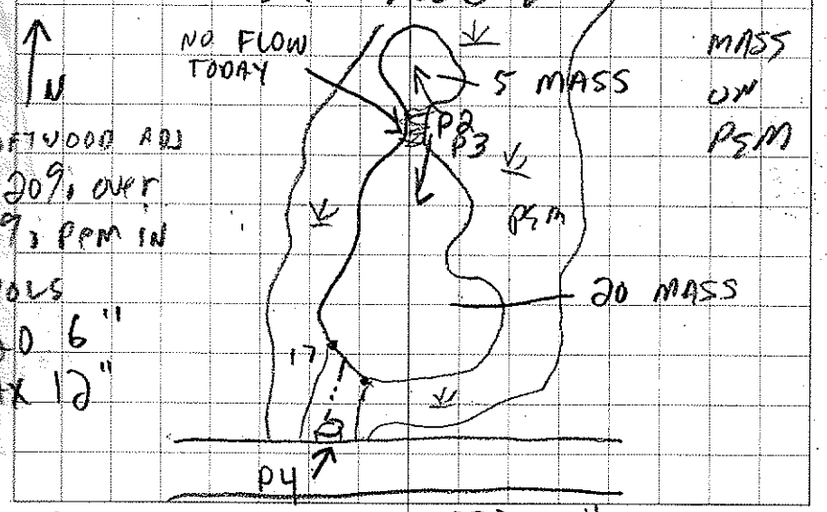
PEM 20% IN POOL

VP 34

FLAGS 1-17

12°C

POOLS IN LARGER COMPLEX ASSOCIATED W/ROAD CULVERT 2 AREAS OF MASSES, HYDRO CONNECTED, BUT NOT @ THIS TIME. 20 SS + 6 VERY OLDER WF MASSES POOL 1 5 SS IN POOL 2



MASS ON PEM

SOFTWOOD ADJ & 20% OVER 80% PEM IN POOLS

4 20 6"

MAX 12"

N1026611.55 E1110933.14

Photo 1: SVP_D08VP33_N.
May 26, 2008.

Photo 2: SVP_D08VP33_N.
July 31, 2008.

Photo 3: SVP_D08VP33_N.
May 29, 2014. Stantec.

Photo 4: SVP_D08VP33_N.
May 29, 2014. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: D-08-VP-31 **Milepost/Station:** NA **Date:** 5-23-08

Team: D **Time of Day:** 0745 **Town:** E. PLANT

Weather Conditions: ☐Sunny ☒Partly Sunny ☐Overcast ☐Raining ☐Snowing

Photos Taken: ☒Yes ☐No **Photo Info.:** 1-FLAG, 2-POOL FACING ROAD TO NORTH (N), 3-POOL FROM ROAD SD SE (S)

Observers: S. GROVE / S. MURPHY

Credentials

■ Please check all that apply:

☐Professional Herpetologist and/or Ecologist

☐Professional Wetland Scientist

☒Professional Biologist (concentration: WILD ECOL)

☐Trained Citizen Scientist

☐Self-informed Naturalist

☐Other:

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

CWB + 12 YRS PROF EXP

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 110 4393.49 Latitude/Northing: 1025156.32

Model of GPS Unit: TRIMBLE GEO XH

Please Check One:

☒The above GPS point is at the center of the vernal pool.

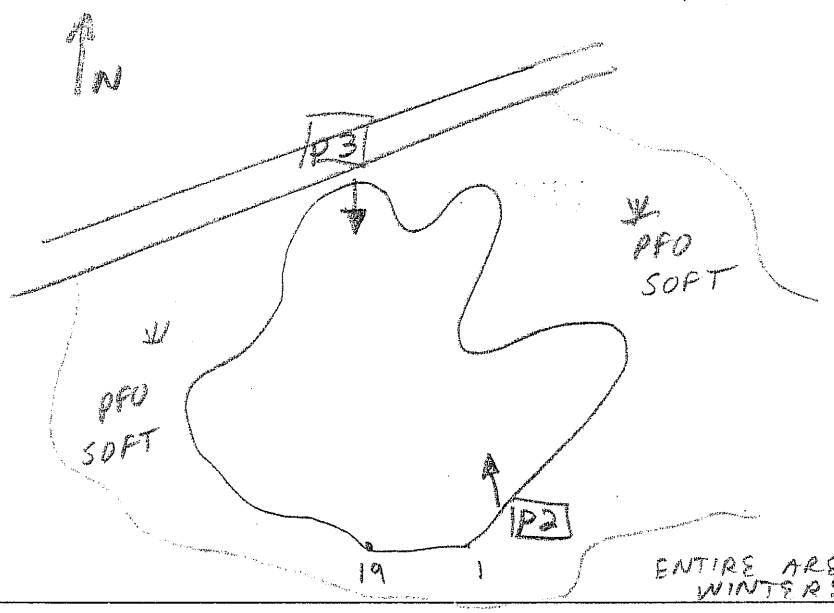
☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations:

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments: ENTIRE AREA HARVESTED 2 WINTERS AGO

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

95 **% Woodland** (check most dominant type) →

- ☐Hardwood (>75% deciduous)
- ☒Softwood (>75% coniferous)
- ☐Mixed (all others)

For woodland habitat, is the over story?

- ☐Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☒Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) →

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

For utility ROW, identify dominant vegetation type

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

_____ **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☐Other

_____ **% Residential**

5 **% Roads**

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 60 Maximum Width: 40

Water Depth (inches): Max. When Observed: 14 Estimated Spring Max. 24

Water temperature: 13°C °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☐Upland – Isolated (pool not part of a larger wetland)
- ☒Wetland Complex (pool associated with a larger wetland habitat)
- ☐Bottomland-isolated (pool part of a river or lake floodplain)
- ☐Man-made **Describe:**

Check all wetland types that best apply to this pool:

☒Forested swamp	☐Wet meadow	☐Slow stream
☐Shrub swamp	☒Shallow pond	☐Floodplain overflow
☐Peatland (fen or bog)	☐Abandoned beaver flowage	☐Headwater seepage
☐Emergent marsh	☐Active beaver flowage	☐Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☒Natural ☐Natural-Modified ☐Unnatural ☐Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

AREA HARVESTED NO DIRECT IMPACT TO POOL NOTED BUT OVERSTORY WAS REDUCED ALONG POOL PERIMETER

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐Permanent
- ☐Semi-permanent (drying partially in all years and completely in drought years)
- ☒Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☒Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐Mineral soil (sphagnum moss present)
- ☐Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☒Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☒Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☐Sphagnum moss (anchored or suspended)
- ☐Wet site ferns (e.g., royal fern, cinnamon fern)
- ☒Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☒No inlet or outlet

☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☐Ephemeral inlet or outlet

☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☒No Were fish sampled? ☐Yes ☒No

Describe the methods used for observing/sampling fish, and list species observed:_____

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

_____% Cover Class - Trees (5m and above)

2 % Cover Class - Shrubs (0.5m to less than 5m)

2 % Cover Class - Woody debris (branches/twigs)

2 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

_____% Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

3 % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

_____% Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees_____ Shrubs BUTTON BUSH Herbaceous ONOCLEA, SCIRPUS

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	2004			S/H	3		
Spotted Salamander	23			S	3		
Blue-spotted salamander							
Fairy shrimp							

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

LIKELY ADDL. SS MASSES PRESENT, BUT TOO DETERIORATED TO COUNT

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

NATURAL

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☒Yes ☐No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: [signature] Date: 5-26-08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

Location _____ Date 5-25-08

Project / Client AWED

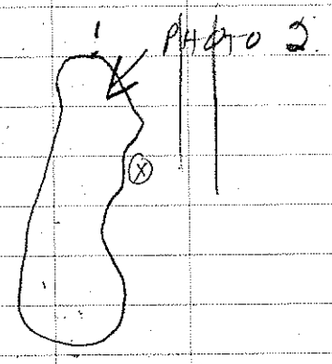
VP 30

6 FLAGS

N

ROADSIDE POOL UNKN ORIGIN, 6 SS MASSES PEM IN POOL 85%, 8" over SPAL, RUBU, YEBI 15% 17°C Sel CUT MIXED Nearby

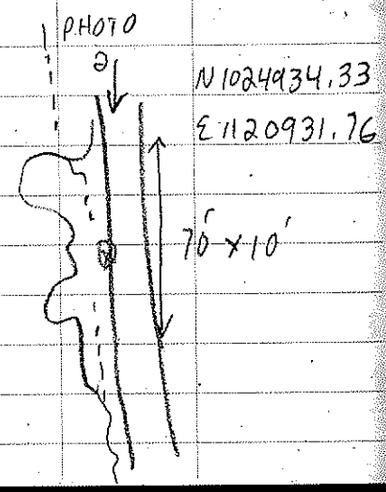
N 1014517.97
E 1113914.36



ABA 63

N

ROADSIDE DEPRESSION PART OF ROADSIDE DRAINAGE SYSTEM 0% OPEN 80% PEM 6" 21 SS 12 VERY OLD WF TADS MIXED 2NDARY FOR



N 1024934.33
E 1120931.76

Location _____ Date 5-26-08

Project / Client _____

POOLS SHOWING 6-10. LESS H2O TODAY

5-26-08

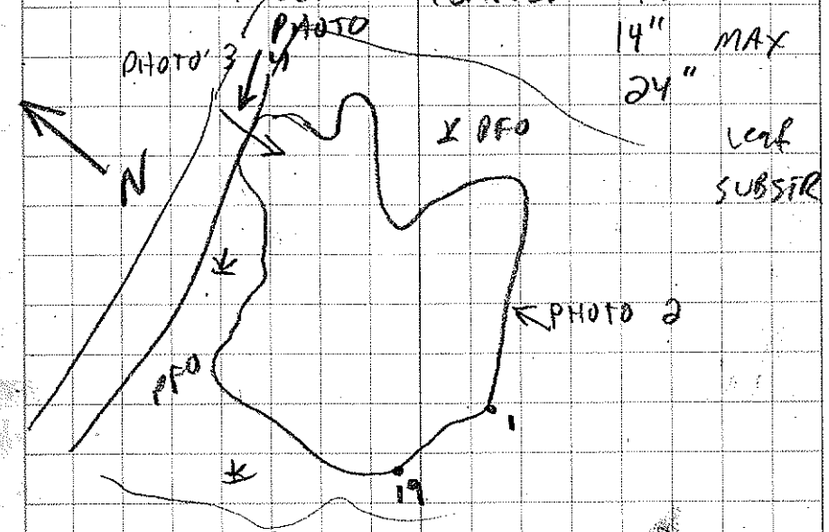
N 1025156.32
E 1104393.49

S

VP 31

FLAGS 1-19

NATURAL - AREA RECENTLY SEL CUT H-WOOD REMOVA POOL 15% BUTTON BUSH @ 55% PEM, ONOCLEA, SPAGNUM, CAREX, SCIRPUS IN POOL OVERSTORY 30% COVER REMA, cedar, YEBI, PART OF LARGER ⚘ COMPLEX 13°C 14" MAX 24" leaf SUBSTR



MANY WF TADPOLES 23 SS MASSES + APPROX 6 MASSES VERY DETERIORATED DIFF TO COUNT

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_D08VP31_N.
May 26, 2008.

Photo 2: SVP_D08VP31_N.
May 26, 2008.

Photo 3: SVP_D08VP31_N.
May 29, 2014. Stantec.

Photo 4: SVP_D08VP31_N.
May 29, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_57RK_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. Kelshaw, J. Leclerc

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: E Twp

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Modified by logging activity

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

15" of water, substrate is over 10" of leaves and muck

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 40 ○ m ◉ ft Length: 100 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☒ Bullfrog or Green Frog tadpoles
- ☒ Other: adult green frogs

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ◉ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/29/2014, 6/7/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	1	0		3	3		H	H		Yes	Yes		3	3	
Spotted Salamander	53	45		3	3		A	A		No	No		3	3	
Blue-spotted Salamander	0	0													
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Natural pool but modified by skidders and tree removal

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_57RK_N.
May 29, 2014. Stantec.

Photo 2: SVP_57RK_N.
May 29, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_82RK_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: E Twp

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ○ Pool associated with larger wetland complex
- ◉ Other: borrow area/ditch beside road, with culvert outlet

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Borrow area/ditch adj to road

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in road ditch

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Size, depth, observations of drying at site visit

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ○ m ◉ ft Length: 50 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☒ Other: adult green frog

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): Pool has a road culvert as an outlet

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/5/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			H			Yes			3		
Spotted Salamander	2			3			A			No			3		
Blue-spotted Salamander	0			3											
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Many wood frog tadpoles observed during pool survey. Could not get count of egg masses so assumed high functioning.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_82RK_M.
June 5, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_83RK_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: E Twp

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ○ Pool associated with larger wetland complex
- ◉ Other: Isolated pool in ditch beside road

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Ditch adjacent to road

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in recently-maintained road ditch

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Size, depth, observations of drying at site visit

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ○ m ◉ ft Length: 50 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☒ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☒ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/5/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			H			Yes			3		
Spotted Salamander	30			3			A			No			3		
Blue-spotted Salamander	0			3											
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Many and large wood frog tadpoles observed during pool survey. Some of salamander eggs dry or almost dry.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_83RK_M.
June 5, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_84RK_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: E Twp

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ○ Pool associated with larger wetland complex
- ◉ Other: Isolated pool in ditch beside road and log yard

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Ditch adjacent to road

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in recently-maintained (or recently-constructed) road ditch

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Size, depth, observations of drying at site visit

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 6 ○ m ◉ ft Length: 80 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☒ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☒ Other: adult green frog

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/5/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			H			Yes			3		
Spotted Salamander	9			3			A			No			3		
Blue-spotted Salamander	0			3											
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Many and large wood frog tadpoles observed during pool survey. Assume high functioning due to wood frog tadpoles and no egg mass counts.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_84RK_M.
June 5, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_85RK_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: E Twp

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☒ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Within inactive beaver impoundment

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Within recently-inactive beaver impoundment, pool partially impounded by road.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Size, depth, observations of drying at site visit.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 25 ○ m ◉ ft Length: 250 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☒ Other: Garter snake

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/5/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			H			Yes			3		
Spotted Salamander	6			3			A			No			3		
Blue-spotted Salamander	0			3			--			No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Beavers gone, dam recently removed during road maintenance. Water levels had been recently much higher than observed during pool survey. Wood frog tadpoles (few) observed.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_85RK_N.
June 5, 2014. Stantec.

Photo 2: VP_85RK_N.
June 5, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_76RK_N (formerly PSVP_76RK_N) **MDIFW Pool ID:** 2423

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: E TWP

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Natural depression within wetland next to a logging road; pool extends ~80 feet west of logging road.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Shallow pool depth with organic substrate limited to the middle of the pool; on 8/8/2014 pool was nearly dry.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 45 ○ m ◉ ft Length: 55 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): Culvert outlet - no inlet

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2015, 5/28/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	7	0		3	--		A	--		Y	N		3	--	
Spotted Salamander	16	16		3	3		M	NR		N	N		--	--	
Blue-spotted Salamander	0	0		3	--		--	--		N	N		--	--	
Fairy Shrimp[3]	No	No		3	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool has outlet created by culvert under adjacent road.

Egg mass maturity was not recorded (NR) on second visit.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_76RK_N (MDIFW ID 2423).
Date: May 14, 2015. Stantec.

Photo 2: VP_76RK_N (MDIFW ID 2423).
Date: May 29, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_77RK_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: E Twp

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed by root mass tip-up/tree throw.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Size, depth, deep muck, same hydrology as nearby pool VP_76RK

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ○ m ◉ ft Length: 30 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☒ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☒ Other: Green frog adult

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/4/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3						No			3		
Spotted Salamander	5			3			A			No			3		
Blue-spotted Salamander	0			3											
Fairy Shrimp [3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_77RK_N.
June 4, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_79RK_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: E Twp

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ○ Pool associated with larger wetland complex
- ◉ Other: Isolated borrow area/depression in log yard

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Pooled borrow area

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Depression/pool formed in log yard

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Size, depth, observations of drying at site visit

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ○ m ◉ ft Length: 50 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: adult green frog

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/4/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			H			Yes			3		
Spotted Salamander	27			3			A			No			3		
Blue-spotted Salamander	0			3											
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Many wood frog tadpoles observed during pool survey. Many salamander egg masses in drying part of pool.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_79RK_M.
June 4, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_75RK_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: E Twp

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Pooled borrow area/road-side ditch

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Depression/pool formed in ditch/borrow area adjacent to log yard

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Size, depth, need for drainage culvert

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 12 ○ m ◉ ft Length: 36 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☒ Other: adult green frogs

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): outlets to road drainage culvert

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/4/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)			Tadpoles/Larvae		
	#	Confidence Level[1]	Egg Mass Maturity[2]	Observed	Confidence Level[1]	
Wood Frog	0	3	H	Yes	3	
Spotted Salamander	7	3	A	No	3	
Blue-spotted Salamander	0	3	--	No	3	
Fairy Shrimp[3]						

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Wood frog tadpoles observed during pool survey. Man-made pool with low level of indicator species use, but near (within 100' of) similar pools which, when considered in a cluster, form an ecological unit (i.e., reason for consideration as a non-significant VP). Pool is near VP_79RK_M.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_75RK_M.
June 4, 2014. Stantec.

NATURAL - MOD
(5)

Significant Vernal Pool Data Collection Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: A09VP05

1. PRIMARY OBSERVER INFORMATION

Contact Information and credentials previously provided? ○ No (complete all of section 1) ☒ Yes (only name and phone number required)

a. Contact Information

Name: STACIE GROVE Company: HDR IDTA

Street: City: State: Zip:

Phone: Email:

b. Credentials

■ Please check all that apply; Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required by nonprofessional observers. Label all photographs with the Observer, Pool Location, and Date of Image.

- ☐ Professional Herpetologist and/or Ecologist
- ☐ Professional Wetland Scientist
- ☒ Professional Biologist (concentration: WILDLIFE)
- ☐ Trained Citizen Scientist
- ☐ Self-informed Naturalist
- ☐ Other:

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools: CWB

2. VERNAL POOL LOCATION INFORMATION

a. Location

DeLorme page and grid (e.g. 04E2): Township:

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

- ☒ USGS Topographic Map or USGS NWI Map (1:24,000 scale) with pool clearly marked.
- ☒ Large Scale Aerial Photograph (1:12,000 scale or better) with pool clearly marked.
- ☒ GPS Coordinates (complete section below).

GPS location of vernal pool (UTM, NAD83 preferred.)

Longitude/Easting: Latitude/Northing: Datum (e.g. NAD83):

Brand and model of GPS unit: TRIMBLE GEO XH

Check one: ☒ The pool perimeter is delineated by multiple GPS points. (best option)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good option)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable option)

c. Landowner Contact Information

■ Are you the landowner? ○ Yes ○ No If no, was landowner permission obtained for this survey? ○ Yes ○ No

■ Does SVP Habitat (pool + 250') extend across abutting landowner parcel? ○ Yes ○ No ○ Unknown

■ Landowner's contact information (if known) Name: Phone:

Street Address: City: State: Zip:

Significant Vernal Pool Data Collection Form

3. VERNAL POOL SURVEY INFORMATION

a. Survey Date(s): 5-8-09

b. Wetland Habitat Characterization

■ Choose the best descriptor for the physical setting:

- ○ Isolated upland depression
- ○ Floodplain depression
- ☒ Pool associated with larger wetland complex PSS/PFO
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Shallow pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow
- ☐ Headwater seepage
- ☐ Other: _____

c. Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ○ Natural ☒ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:
POOL ASSOC W/ ROAD DRAINAGE (HAS CULVERT) AND HAS BEEN IMPACTED BY LOGGING/SKID ROAD BUT POOL DEPRESSION W/ MASSES APPEARS NATURAL (SEE PHOTOS)

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ☒ Ephemeral (drying out during the growing season in most years)
- ○ Unknown

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ○ m ☒ ft Length: 35 ○ m ☒ ft

■ Predominate substrate:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ☒ Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck/mud) deep and widespread

■ Nonwoody pool vegetation indicators (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood ferns, lady fern, polypody fern)
- ☐ Moist site ferns (e.g. sensitive fern, marsh fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☒ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, cinnamon fern, interrupted fern)
- ☒ Wet site graminoids (e.g. grasses, sedges, cattails)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lilies, water shield, pond weeds, bladderwort)

■ Faunal indicators (check all that apply):

- ☐ Fish (list species if known: NA)
- ☐ Bull frog or green frog tadpoles

iii. Inlet/Outlet Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ☒ Ephemeral inlet or outlet CULVERT
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Significant Vernal Pool Data Collection Form

3. VERNAL POOL SURVEY INFORMATION, continued from page 2

d. Significant Vernal Pool Status Under NRPA

i. Survey Date(s): 5-8-09

ii. Abundance Criteria

- Was the entire pool comprehensively surveyed for egg masses? ☒ Yes ☐ No
- For each indicator species, indicate the exact number of egg masses, method of verification, and confidence level for each life stage. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adults of Fairy Shrimp) #			Method of Verification*			Confidence Level**			Tadpoles/Larvae Method of Verification*			Confidence Level**		
Wood Frog	27			P			3								
Spotted Salamander	32			P			3								
Blue-spotted Salamander															
Fairy Shrimp															

*Method of verification: S = Seen, H = Handled, P = Photographed **Confidence level in observation: 1= <60%, 2= 60-95%, 3= >95%

iii. Rarity Criteria

- Was a specific effort made to survey for rare species? ☐ Yes ☒ No
- If yes above, indicate which species were targeted: _____
- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations must be accompanied by a Rare Animal Form (available from MDIFW) and photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification* V	P	H	S	CL**	SPECIES	Method of Verification* V	P	H	S	CL**
Blanding's Turtle	☐	☐	☐	☐		Wood Turtle	☐	☐	☐	☐	
Spotted Turtle	☐	☐	☐	☐		Ribbon Snake	☐	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐	☐		Other:	☐	☐	☐	☐	

*Method of verification: V = Vouchered, P = Photographed, H = Handled, S = Seen
**CL - Confidence level in observation: 1= <60%, 2= 60-95%, 3= >95%

e. General Comments and/or Observations of Other Wildlife Species:

Based upon review of photos and description, pool was determined to be man-made.

4. OBSERVER SIGNATURE

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature [signature] Date 5-8-09

All submissions and supporting documents will be retained by the Maine Department of Inland Fisheries and Wildlife. Information submitted on this form and accompanying documents is part of the public record.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401
Tara.King@maine.gov

For MDIFW use only Reviewed by MDIFW Date: Initials:

This pool is: ☐ significant ☐ significant but no landowner permission ☐ not significant due to: ◯ insufficient data OR ◯ does not meet biological criteria and/or ◯ does not meet vernal pool definition criteria.

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_A09VP05_M.
May 8, 2009.

Photo 2: VP_A09VP05_M.
May 8, 2009.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_B10VP05_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: T.Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: E Twp

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: pooled depression in logging road

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Appears pool was formed by construction of logging/skidder road. Recent disturbance is evident.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Shallow pooling (3-4"), no vegetation, tree canopy absent, no inlet.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 25 ○ m ◉ ft Length: 50 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☒ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/29/14

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	8			3			H			Yes			3		
Spotted Salamander	54			3			M			No			3		
Blue-spotted Salamander	0			--			--			No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Very disturbed man-made pool with high numbers of spotted salamander egg masses; appears pool may dry quickly in absence of precipitation.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_B10VP05_M.
May 29, 2014. Stantec.

Photo 2: VP_B10VP05_M.
May 29, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_B10VP06_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: T.Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: E Twp

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Small pool in narrow PFO wetland

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Appears pool is natural but receives runoff from skidder road.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Shallow pooling (3-6"), no inlet

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 25 ○ m ◉ ft Length: 30 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/29/14

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			--			No			3		
Spotted Salamander	12			3			M			No			3		
Blue-spotted Salamander	0			--			--			No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Small, natural pool with some disturbance, including siltation entering pool from nearby skid trail.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_B10VP06_N.
May 29, 2014. Stantec.

Photo 2: VP_B10VP06_N.
May 29, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_75TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T10 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ○ Pool associated with larger wetland complex
- ◉ Other: Isolated man-made pooled borrow pit

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Pooled borrow pit, isolated

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pooled borrow pit adjacent to road

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ◉ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Deep, lack of vegetation in center; algae covering some of the pool; green frog adults and tadpoles.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ○ m ◉ ft Length: 45 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☒ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☒ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☒ Bullfrog or Green Frog tadpoles
- ☐ Other: dragon fly nymphs, green frog adults

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/3/14

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			H			Yes			2		
Spotted Salamander	15			3			A			No			2		
Blue-spotted Salamander	0			3			--			No			2		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Hundreds of wood frog tadpoles observed. Man-made pool in borrow pit with permanent hydrology and relatively low level of indicator species use, but near (within 100' of) similar pools which, when considered in a cluster, form an ecological unit (i.e., reason for consideration as a non-significant VP). Within 50 feet of pool VP_42DB_M.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_75TT_M.
June 3, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_42DB_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: D. Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T10 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pooled borrow pit area in forested wetland

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ◉ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Floating Sphagnum and no vegetation in pool

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ○ m ◉ ft Length: 30 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☒ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☒ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/2/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0									No			3		
Spotted Salamander	12			3			A			No			3		
Blue-spotted Salamander	0									No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

No wood frog egg masses or tadpoles observed.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_42DB_M.
June 3, 2014. Stantec.

Photo 2: VP_42DB_M.
June 3, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_44DB_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: D. Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T10 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [ ] Shrub swamp
- [ ] Peatland (fen or bog)
- [x] Emergent marsh
- [ ] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [ ] Isolated pool
- [x] Other: Pooled depression in skidder road

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ( ) Natural ( ) Natural-Modified (●) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pooled area in old skidder road, has naturalized into an emergent wetland

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- (●) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Possibly semi-permanent due to vegetation, but could be ephemeral

■ Maximum depth at survey: (●) 0-12" (0-1 ft.) ( ) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ( ) m (●) ft Length: 30 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- (●) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [ ] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [ ] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [x] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [x] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [ ] Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (●) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/3/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)			Tadpoles/Larvae	
	#	Confidence Level[1]	Egg Mass Maturity[2]	Observed	Confidence Level[1]
Wood Frog	0			No	3
Spotted Salamander	28	3	A	No	3
Blue-spotted Salamander	0			No	3
Fairy Shrimp [3]					

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

No wood frog eggs or tadpoles observed.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_44DB_M.
June 3, 2014. Stantec.

Photo 2: VP_44DB_M.
June 3, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_43DB_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: D. Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T10 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Wetted perimeter of pool about half of spring level.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Lack of vegetation in deepest portion of the pool

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 100 ○ m ◉ ft Length: 40 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/3/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0						--			No			3		
Spotted Salamander	2			3			A			No			3		
Blue-spotted Salamander	0						--			No			3		
Fairy Shrimp[3]	0														

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Good habitat, lots of attachment sites.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_43DB_N.
June 3, 2014. Stantec.

Photo 2: VP_43DB_N, spotted salamander egg mass.
June 3, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_205TT_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T10 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Shallow pool (3-6") with mineral soil substrate and dense terrestrial vegetation

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 25 ○ m ◉ ft Length: 30 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2015, 5/29/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? (●) Yes ( ) No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		--	--		--	--		N	N		--	--	
Spotted Salamander	6	0		3	--		M	--		N	Y		--	3	
Blue-spotted Salamander	0	0		--	--		--	--		N	N		--	--	
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

None of the original egg masses were observed at the second visit but numerous larvae were noted.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ( ) does not meet biological criteria. ( ) does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_205TT_N.
Date: May 14, 2015. Stantec.

Photo 2: VP_205TT_N.
Date: May 29, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_79TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T10 R3 WELS

Brief site directions to the pool (using mapped landmarks):

From Chapman, take Achille Morneau Road south towards the east branch of Presque Isle Stream. Pool is located approximately 5,000 feet east of the road crossing of the east branch of Presque Isle Stream.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [ ] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [ ] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [x] Isolated pool
- [ ] Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ( ) Natural ( ) Natural-Modified (●) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Old excavation/borrow pit near end of old log landing and road turn-around.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- (●) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Nearly dry, leaf litter bottom.

■ Maximum depth at survey: (●) 0-12" (0-1 ft.) ( ) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ( ) m (●) ft Length: 20 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- (●) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [ ] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [ ] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [ ] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [x] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [ ] Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (●) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/4/14

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			--			--			No			--		
Spotted Salamander	26			3			A			No			--		
Blue-spotted Salamander	0			--			--			No			--		
Fairy Shrimp[3]	--			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_79TT_M.
June 4, 2014. Stantec.

Photo 2: VP_79TT_M.
June 4, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_146CF_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T10 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ◉ Floodplain depression
- ○ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☒ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool partially impounded by road.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Shallow (5-10") pool with a mineral substrate and a leaf-litter bottom

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 50 ○ m ◉ ft Length: 70 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☒ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2015, 5/29/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	11	0		3	--		A	H		Y	Y		3	3	
Spotted Salamander	6	6		3	3		M	A		N	N		--	--	
Blue-spotted Salamander	0	0		--	--		--	--		N	N		--	--	
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

A solitary fish (stickleback) was observed on 5/14/15 and was determined not to be a viable population.

No new egg masses were observed at the second visit to this pool. The wood frog egg masses were largely disintegrated on 5/29/15.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_146CF_N.
Date: May 14, 2015. Stantec.

Photo 2: VP_146CF_N.
Date: May 14, 2015. Stantec.

Photo 3: VP_146CF_N.
Date: May 14, 2015. Stantec.

Photo 4: VP_146CF_N.
Date: May 28, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_89TT_N (formerly PSVP_89TT_N) **MDIFW Pool ID:** 2358

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: ***Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.***

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T10 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Pool was nearly dry on 6/1/2015. Only 2-3" of water remained along edges of pool.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 150 ○ m ◉ ft Length: 75 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ◉ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☒ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2015, 6/1/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	65	--		3	--		A	--		Y	--		3	--	
Spotted Salamander	18	18		3	3		M	NR		N	--		--	--	
Blue-spotted Salamander	0	--		--	--		--	--		N	--		--	--	
Fairy Shrimp[3]	No	--		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

The pool was almost completely dried down with 2-3" of water in the pool at the time of the second visit. Only spotted salamander egg masses noted on second visit.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_89TT_N (MDIFW ID 2358).
Date: May 14, 2015. Stantec.

Photo 2: SVP_89TT_N (MDIFW ID 2358).
Date: June 1, 2015. Stantec.

Photo 3: SVP_89TT_N (MDIFW ID 2358).
Date: June 1, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_88TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T10 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in old skidder trail or borrow area.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Depth of water (almost none during site visit), degree of drying observed at site visit, grass growth in pool.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 25 ○ m ◉ ft Length: 50 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☒ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/5/14

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			--			No			3		
Spotted Salamander	17			3			A			No			3		
Blue-spotted Salamander	0			3			--			No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool almost completely dry, all salamander egg masses out of water. Site visit too late for wood frog egg mass count. Low level of functioning and indicator species use, but near (within 100' of) a natural pool (VP_52DB_N), which, when considered in a cluster, form an ecological unit (i.e., reason for consideration as a non-significant VP).

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_88TT_M.
June 5, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_93TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T10 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ○ Pool associated with larger wetland complex
- ◉ Other: Pool is part of small, isolated emergent wetland

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in recent skidder trail.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Depth of water, degree of drying observed at site visit, vegetation growth in pool.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ○ m ◉ ft Length: 35 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☒ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/5/14

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)						Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			--			Yes			3		
Spotted Salamander	18			3			A			No			3		
Blue-spotted Salamander	0			3			--			No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Small group of wood frog tadpoles. Site visit too late for wood frog egg mass count. Low level of functioning and indicator species use, but near (within 100' of) other pools, which, when considered in a cluster, form an ecological unit (i.e., reason for consideration as a non-significant VP).

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_93TT_M.
June 5, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_53DB_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: D. Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T10 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in road-side excavation within cleared forested wetland

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Depth, pool size

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 35 ○ m ◉ ft Length: 75 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): Ephemeral outlet at road culvert

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/5/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	2			3			H			Yes			3		
Spotted Salamander	47			3			A			No			3		
Blue-spotted Salamander	0									No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

1000's of wood frog tadpoles observed. Slash throughout pool. Near VP_90TT.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_53DB_M.
June 5, 2014. Stantec.

Photo 2: VP_53DB_M.
June 5, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_90TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T10 R3 WELS

Brief site directions to the pool (using mapped landmarks):

From Route 11 in Masardis, take Sterling Ridge Road around S end of Squapan Lake. Continue on unnamed logging roads towards Rips Dam on W. Branch Presque Isle Stream. Pool is ~1000' NE from landing area at road intersection.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Relatively new roadside excavation/ditch area part of disturbed PEM wetland.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Shallow, drying quick, grasses growing throughout pool.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ○ m ◉ ft Length: 25 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/5/14

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			--			--			Yes			3		
Spotted Salamander	25			3			A			No			--		
Blue-spotted Salamander	0			--			--			No			--		
Fairy Shrimp[3]	--			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Project, Aroostook County, Maine

Photo 1: VP_90TT_M.
June 5, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_55DB_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: D. Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T10 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Excavation/rut in log landing

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in recent road-side excavation and skidder rutting in recently-cleared forested wetland

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Depth, pool size

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 60 ○ m ◉ ft Length: 110 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☒ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☒ Other: adult green frogs

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/5/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			H			Yes			3		
Spotted Salamander	39			3			A			No			3		
Blue-spotted Salamander	0			3			--			No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

1000's of wood frog tadpoles observed, some with legs forming.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_55DB_M.
June 5, 2014. Stantec.

Photo 2: VP_55DB_M.
June 5, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_50DB_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: D. Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T10 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Skidder ruts along gravel log road at edge of PFO

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

No vegetation in deepest portions of pool.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ○ m ◉ ft Length: 20 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): Some seepage along road fill

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/5/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0									yes -10			3		
Spotted Salamander	3			3			A			No			3		
Blue-spotted Salamander	0									No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_50DB_M.
June 5, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_85TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T10 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Pooled borrow pit adjacent to road

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pooled borrow pit/log landing adjacent to road, disturbed part of larger forested wetland.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Depth of water, degree of drying observed at site visit, grass growth in pool.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 40 ○ m ◉ ft Length: 100 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☒ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/5/14

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			H			Yes			3		
Spotted Salamander	18			3			A			No			3		
Blue-spotted Salamander	0			3			--			No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Thousands of wood frog tadpoles observed. Man-made pool in borrow pit with ephemeral hydrology and potentially high level of indicator species use. Site visit too late for wood frog egg mass count.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_85TT_M.
June 5, 2014. Stantec.

Photo 1: VP_85TT_M, wood frog tadpoles.
June 5, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_77DB_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: D. Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Saint Croix Twp

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Skidder ruts.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Vegetation absent in deepest portions of pool.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 40 ○ m ◉ ft Length: 10 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/19/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			H			Y			3		
Spotted Salamander	12			3			A			No			3		
Blue-spotted Salamander	0			3			--			No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

100's of wood frog tadpoles observed.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_77DB_M.
June 19, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_37DB_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: D. Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T9 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [x] Forested swamp
- [ ] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [ ] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [ ] Isolated pool
- [x] Other: Pooled skidder rut

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ( ) Natural ( ) Natural-Modified (●) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in skidder rut near log landing, at edge of forested wetland

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- (●) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Size, depth.

■ Maximum depth at survey: (●) 0-12" (0-1 ft.) ( ) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ( ) m (●) ft Length: 50 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- (●) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [ ] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [ ] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [x] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [ ] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [x] Other: Predaceous diving beetles, adult green frog

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (●) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/2/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0						--			No			3		
Spotted Salamander	9			3			A			No			3		
Blue-spotted Salamander	3			3			A			No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Shallow. No wood frog eggs or tadpoles observed.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_37DB_M.
June 2, 2014. Stantec.

Photo 2: VP_37DB_M.
June 2, 2014. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: D-08-VP-21 **Milepost/Station:** NA **Date:** 5-24-08

Team: D **Time of Day:** 1405 **Town:** T9R3 WELS

Weather Conditions: ☐Sunny ☒Partly Sunny ☐Overcast ☐Raining ☐Snowing

Photos Taken: ☒Yes ☐No **Photo Info.:** 1 - SKIDDER RUTS WITH EGG MASSES (W) 2- POOL (SW) 3- DITCH PORTION OF POOL (W), 4- POOL FACING W

Observers: S. GROVE / S MURPHY

Credentials

■ Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☐Professional Wetland Scientist
- ☒Professional Biologist (concentration: WILDL ECOL)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other:

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

CWB + 12 YRS PROF EXP

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1092056.27 Latitude/Northing: 1017813.03

Model of GPS Unit: TRIM GEO XH

Please Check One:

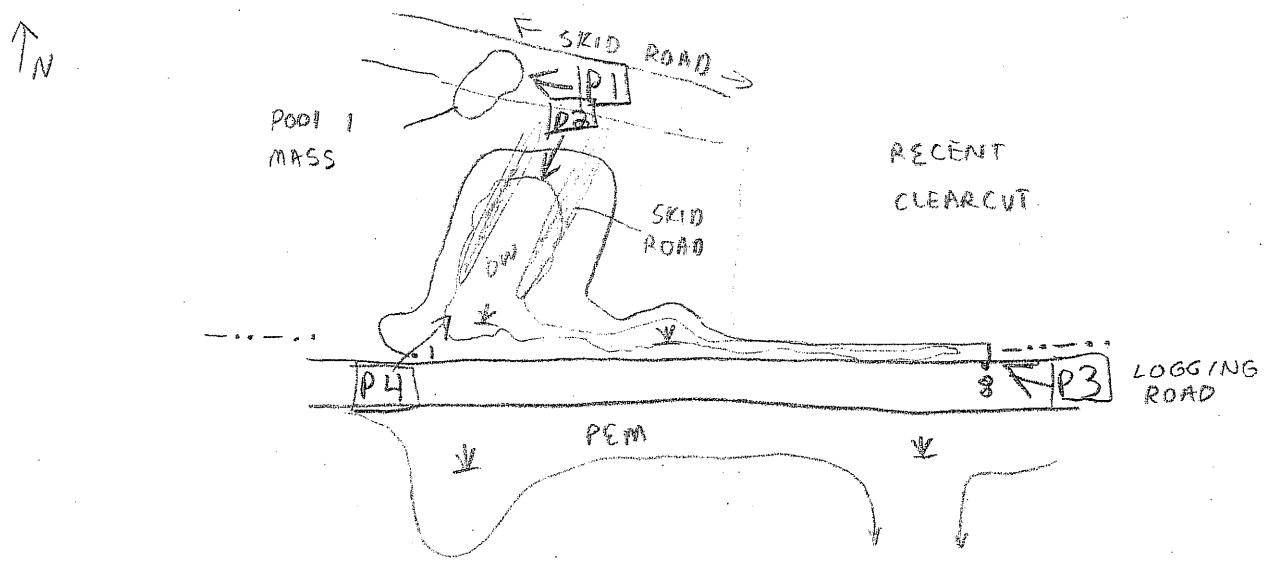
- ☒The above GPS point is at the center of the vernal pool.
- ☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations:

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments:

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

35 **% Woodland** (check most dominant type) → **For woodland habitat, is the over story?**

- ☒ Hardwood (>75% deciduous)
- ☐ Softwood (>75% coniferous)
- ☐ Mixed (all others)

- ☐ Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☒ Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐ Sparse (<25% canopy cover of trees/shrubs >6' tall)

____ **% Utility ROW** (check most dominant type) → **For utility ROW, identify dominant vegetation type**

- ☐ Pipeline
- ☐ Electric (cross country)
- ☐ Electric (edge of roadway)
- ☐ Other

- ☐ Shrubs
- ☐ Grass/forb
- ☐ Mixed – shrub/grass/forb
- ☐ Bare ground

50 **% Open Land** (check most dominant type)

- ☐ Active agriculture
- ☐ Fields/pastures
- ☐ Lawn
- ☒ Other ROAD EDGE SHRUB/HERB, CLEARCUT

____ **% Residential**

15 **% Roads**

____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 150' Maximum Width: 25'

Water Depth (inches): Max. When Observed: 8" Estimated Spring Max. 12"

Water temperature: 11 °C °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☐Upland – Isolated (pool not part of a larger wetland)
- ☒Wetland Complex (pool associated with a larger wetland habitat)
- ☐Bottomland-isolated (pool part of a river or lake floodplain)
- ☐Man-made **Describe:** ROAD LIKELY PLACED THRU ORIGINAL ✓ COMPLEX

Check all wetland types that best apply to this pool:

- ☐Forested swamp
- ☐Shrub swamp
- ☐Peatland (fen or bog)
- ☒Emergent marsh
- ☐Wet meadow
- ☒Shallow pond
- ☐Abandoned beaver flowage
- ☐Active beaver flowage
- ☐Slow stream
- ☐Floodplain overflow
- ☐Headwater seepage
- ☐Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin Pool determined to be depression created by log landing: man-made.

■ Select the pool's origin: ☐Natural ☒Natural-Modified ☐Unnatural ☐Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

IMPACTED BY LOGGING ACTIVITIES AND ROAD PLACEMENT, ✓ COMPLEX MODIFIED BUT POOL POSSIBLY PRESENT PRIOR TO THIS MAJOR SITE DISTURBANCE, CLEARCUT SLASH IN & AROUND POOL, ROADSIDE DITCH W/MASSES ALSO ASSOCIATED WITH THIS POOL

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐Permanent
- ☐Semi-permanent (drying partially in all years and completely in drought years)
- ☒Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☐Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐Mineral soil (sphagnum moss present)
- ☐Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☐Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☒Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☐Sphagnum moss (anchored or suspended)
- ☐Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☒No inlet or outlet ☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☐Ephemeral inlet or outlet ☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☒No Were fish sampled? ☐Yes ☒No

Describe the methods used for observing/sampling fish, and list species observed:_____

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

_____% Cover Class - Trees (5m and above)

_____% Cover Class - Shrubs (0.5m to less than 5m)

3 % Cover Class - Woody debris (branches/twigs)

_____% Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

_____% Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

_____% Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

_____% Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%.

Dominant Plant Species within the Pool:

Trees_____Shrubs_____Herbaceous_____

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog							
Spotted Salamander	123	S/H	3				
Blue-spotted salamander	5	S/H	2				
Fairy shrimp							

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

AMER TOAD EGGS IN DITCH ALONG CLEARCUT

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

RECENT CLEARCUT NATURAL MODIFIED

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☒Yes ☐No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: Steve Rose Date: 5-25-08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_D08VP21_M.
May 24, 2008.

Photo 2: VP_D08VP21_M.
May 24, 2008.

Photo 3: VP_D08VP21_M.
May 29, 2014. Stantec.

Photo 4: VP_D08VP21_M.
May 29, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_C10VP02_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T9 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Natural pool modified by logging activity (old skidder trail)

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Pool size and depth, degree of drying observed

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ○ m ◉ ft Length: 40 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/17/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			--			No			3		
Spotted Salamander	0			3			--			No			3		
Blue-spotted Salamander	0			3			--			No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

This pool was dry on June 17, 2014 (and no signs of indicator breeding activity), but is still considered a vernal pool because it was identified as a vernal pool in 2010.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_C10VP02_N. Pool was dry at site visit.
June 17, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_C10VP01_M (PSVP_C10VP01_N) **MDIFW Pool ID:** 2412

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ○ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: ***Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.***

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T9 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool entirely located with logging trail through wetland

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Relatively shallow pool (8" at second visit) with bare mineral soil substrate

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ○ m ◉ ft Length: 90 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2015, 5/29/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	6	6		3	3		A	H		Y	Y		3	3	
Spotted Salamander	40	40		3	3		M	A		N	N		--	--	
Blue-spotted Salamander	0	0		--	--		--	--		N	N		--	--	
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

High functioning man-made pool with egg mass counts that would meet the threshold of a significant vernal pool.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_C10VP01_M (MDIFW ID 2412).
Date: May 14, 2015. Stantec.

NO PHOTO AVAILABLE
Photo 2: VP_C10VP01_M (MDIFW ID 2412.
Date: May 29, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_92RK_N (formerly PSVP_92RK_N) **MDIFW Pool ID:** 2411

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: ***Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.***

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T9 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Open water area

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Size, pool depth, and mucky substrate suggests pool is semi-permanent to permanent.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 125 ○ m ◉ ft Length: 250 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☒ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2015, 5/28/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	150+	--		3	--		A	--		Y	--		3	--	
Spotted Salamander	340+	--		3	--		M	--		N	--		--	--	
Blue-spotted Salamander	0	--		--	--		--	--		N	--		--	--	
Fairy Shrimp[3]	No	--		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Egg mass counts not conducted on second visit. Pool still 24 to 36" deep at second visit.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_92RK_N (MDIFW ID 2411).
Date: May 14, 2015. Stantec.

Photo 2: SVP_92RKX_N (MDIFW ID 2411).
Date: May 14, 2015. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: D-08-VP-20 **Milepost/Station:** NA **Date:** 5-24-08

Team: D **Time of Day:** 1250 **Town:** T9R3 WELS

Weather Conditions: ☐Sunny ☒Partly Sunny ☐Overcast ☐Raining ☐Snowing

Photos Taken: ☒Yes ☐No **Photo Info.:** 1- FLAG 2- POOL FROM ROAD EDGE (SE) 3- POOL FROM ROAD EDGE (SW) 4- POOL/WETLAND COMPLEX (SE)

Observers: S. GROVE / S. MURPHY

Credentials

■ Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☐Professional Wetland Scientist
- ☒Professional Biologist (concentration: WILDL ECOL)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other:

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

CWB + 12 YRS PROF EXP

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 109 47 20.22 Latitude/Northing: 1017323.31

Model of GPS Unit: TRIMBLE GEOXH

Please Check One:

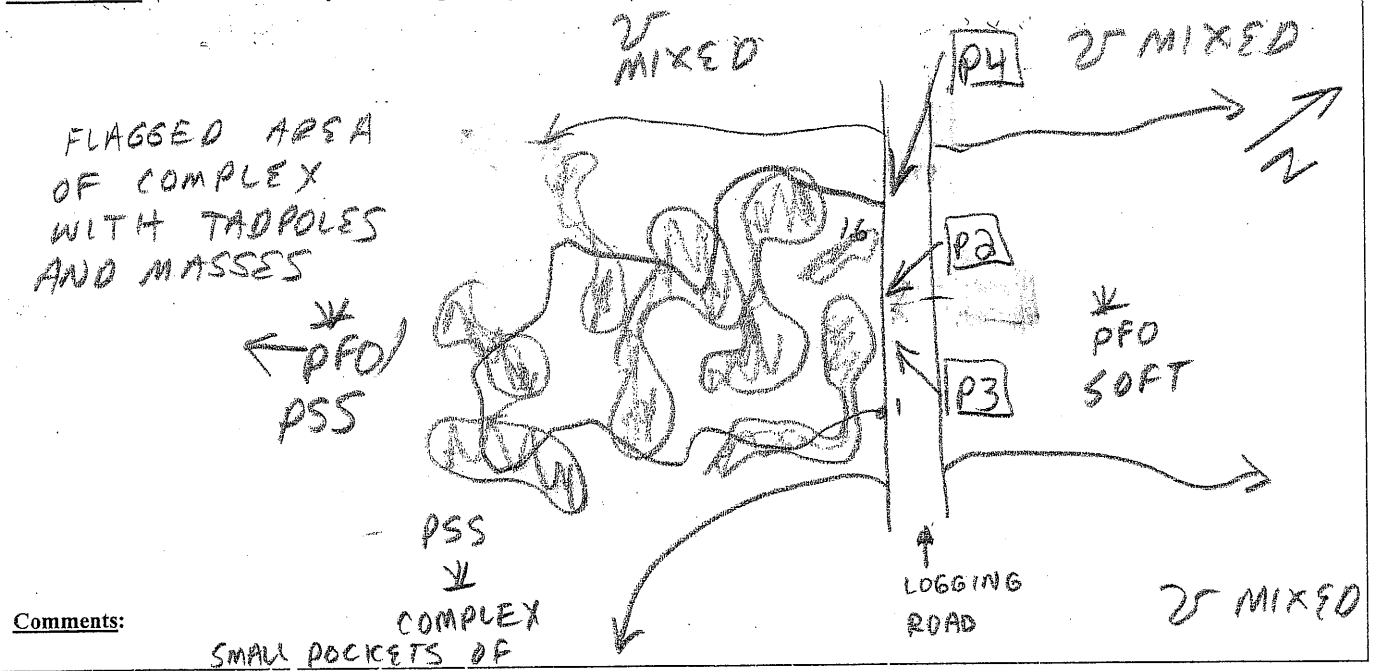
- ☐The above GPS point is at the center of the vernal pool.
- ☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations:

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments:

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

60 **% Woodland** (check most dominant type) → **For woodland habitat, is the over story?**

- ☐Hardwood (>75% deciduous)
- ☒Softwood (>75% coniferous)
- ☐Mixed (all others)

- ☐Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☒Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) → **For utility ROW, identify dominant vegetation type**

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

30 **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☒Other ROAD EDGE HERBS/SHRUBS + PSS

_____ **% Residential**

10 **% Roads**

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 70 Maximum Width: 60

Water Depth (inches): Max. When Observed: 20" Estimated Spring Max. 26"

Water temperature: 10 °C °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☐Upland – Isolated (pool not part of a larger wetland)
- ☒Wetland Complex (pool associated with a larger wetland habitat)
- ☐Bottomland-isolated (pool part of a river or lake floodplain)
- ☐Man-made **Describe:**

Check all wetland types that best apply to this pool:

☐Forested swamp	☐Wet meadow	☐Slow stream
☒Shrub swamp	☐Shallow pond	☐Floodplain overflow
☐Peatland (fen or bog)	☒Abandoned beaver flowage	☐Headwater seepage
☐Emergent marsh	☐Active beaver flowage	☐Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☐Natural ☐Natural-Modified ☒Unnatural ☐Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

POOL ALONG ROAD EDGE BUT IS PRIMARILY THE RESULT OF NATURAL ACTIVITY (IE. BEAVER) – MODIFICATION TO A ~~W~~ COMPLEX RESULTING IN POOLING

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐Permanent
- ☐Semi-permanent (drying partially in all years and completely in drought years)
- ☒Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☐Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐Mineral soil (sphagnum moss present)
- ☐Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☒Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☒Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☒Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☒Sphagnum moss (anchored or suspended)
- ☒Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☒Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☐No inlet or outlet

☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☐Ephemeral inlet or outlet

☒Other or Unknown (explain): UNKNOWN

iv. Fishlessness

Were fish observed? ☐Yes ☒No Were fish sampled? ☐Yes ☒No

Describe the methods used for observing/sampling fish, and list species observed:_____

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

_____% Cover Class - Trees (5m and above)

4 % Cover Class - Shrubs (0.5m to less than 5m)

2 % Cover Class - Woody debris (branches/twigs)

2 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

1 % Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

4 % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

_____% Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees_____ Shrubs BAFI ALDER, SPRUCE, PEMA Herbaceous SCIRPUS, CAREX EQUISETUM ONOCLEA, OSMUNDA

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

Indicator Species	No.	Egg Masses: Method of Verification*	Egg Masses: Confidence Level^	Tadpoles/Larvae: Method of Verification*	Tadpoles/Larvae: Confidence Level^	Adults: Method of Verification*	Adults: Confidence Level^
Wood Frog	200+			S	3		
Spotted Salamander	73	S H	3				
Blue-spotted salamander							
Fairy shrimp							

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

UNNATURAL MODIFIED COMPLEX (BEAVER

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☐Yes ☒No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: [signature] Date: 5-24-08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_D08VP20_M.
May 24, 2008.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_C10VP20_N (PSVP_C10VP20_N) **MDIFW Pool ID:** 2419

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: ***Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.***

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T9 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Forested roadside wetland with logging trails on northern and southern edges.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Decrease in water depth from 30" to 10-13" suggests ephemeral; deepest area may be semi-permanent.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 125 ○ m ◉ ft Length: 155 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2015, 5/29/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	3	0		3	--		M	--		N	Y		--	3	
Spotted Salamander	4	3		3	3		F	A		N	N		--	--	
Blue-spotted Salamander	0	0		--	--		--	--		N	N		--	--	
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

At the second visit the wood frog egg masses had disintegrated, but tadpoles were observed.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_C10VP20_N (MDIFW ID 2419).
Date: May 14, 2015. Stantec.

Photo 2: VP_C10VP20_N (MDIFW ID 2419).
Date: May 29, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_95RK_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T10 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ● Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☒ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Within inactive beaver impoundment

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ● Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Within recently-inactive, drained beaver impoundment.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ● Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Size, depth, canopy cover, observations of drying at site visit.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ● 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 25 ○ m ● ft Length: 50 ○ m ● ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ● Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☒ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☒ Other: adult green frogs

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ● No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/6/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ○ Yes ◉ No; what % of pool surveyed? 40 - 50%
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			--			No			3		
Spotted Salamander	83			3			A			No			3		
Blue-spotted Salamander	0			3			--			No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Beavers gone, former flowage impoundment drained. Pool is within the former impoundment but not associated with a stream. No fish observed.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ○ does not meet biological criteria. ○ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_95RK_N.
June 6, 2014. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: D-08-VP-19 **Milepost/Station:** NA **Date:** 5-24-08

Team: D **Time of Day:** 1045 **Town:** TD RD WELS

Weather Conditions: ☐Sunny ☒Partly Sunny ☐Overcast ☐Raining ☐Snowing

Photos Taken: ☒Yes ☐No **Photo Info.:** 1 - FLAG, 2 - POOL FACING NE, 3 - POOL FACING E, 4 - POOL (NE), 5 - POOL NE) 6 - MASSES

Observers: S. GROVE / J LECLERC

Credentials

Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☐Professional Wetland Scientist
- ☒Professional Biologist (concentration: WILDL ECOL)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other:

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

CWB + 12 YRS PROF. EXP.

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1013265.83 Latitude/Northing: 109972924

Model of GPS Unit: TRIMBLE GEO XH

Please Check One:

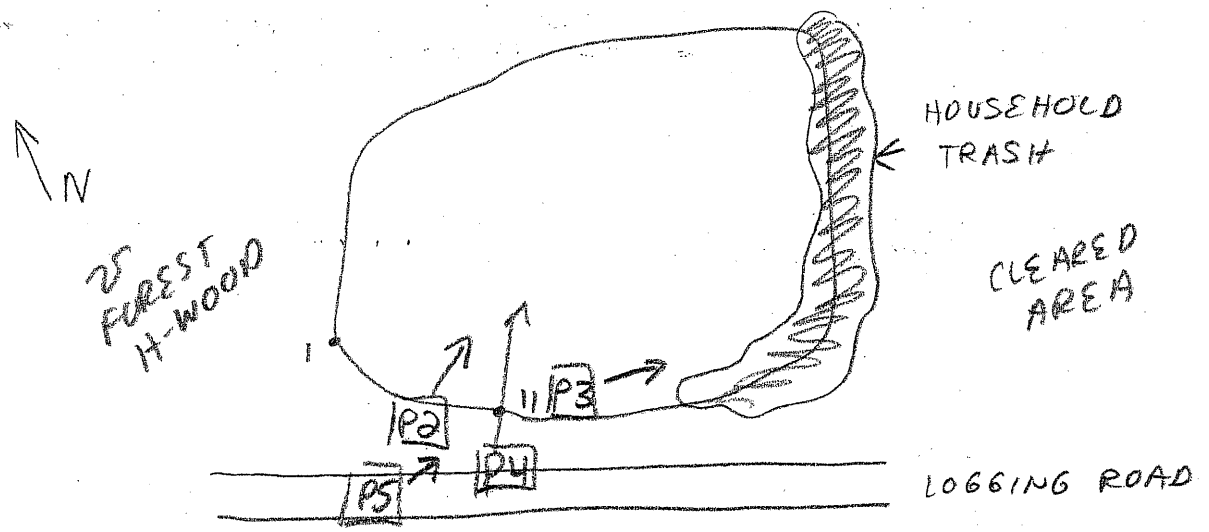
- ☒The above GPS point is at the center of the vernal pool.
- ☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations:

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments:

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

60 **% Woodland** (check most dominant type) →

- ☒ Hardwood (>75% deciduous)
- ☐ Softwood (>75% coniferous)
- ☐ Mixed (all others)

For woodland habitat, is the over story?

- ☒ Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☐ Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐ Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) →

- ☐ Pipeline
- ☐ Electric (cross country)
- ☐ Electric (edge of roadway)
- ☐ Other

For utility ROW, identify dominant vegetation type

- ☐ Shrubs
- ☐ Grass/forb
- ☐ Mixed – shrub/grass/forb
- ☐ Bare ground

30 **% Open Land** (check most dominant type)

- ☐ Active agriculture
- ☐ Fields/pastures
- ☐ Lawn
- ☒ Other CLEARCUT

_____ **% Residential**

10 **% Roads**

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 40' Maximum Width: 50'

Water Depth (inches): Max. When Observed: 24" Estimated Spring Max. 30"

Water temperature: 9°C /F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☒ Upland – Isolated (pool not part of a larger wetland)
- ☐ Wetland Complex (pool associated with a larger wetland habitat)
- ☐ Bottomland-isolated (pool part of a river or lake floodplain)
- ☐ Man-made **Describe:**

Check all wetland types that best apply to this pool:

☐ Forested swamp	☐ Wet meadow	☐ Slow stream
☒ Shrub swamp	☒ Shallow pond	☐ Floodplain overflow
☐ Peatland (fen or bog)	☐ Abandoned beaver flowage	☐ Headwater seepage
☐ Emergent marsh	☐ Active beaver flowage	☐ Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☐ Natural ☒ Natural-Modified ☐ Unnatural ☐ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

SIGNIFICANT AMT OF HOUSEHOLD TRASH DUMPED ALONG E SHORE OF POOL BUT HAS NOT SIGNIFICANTLY MODIFIED POOL, POOL ORIGIN NATURAL

Pool was later determined to be a historic borrow pit and therfore man-made.

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale or opinion.

- ☐ Permanent
- ☐ Semi-permanent (drying partially in all years and completely in drought years)
- ☒ Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☐ Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐ Mineral soil (sphagnum moss present)
- ☒ Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐ Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☒ Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☒ Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☒ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐ Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐ Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [or inlet is a seasonal or permanent channel providing water flowing into the pool])

☒No inlet or outlet ☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☐Ephemeral inlet or outlet ☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☒No Were fish sampled? ☐Yes ☒No

Describe the methods used for observing/sampling fish, and list species observed:_____

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

1 % Cover Class - Trees (5m and above)

3 % Cover Class - Shrubs (0.5m to less than 5m)

3 % Cover Class - Woody debris (branches/twigs)

1 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

_____ % Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

1 % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

_____ % Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees B. POPLAR, SPRU, BFIR Shrubs ALDER, SERV, REMA Herbaceous SCIRPUS / CAREX

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	200+			SH	3		
Spotted Salamander	143	S/H	3				
Blue-spotted salamander							
Fairy shrimp							

MIX OF OLD + NEW SS MASSES

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

SOME MASSES POSS. BS BUT TOO LATE IN DEV STAGE TO ID

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

NATURAL - MODIFIED

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☒Yes ☐No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: Marcia V. Mac Date: 5-24-08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_D08VP19_M.
May 24, 2008.

Photo 2: VP_D08VP19_M.
May 29, 2014. Stantec.

Photo 3: VP_D08VP19_M.
May 29, 2014. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: D-08-VP-26 **Milepost/Station:** NA **Date:** 5-25-08

Team: D **Time of Day:** 1025 **Town:** TORWELS

Weather Conditions: ☐Sunny ☐Partly Sunny ☒Overcast ☐Raining ☐Snowing

Photos Taken: ☒Yes ☐No **Photo Info.:** 1-FLAG 2- EXPOSED MUSSELS ON SHORE, 3- W END OF POOL FROM NE SHORE (SW), 4- PSM ALONG SSHORE (SE)

Observers: S. GROVE / S. MURPHY 5- POOL FROM E SHORELINE (W)

6- POOL FROM ROAD EDGE (SW)

Credentials

■ Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☐Professional Wetland Scientist
- ☒Professional Biologist (concentration: WILDL ECOL)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other:

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1102928.13 Latitude/Northing: 1014363.32

Model of GPS Unit: TRIM GEO XH

Please Check One:

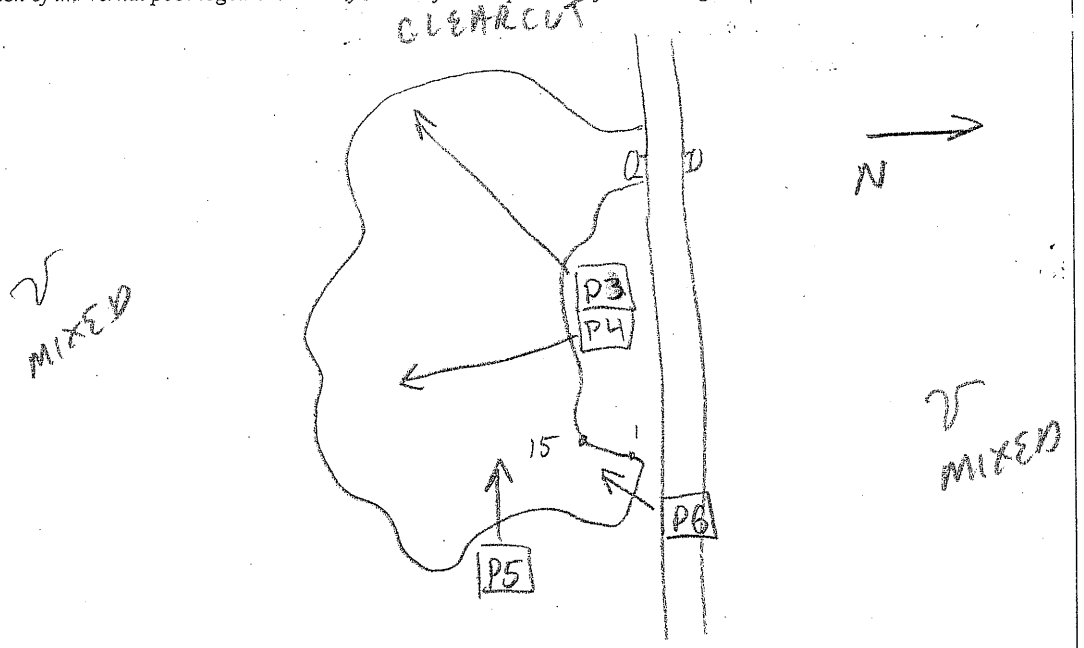
- ☒The above GPS point is at the center of the vernal pool.
- ☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations:

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments:

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

80 **% Woodland** (check most dominant type) →

- ☐Hardwood (>75% deciduous)
- ☐Softwood (>75% coniferous)
- ☒Mixed (all others)

For woodland habitat, is the over story?

- ☐Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☐Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) →

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

For utility ROW, identify dominant vegetation type

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

15 **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☒Other ROAD EDGE HERB/SHRUB AND CLEARCUT

_____ **% Residential**

5 **% Roads**

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 60 Maximum Width: 40

Water Depth (inches): Max. When Observed: 18 Estimated Spring Max. 36

Water temperature: 12° C °F (around egg masses, 3-5 inches below water surface)

MASSES EXPOSED ON SHORELINE

Site Type (choose the best descriptor for the physical setting:

- ☒Upland – Isolated (pool not part of a larger wetland)
- ☐Wetland Complex (pool associated with a larger wetland habitat)
- ☐Bottomland-isolated (pool part of a river or lake floodplain)
- ☐Man-made **Describe:**

Check all wetland types that best apply to this pool:

☐Forested swamp	☐Wet meadow	☐Slow stream
☐Shrub swamp	☒Shallow pond	☐Floodplain overflow
☐Peatland (fen or bog)	☐Abandoned beaver flowage	☐Headwater seepage
☐Emergent marsh	☐Active beaver flowage	☐Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☐Natural ☒Natural-Modified ☐Unnatural ☐Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

POOL ASSOCIATED WITH A CULVERT BUT APPEARS TO BE OF NATURAL ORIGIN AND NOT THE RESULT OF CULVERT PLACEMENT

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐Permanent
- ☐Semi-permanent (drying partially in all years and completely in drought years)
- ☒Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☒Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐Mineral soil (sphagnum moss present)
- ☐Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☒Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☒Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☒Sphagnum moss (anchored or suspended)
- ☐Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☐No inlet or outlet

☒Ephemeral inlet or outlet CULVERT

☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☒No Were fish sampled? ☐Yes ☒No

Describe the methods used for observing/sampling fish, and list species observed:_____

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

_____% Cover Class - Trees (5m and above)

_____% Cover Class - Shrubs (0.5m to less than 5m)

3 % Cover Class - Woody debris (branches/twigs)

2 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

_____% Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

3 % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

_____% Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees_____ Shrubs_____ Herbaceous SCIRPUS, CAREX

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	500+			S/H	3		
Spotted Salamander	200	S/H	3				
Blue-spotted salamander							
Fairy shrimp	100					S/H/P	3

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

POSSIBLY SOME SS ARE BS BUT TOO DEVELOPED TO CONFIDENTLY ID.

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

NATURAL - MODIFIED

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☒Yes ☐No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: [signature] Date: 5-25-08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

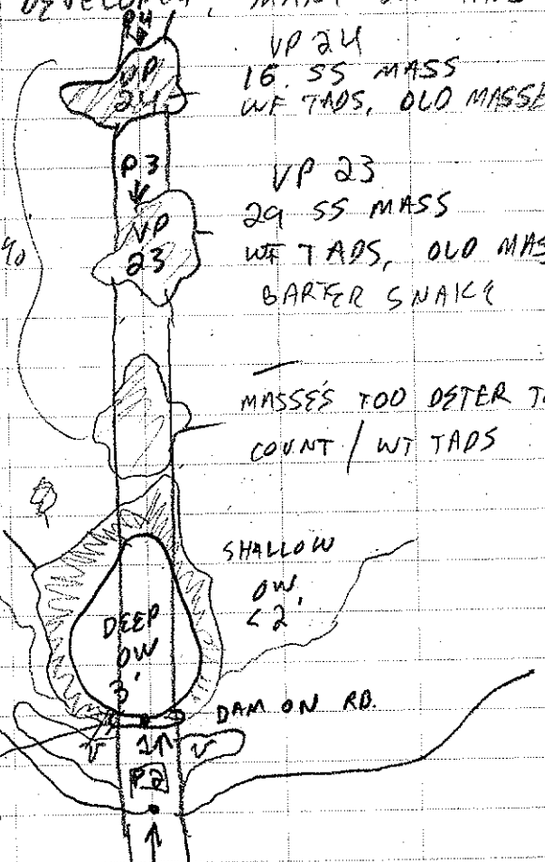
Location (22) N 1013872.91 E 1086136.36
(23) 1014068.12 E 1086320.82
Project / Client (24) N 1014130.50
E 1086372.22

VPs 22 23 24

ACTIVE RECENT BEAVER FLOW IN LARGE & COMPLEX
AVG 12" @ MASSES, MOST TWIGS/PEM
SPHAGNUM BASE 87 SS, POSSIBLY BS
BUT TOO DEVELOPED, MANY WF TADS

N

PEM - 60% cover IN POOL
0% over POOL
PFO SOFT ADJ 70% cover, 6" DEEP IN OLD GRASSY



VP 24
16 SS MASS
WF TADS, OLD MASSES

VP 23
29 SS MASS
WF TADS, OLD MASS
GARTER SNAKE

MASSES TOO DETER TO COUNT / WF TADS

LIKELY POCKETS W/ MASSES THRU OUT

VP 22

PFO PFO SOFT

N 1013779.28
E 1086074.74

Location
Date 5-25-08
Project / Client AWEP

DEEP POOL 20 x 40 REST ON EDGE W/ SS MASSES

VP 26

POSS VERY OLD GRAVEL PIT BUT FUNCTIONING AS NAT VERN POOL
AVG DEPTH 24", MAX 36"

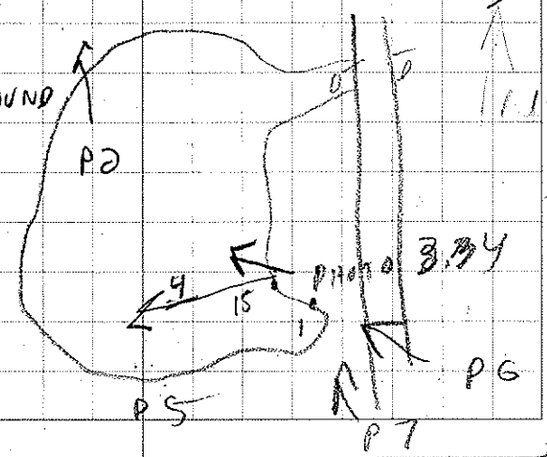
FLAGS 1-15

MANY MASSES ON SHORE EXPOSED
LEECH, >100 FAIRY SHRIMP
200+ SS MASS, POSS BS BUT TOO DEVEL, 1000'S OF WF TADPOLE, PEM (SCIRPUS) 25% SUBM IN POOL YELLOW SUMMER OVER & SURROUNDING POOL 35% COVER, MATCH TO PEM & TWIGS ON SHORE

20'

LARGE DIAM TREES SURROUND POOL

N



N 1014363.32
E 1102928.15

Location _____ Date _____

Project / Client AWEP

VP 47

67 SS. MASS, EPHEMERAL INLET PART OF ✓ COMPLEX
PEM IN POOL 5%, SUBM 10% TWIGS, 3%
ADJ. MAT H-WOOD 50%
LEAF / MVD SUBSTR 20x10
4" MAX 10", 8° C
D2.NE
1017888.26 / 2093808.65

REVISIT
D-VP-26
OVERCAST

✱ FAIRY SHRIMP RECONFIRMED
H_2O LEVEL DOWN ANOTHER 10" SINCE VISIT ON 5-25-08
50 MASSES EXPOSED ON SHORE
- VERY DIFF TO SEE SHRIMP

✱C-VP-10
FLAGS 1-10

- AREA ORIGINALLY GPS'd IS ONLY VERY SMALL PART OF VP COMPLEX AND IS NOW COMPLETELY DRY. ADJACENT UNMAPPED POOL HAS BS / SS / & FAIRY SHRIMP. ~~ENTI~~ H_2O LEVEL IN ENTIRE COMPLEX APPROX 10" LOWER THAN 2 WKS AGO

Location _____ Date 5-29-08 107

Project / Client RAIN

VP 48

REFLAGGED ENTIRE AREA INCLUDING C-VP-10
27 SS, 8 BS, ✱ FAIRY SHRIMP
25
EVIDENCE OF PAST LOGGING AROUND POOL
MODOL TREE YEBI, SPRU, EHHO (DYING) 25%, EMERG 5
PEM SUBM 30, TWIGS 20
SHRUB 15, 16", 11°C
80' X 80'

C-VP-11

10'D AS MAT MOD
SIGD RUTS ALONG EDGE, ATV RUTS
BUT overall Pool GOOD
APPROX 200 SS, MASS depth 10' below High See pics
✱ ?, CALLING THIS NON SIGNIFICANT
IMPACT IS MINIMAL

Photo 1: SVP_D08VP26_N.
May 25, 2008.

Photo 3: SVP_D08VP26_N.
May 29, 2014. Stantec.

Photo 4: SVP_D08VP26_N.
May 29, 2014. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: C-08-VP-18 **Milepost/Station:** NA **Date:** 5-29-08

Team: C **Time of Day:** 1105 **Town:** TDR 2 WELS

Weather Conditions: ☐Sunny ☐Partly Sunny ☐Overcast ☒Raining ☐Snowing

Photos Taken: ☐Yes ☐No **Photo Info.:** 1-FLAG 2-C-VP-10 FACING SE. 3-C-VP-10 + LARGE POOL FACING S 4-POOL (SW)

Observers: S. GROVE / J. LECLERC

Credentials

■ Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☐Professional Wetland Scientist
- ☒Professional Biologist (concentration: WILD ECOL)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other:

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

CWB + 12 YRS PROF EXP

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1103598.56 Latitude/Northing: 1013563.42

Model of GPS Unit: TRIMBLE GEO XH

Please Check One:

☒The above GPS point is at the center of the vernal pool.

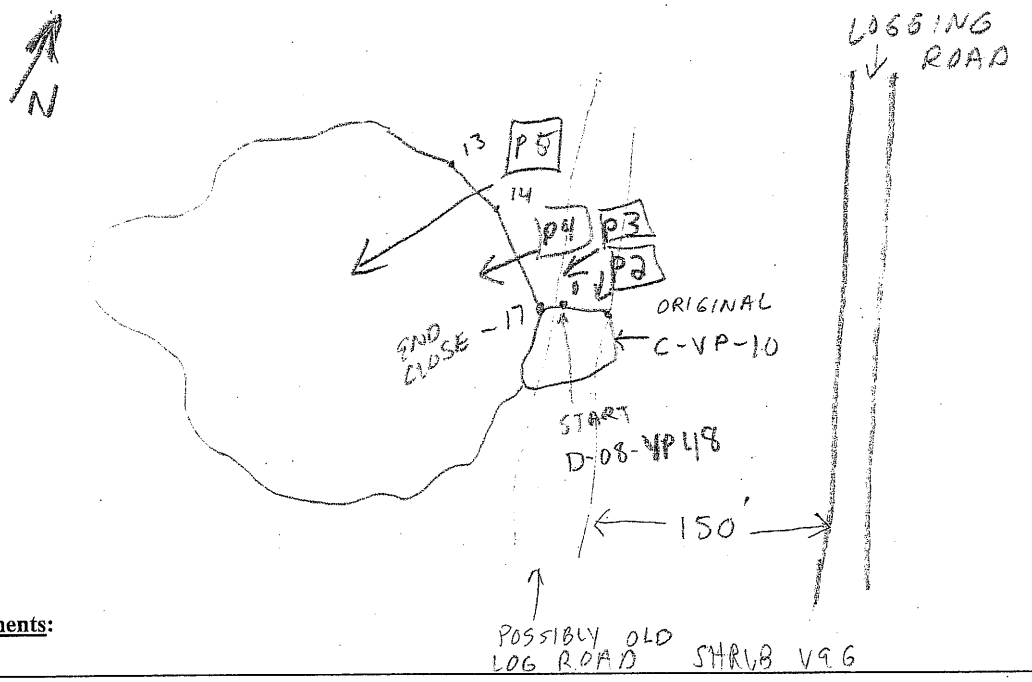
☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations:

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments:

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

88 **% Woodland** (check most dominant type) → **For woodland habitat, is the over story?**

- ☐Hardwood (>75% deciduous)
- ☐Softwood (>75% coniferous)
- ☒Mixed (all others)

- ☒Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☐Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) → **For utility ROW, identify dominant vegetation type**

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

10 **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☒Other POSSIBLE OLD LOGGING TRAIL, NOW COVERED IN 8' SHRUBS + HERBS (see PHOTO 2)

_____ **% Residential**

2 **% Roads**

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 80 Maximum Width: 80

Water Depth (inches): Max. When Observed: 14 Estimated Spring Max. 28

Water temperature: 11 °C °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☒ Upland – Isolated (pool not part of a larger wetland)
- ☐ Wetland Complex (pool associated with a larger wetland habitat)
- ☐ Bottomland-isolated (pool part of a river or lake floodplain)
- ☐ Man-made **Describe:**

Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☒ Shallow pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow
- ☐ Headwater seepage
- ☐ Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☒ Natural ☐ Natural-Modified ☐ Unnatural ☐ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

THIS COMPLEX TIES INTO A POOL MAPPED BY TEAM C AND IDENTIFIED AS C-08-VP-10. TEAM C ORIGINALLY MAPPED ONLY THE PORTION OF THIS COMPLEX CONTAINING EGG MASSES. THAT AREA HAS SINCE DRIED OUT (SEE PHOTO 2)

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐ Permanent
- ☐ Semi-permanent (drying partially in all years and completely in drought years)
- ☒ Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☒ Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐ Mineral soil (sphagnum moss present)
- ☒ Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐ Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☒ Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☒ Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☒ Sphagnum moss (anchored or suspended)
- ☒ Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐ Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐ Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☒No inlet or outlet ☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☐Ephemeral inlet or outlet ☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☒No Were fish sampled? ☐Yes ☒No

Describe the methods used for observing/sampling fish, and list species observed:_____

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

3 % Cover Class - Trees (5m and above)

2 % Cover Class - Shrubs (0.5m to less than 5m)

3 % Cover Class - Woody debris (branches/twigs)

2 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

_____ % Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

3 % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

_____ % Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool: VACCINIUM SPHAGNUM

Trees SPRU, EHHO, VEBI Shrubs EHHO, SUMA, VEBI Herbaceous CAREX SCIRPUS FERN

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	5			S	3		
Spotted Salamander	33	S/H	3				
Blue-spotted salamander	7	S/H	2				
Fairy shrimp	25+	S/H	3				

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

NATURAL

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☒**Yes** ☐**No**

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: [signature] Date: 5-29-08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

Location _____ Date _____

Project / Client AWEP

VP 47

67 SS. MASS, EPHEMERAL INLET PART OF ✓ COMPLEX
PEM IN POOL 5%, SUBM 10% TWIGS, 3%
ADJ. MAT H-WOOD 50%
LEAF / MVD SUBSTR 20x10
4" MAX 10", 8° C
D2.NE
1017888.26 / 2093808.65

REVISIT
D-VP-26
OVERCAST

✱ FAIRY SHRIMP RECONFIRMED
H_2O LEVEL DOWN ANOTHER 10" SINCE VISIT ON 5-25-08
50 MASSES EXPOSED ON SHORE
- VERY DIFF TO SEE SHRIMP

✱C-VP-10
FLAGS 1-10

- AREA ORIGINALLY GPS'd IS ONLY VERY SMALL PART OF VP COMPLEX AND IS NOW COMPLETELY DRY. ADJACENT UNMAPPED POOL HAS BS / SS / & FAIRY SHRIMP. ~~ENTI~~ H_2O LEVEL IN ENTIRE COMPLEX APPROX 10" LOWER THAN 2 WKS AGO

Location _____ Date 5-29-08 107

Project / Client RAIN

VP 48

REFLAGGED ENTIRE AREA INCLUDING C-VP-10
27 SS, 8 BS, ✱ FAIRY SHRIMP
25
EVIDENCE OF PAST LOGGING AROUND POOL
MODOL TREE YEBI, SPRU, EHHO (DYING) 25%, EMERG 5
PEM SUBM 30, TWIGS 20
SHRUB 15, 16", 11°C
80' X 80'

C-VP-11

10'D AS MAT MOD
SIGD RUTS ALONG EDGE, ATV RUTS
BUT overall Pool GOOD
APPROX 200 SS, MASS depth 10' below High See pics
✱ ?, CALLING THIS NON SIGNIFICANT
IMPACT IS MINIMAL

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_D08VP48_N.
May 29, 2008.

Photo 2: SVP_D08VP48_N.
May 29, 2008.

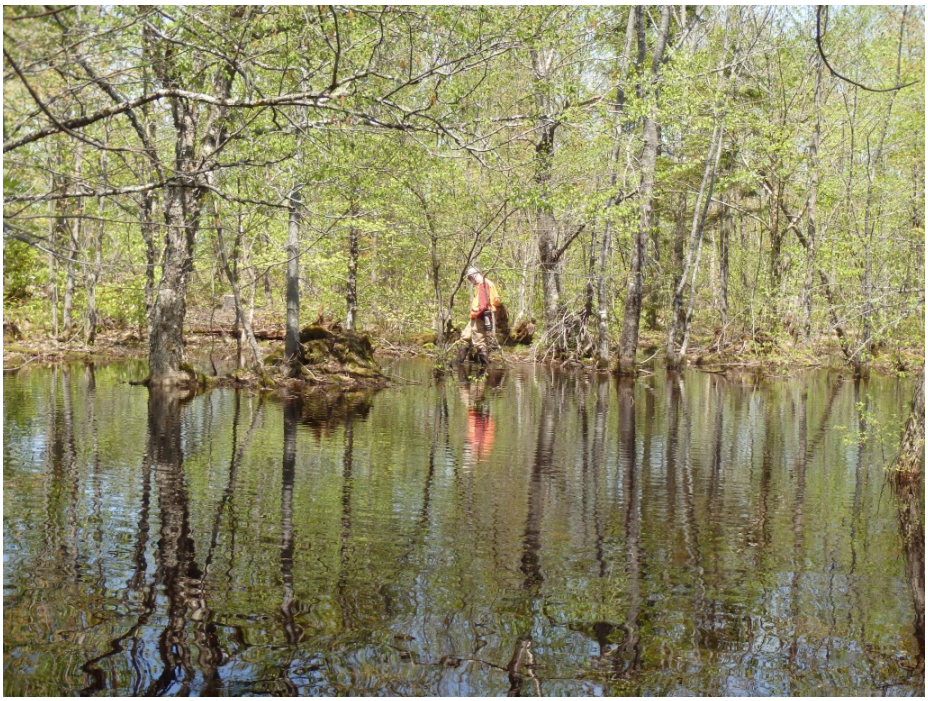


Photo 3: SVP_D08VP48_N.
May 29, 2014. Stantec.

Photo 4: SVP_D08VP48_N, fairy shrimp.
May 29, 2014. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: C-08VP-11 **Milepost/Station:** _____ **Date:** 5/16/08

Team: C **Time of Day:** 3:00pm **Town:** TDR2 WELS

Weather Conditions: ☐Sunny ☒Partly Sunny ☐Overcast ☐Raining ☐Snowing

Photos Taken: ☒Yes ☐No **Photo Info.:** Pic 1 pool, Pic 2 - Egg Mass, Pic 3 - Egg Mass BSS, Pic 4 - Egg Mass WF, Pic 5 - Stop

Observers: JI, JG

Credentials

■ Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☒Professional Wetland Scientist
- ☐Professional Biologist (concentration: _____)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other: _____

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

Bogs + Wetlands

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1106094.02 Latitude/Northing: 1013776.04

Model of GPS Unit: Trimble GeoXH

Please Check One:

- ☐The above GPS point is at the center of the vernal pool.
- ☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

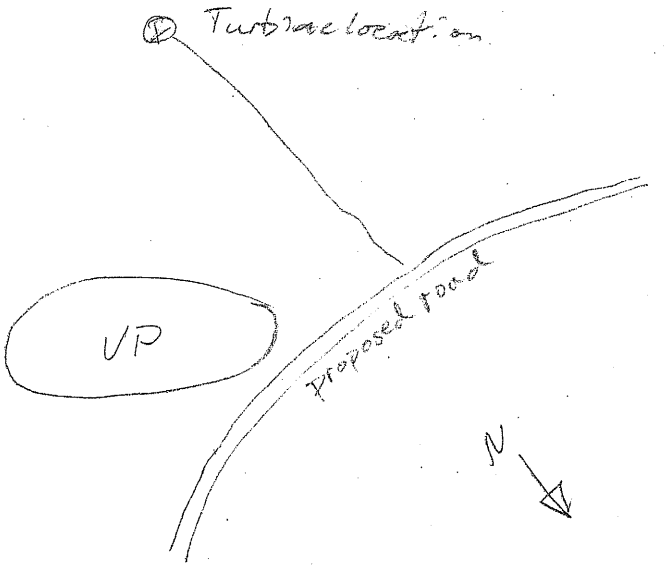
Additional Comments on GPS Locations: _____

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*

Pool on UWI



Comments:

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

85 **% Woodland** (check most dominant type) →

- ☐Hardwood (>75% deciduous)
- ☐Softwood (>75% coniferous)
- ☒Mixed (all others)

For woodland habitat, is the over story?

- ☒Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☐Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) →

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

For utility ROW, identify dominant vegetation type

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

_____ **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☐Other

_____ **% Residential**

15 **% Roads** Scrub/shrub

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 65' Maximum Width: 25'

Water Depth (inches): Max. When Observed: 30" Estimated Spring Max. 36"

Water temperature: 63 °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☒Upland – Isolated (pool not part of a larger wetland)
- ☐Wetland Complex (pool associated with a larger wetland habitat)
- ☐Bottomland-isolated (pool part of a river or lake floodplain)
- ☐Man-made **Describe:**

Check all wetland types that best apply to this pool:

☐Forested swamp	☐Wet meadow	☐Slow stream
☐Shrub swamp	☒Shallow pond	☐Floodplain overflow
☐Peatland (fen or bog)	☐Abandoned beaver flowage	☐Headwater seepage
☐Emergent marsh	☐Active beaver flowage	☐Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☒Natural ☐Natural-Modified ☐Unnatural ☐Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

☒Permanent ☐Semi-permanent (drying partially in all years and completely in drought years) ☐Ephemeral (drying out during the growing season in most years)

Soil is mucky throughout, rooted vegetation in pool near edges

Predominate substrate:

- ☐Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐Mineral soil (sphagnum moss present)
- ☐Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☒Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☐Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☐Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☒Sphagnum moss (anchored or suspended)
- ☐Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☒No inlet or outlet

☐Ephemeral inlet or outlet

☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☒No Were fish sampled? ☐Yes ☒No

Describe the methods used for observing/sampling fish, and list species observed:_____

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

2 % Cover Class - Trees (5m and above)

2 % Cover Class - Shrubs (0.5m to less than 5m)

2 % Cover Class - Woody debris (branches/twigs)

1 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

1 % Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

2 % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

/ % Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees Ulmus, betula Shrubs Alnus Herbaceous_____

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	28	S, H, P	3	/			
Spotted Salamander	116	S, H, P	3	/			
Blue-spotted salamander	4	S, H	3	/			
Fairy shrimp	/			/			

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☒Yes ☐No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: Jason Albanese Date: 5/16/08

For MDIFW use only Reviewed by MDIFW Date: Initials:

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

Location _____ Date _____

Project / Client AWEP

VP 47

67 SS. MASS, EPHEMERAL INLET PART OF ✓ COMPLEX
PEM IN POOL 5%, SUBM 10% TWIGS, 3%
ADJ. MAT H-WOOD 50%
LEAF / MVD SUBSTR 20x10
4" MAX 10", 8° C
D2.NE
1017888.26 / 2093808.65

REVISIT
D-VP-26
OVERCAST

✱ FAIRY SHRIMP RECONFIRMED
H_2O LEVEL DOWN ANOTHER 10" SINCE VISIT ON 5-25-08
50 MASSES EXPOSED ON SHORE
- VERY DIFF TO SEE SHRIMP

✱C-VP-10
FLAGS 1-10

- AREA ORIGINALLY GPS'd IS ONLY VERY SMALL PART OF VP COMPLEX AND IS NOW COMPLETELY DRY. ADJACENT UNMAPPED POOL HAS BS / SS / & FAIRY SHRIMP. ~~ENTI~~ H_2O LEVEL IN ENTIRE COMPLEX APPROX 10" LOWER THAN 2 WKS AGO

Location _____ Date 5-29-08 107

Project / Client RAIN

VP 48

REFLAGGED ENTIRE AREA INCLUDING C-VP-10
27 SS, 8 BS, ✱ FAIRY SHRIMP
25
EVIDENCE OF PAST LOGGING AROUND POOL
MODOL TREE YEBI, SPRU, EHHO (DYING) 25%, EMERG 5
PEM SUBM 30, TWIGS 20
SHRUB 15, 16", 11°C
80' X 80'

C-VP-11

10'D AS MAT MOD
SIGD RUTS ALONG EDGE, ATV RUTS
BUT overall Pool GOOD
APPROX 200 SS, MASS depth 10' below High See pics
✱ ?, CALLING THIS NON SIGNIFICANT
IMPACT IS MINIMAL

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_C08VP11_N.
May 16, 2008.

Photo 2: SVP_C08VP11_N.
July 31, 2008.

Photo 3: SVP_C08VP11_N.
May 29, 2014. Stantec.

Photo 3: SVP_C08VP11_N.
May 29, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_136CF_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: TD R2 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Logging trail crossing the downslope end of pool

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Relatively small pool. Water depth decreased from 18" on first visit to 8-10" on second visit.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 50 ○ m ◉ ft Length: 70 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ◉ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/15/2015, 5/28/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	2	2		3	3		A	H		Y	Y		3	3	
Spotted Salamander	4	4		3	3		M	A		N	N		--	--	
Blue-spotted Salamander	0	0		--	--		--	--		N	N		--	--	
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

No new egg masses were observed at the second visit to this pool.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_136CF_N.
Date: May 15, 2015. Stantec.

Photo 2: VP_136CF_N, ephemeral inlet.
Date: May 15, 2015. Stantec.

Photo 3: VP_136CF_N, intermittent outlet.
Date: May 15, 2015. Stantec.

Photo 4: VP_136CF_N.
Date: May 28, 2015. Stantec.

WILL SET OUT BY JULY 31st.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: B08VP-22 **Milepost/Station:** _____ **Date:** 5/30/08

Team: MARIOTTE **Time of Day:** 8 AM **Town:** TD+R2 WELS.

Weather Conditions: ☒Sunny ☐Partly Sunny ☐Overcast ☐Raining ☐Snowing

Photos Taken: ☒Yes ☐No **Photo Info.:** Ph: @ start flag looking north across the pool

Observers: STEPHEN MARIOTTE

Credentials

Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☒Professional Wetland Scientist
- ☐Professional Biologist (concentration: _____)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other: _____

Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

One year of experience delineating wetland + several MAWS & MAPES meetings.

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1009467.95 Latitude/Northing: 1108887.86

Model of GPS Unit:

Please Check One:

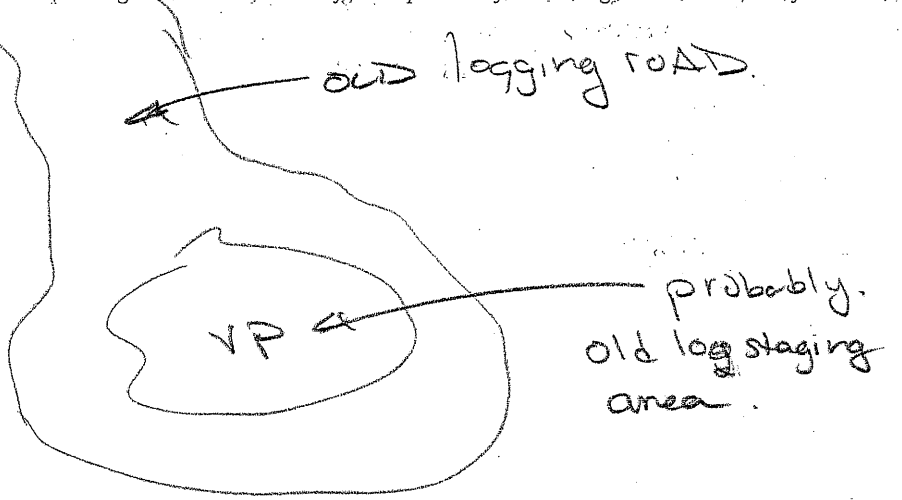
- ☒The above GPS point is at the center of the vernal pool.
- ☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations: _____

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments: The pool is naturalized, the logging probably took place 100 year ago. 50% of the eggs were out of water already.

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

100 **% Woodland** (check most dominant type) →

- ☒ Hardwood (>75% deciduous)
- ☐ Softwood (>75% coniferous)
- ☐ Mixed (all others)

For woodland habitat, is the over story?

- ☒ Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☐ Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐ Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) →

- ☐ Pipeline
- ☐ Electric (cross country)
- ☐ Electric (edge of roadway)
- ☐ Other

For utility ROW, identify dominant vegetation type

- ☐ Shrubs
- ☐ Grass/forb
- ☐ Mixed – shrub/grass/forb
- ☐ Bare ground

_____ **% Open Land** (check most dominant type)

- ☐ Active agriculture
- ☐ Fields/pastures
- ☐ Lawn
- ☐ Other

_____ **% Residential**

_____ **% Roads**

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 60 Maximum Width: 57

Water Depth (inches): Max. When Observed: 8" Estimated Spring Max. 2'

Water temperature: 45 °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting):

- ☒ Upland – Isolated (pool not part of a larger wetland)
- ☐ Wetland Complex (pool associated with a larger wetland habitat)
- ☐ Bottomland-isolated (pool part of a river or lake floodplain)
- ☐ Man-made **Describe:**

Check all wetland types that best apply to this pool:

☒ Forested swamp	☐ Wet meadow	☐ Slow stream
☐ Shrub swamp	☐ Shallow pond	☐ Floodplain overflow
☐ Peatland (fen or bog)	☐ Abandoned beaver flowage	☐ Headwater seepage
☐ Emergent marsh	☐ Active beaver flowage	☒ Other Eastern Upland mosses on rocks.

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☒ Natural ☐ Natural-Modified ☐ Unnatural ☐ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐ Permanent
- ☐ Semi-permanent (drying partially in all years and completely in drought years)
- ☒ Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☒ Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐ Mineral soil (sphagnum moss present)
- ☐ Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐ Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☒ Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☐ Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐ Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐ Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☒No inlet or outlet

☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☐Ephemeral inlet or outlet

☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☒No Were fish sampled? ☐Yes ☒No

Describe the methods used for observing/sampling fish, and list species observed: SIGHT

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

5 % Cover Class - Trees (5m and above)

0 % Cover Class - Shrubs (0.5m to less than 5m)

4 % Cover Class - Woody debris (branches/twigs)

0 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

0 % Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

0 % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

0 % Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees Ash, Y. Birch, Red Maple Shrubs Red Spruce NONE Herbaceous sen. fern, canadian mayflower, upland bracken

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog							
Spotted Salamander	30	S	3				
Blue-spotted salamander							
Fairy shrimp							

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☒Yes ☐No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: [signature] Date: 5/30/08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

5/30/08 → B08R053007A

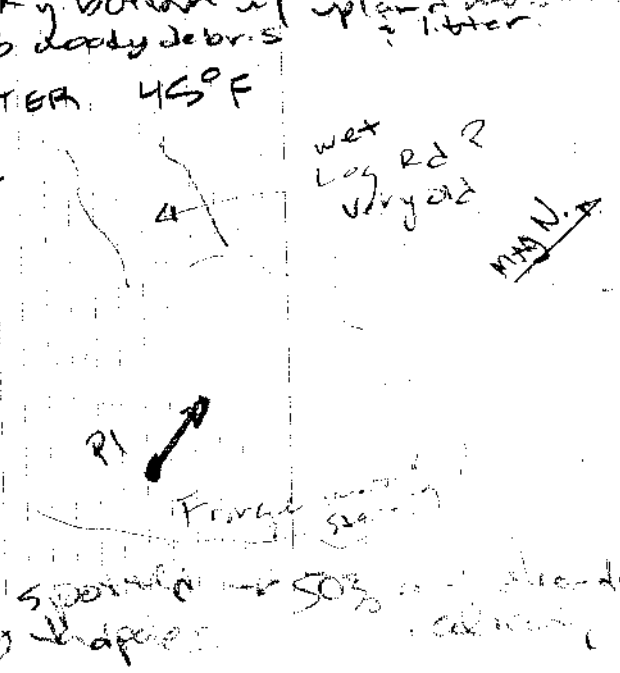
Definitely a vernal pool

B08R VP-22
8AM, SUNNY

P1 @ start flag looking north of the pool.

P2 END FLAG
max depth 2½ now 8"
>75% cover decid.
100% untouched area.
ASH, Yellow birch, red maple, red spruce
Sensfern, Canada mayflower
No shrubs!
Rocky bottom w/ upland moss & litter
50% woody debris
WATER 45°F

1st DAY I missed this pool. GPS problems + my oversight IS AT FAULT



30 spotted salamanders 50% [illegible]
no tadpoles [illegible]

Photo 1: SVP_B08VP22_N.
May 30, 2008.

Photo 2: SVP_B08VP22_N.
July 30, 2008.

Photo 3: SVP_B08VP22_N.
May 28, 2014. Stantec.

Photo 4: SVP_B08VP22_N.
May 28, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_123CF_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rodney Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: TD R2 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Roadside excavation

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Excavation in roadside wetland

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Small pool with mineral substrate; portion may be excavated below high water table making it semi-permanent.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ○ m ◉ ft Length: 35 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): Outlet ditch to culvert; no inlet

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2015, 5/27/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		--	--		--	--		N	N		--	--	
Spotted Salamander	6	6		3	3		M	M		N	N		--	--	
Blue-spotted Salamander	0	0		--	--		--	--		N	N		--	--	
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool is located within 100 feet of VP_122CF_M and VP_124CF_M and together these pools are considered as a single landscape unit (cluster pool) with significant egg mass numbers.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_123CF_M.
Date: May 14, 2015. Stantec.

NO PHOTO AVAILABLE
Photo 2: VP_123CF_M.
Date: May 27, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_124CF_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rodney Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: TD R2 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Roadside borrow

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Excavation in roadside wetland

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ◉ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Excavated below seasonal high water table and the presence of bullfrog tadpoles

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ○ m ◉ ft Length: 60 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☒ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): Outlet ditch; no inlet

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2015, 5/27/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	15	0		3	--		H	--		N	N		--	--	
Spotted Salamander	3	24		3	3		M	M		N	N		--	--	
Blue-spotted Salamander	0	0		--	--		--			N	N		--	--	
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

High functioning man-made pool with egg mass counts that would meet the threshold of a significant vernal pool.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_124CF_M.
Date: May 14, 2015. Stantec.

Photo 2: VP_124CF_M, bullfrog.
Date: May 14, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_122CF_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rodney Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: TD R2 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Culvert outlet into a forested wetland

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Relatively small, shallow pool; depth at second visit approximately 11".

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ○ m ◉ ft Length: 20 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☒ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ◉ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2015, 5/27/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		--	--		--	--		N	N		--	--	
Spotted Salamander	5	5		3	3		M	M		N	N		--	--	
Blue-spotted Salamander	0	0		--	--		--	--		N	N		--	--	
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool is located within 100 feet of VP_123CF_M and VP_124CF_M and together these pools are considered as a single landscape unit (cluster pool) with significant egg mass numbers.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

NO PHOTO AVAILABLE

Photo 1: VP_122CF_M.

Date: May 14, 2015. Stantec.

Photo 2: VP_122CF_M.

Date: May 27, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_50JL_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: J. Leclerc

b. Contact and credentials previously provided? ◉ No (submit Addendum 1) ○ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T9 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [x] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [ ] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [x] Isolated pool
- [ ] Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ( ) Natural ( ) Natural-Modified (●) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool likely formed in old borrow pit adjacent to logging road.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- (●) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Due to water depths and drying observed during site visit.

■ Maximum depth at survey: (●) 0-12" (0-1 ft.) ( ) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ( ) m (●) ft Length: 90 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- (●) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [x] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [ ] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [x] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [ ] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [ ] Other: Caddis fly larvae, green frog adults

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (●) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/3/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0						H			Yes			3		
Spotted Salamander	69			3			A			No			3		
Blue-spotted Salamander	0														
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool may dry out before salamander eggs can hatch, many masses suspended out of water at site visit. Wood frog tadpoles observed.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_50JL_M.
June 3, 2014. Stantec.

Photo 2: VP_50JL_M (dried portion).
June 3, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_33JL_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: J. Leclerc

b. Contact and credentials previously provided? ◉ No (submit Addendum 1) ○ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T9 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Natural pool formed by blow-down/root mass tip-up

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Due to shallow pool depth

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ○ m ◉ ft Length: 25 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☒ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/2/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)			Tadpoles/Larvae		
	#	Confidence Level[1]	Egg Mass Maturity[2]	Observed	Confidence Level[1]	
Wood Frog	0			No	3	
Spotted Salamander	2	3	M	No	3	
Blue-spotted Salamander	0					
Fairy Shrimp[3]						

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Small, natural pool.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_33JL_N.
June 2, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_89RK_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T10 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Skidder ruts in natural vernal pool

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Natural pool has been modified by skidder ruts and forest clearing.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Size, depth, no inlet, located in clearing with little shade

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 60 ○ m ◉ ft Length: 70 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☒ Other: Spring peepers, adult green frogs

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/6/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			H			Yes			3		
Spotted Salamander	47			3			A			No			3		
Blue-spotted Salamander	0			3											
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Skidder ruts through natural pool. Many wood frog tadpoles observed during pool survey.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_89RK_N.
June 6, 2014. Stantec.

Photo 2: SVP_89RK_N.
June 6, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_A10VP02_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: T.Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: TD R2 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [x] Forested swamp
- [ ] Shrub swamp
- [ ] Peatland (fen or bog)
- [x] Emergent marsh
- [ ] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [x] Isolated pool
- [ ] Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ( ) Natural (●) Natural-Modified ( ) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Natural, isolated pool in forested area, slightly disturbed by adjacent skidder trail.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- (●) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Size and depth, grassy vegetation in portions of pool.

■ Maximum depth at survey: (●) 0-12" (0-1 ft.) ( ) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ( ) m (●) ft Length: 25 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- (●) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [x] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [x] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [x] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [ ] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [x] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [ ] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [ ] Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (●) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/7/14

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			--			No			3		
Spotted Salamander	0			3			--			No			3		
Blue-spotted Salamander	0			3			--			No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Identified as a vernal pool in 2010. Natural/modified pool noted in 2014, but no indicator species breeding activity observed.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_A10VP02_N.
June 7, 2014. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: D-08-VP-9 **Milepost/Station:** NA **Date:** 5-21-08

Team: D **Time of Day:** 1135 **Town:** TD R2 WELS

Weather Conditions: ☐Sunny ☐Partly Sunny ☒Overcast ☐Raining ☐Snowing

Photos Taken: ☒Yes ☐No **Photo Info.:** 1-FLAG, 2-POOL FROM ROAD EDGE (S)

Observers: S. GROVE / J. LECLERC

Credentials

■ Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☐Professional Wetland Scientist
- ☒Professional Biologist (concentration: WILDL. ECOL.)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other:

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

CWB + 12 YRS PROF. EXP.

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1100328.41 Latitude/Northing: 1004822.47

Model of GPS Unit: TRIMB PRO XR

Please Check One:

☒The above GPS point is at the center of the vernal pool.

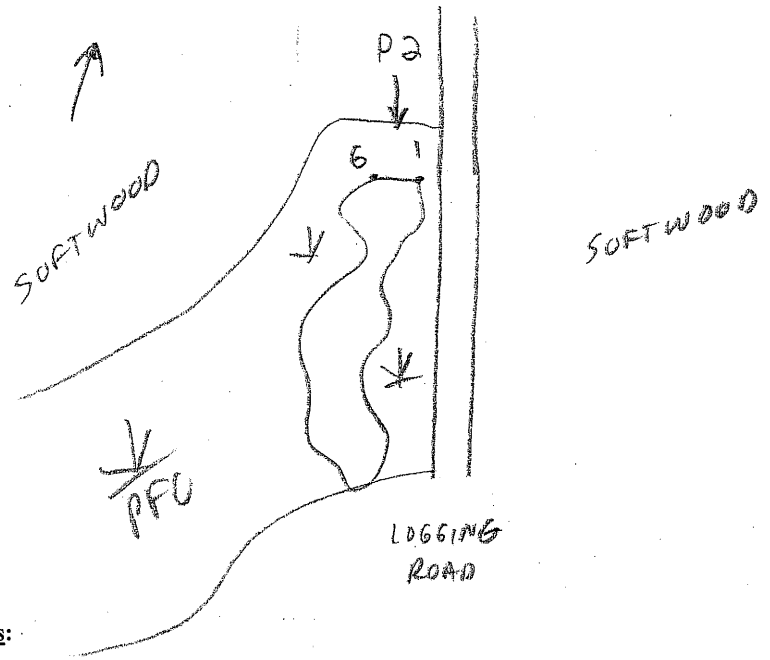
☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations:

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments:

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

85 **% Woodland** (check most dominant type) →

- ☐Hardwood (>75% deciduous)
- ☒Softwood (>75% coniferous)
- ☐Mixed (all others)

For woodland habitat, is the over story?

- ☒Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☐Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) →

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

For utility ROW, identify dominant vegetation type

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

5 **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☒Other CLEARED ROAD EDGE

_____ **% Residential**

10 **% Roads**

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 25 Maximum Width: 10

Water Depth (inches): Max. When Observed: 6 Estimated Spring Max. 10

Water temperature: 12°C °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☐Upland – Isolated (pool not part of a larger wetland)
- ☒Wetland Complex (pool associated with a larger wetland habitat)
- ☐Bottomland-isolated (pool part of a river or lake floodplain)
- ☐Man-made **Describe:**

Check all wetland types that best apply to this pool:

☒Forested swamp	☐Wet meadow	☐Slow stream
☐Shrub swamp	☐Shallow pond	☐Floodplain overflow
☐Peatland (fen or bog)	☐Abandoned beaver flowage	☐Headwater seepage
☒Emergent marsh	☐Active beaver flowage	☐Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☐Natural ☐Natural-Modified ☒Unnatural ☐Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

POOLED AREA IN LARGER W COMPLEX NEAR LOW-LYING GRASSY ROAD. POOL NOT OBVIOUSLY THE RESULT OF THE MAN-MADE ROAD BUT IS ALSO NOT REPRESENTATIVE OF "TYPICAL" VERNAL POOL. APPEARS TO BE A W COMPLEX THAT HAS BEEN MODIFIED & IS NOW POOLING H_2O

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐Permanent
- ☐Semi-permanent (drying partially in all years and completely in drought years)
- ☒Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☐Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐Mineral soil (sphagnum moss present)
- ☐Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☐Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☒Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☐Sphagnum moss (anchored or suspended)
- ☐Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☒No inlet or outlet ☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☐Ephemeral inlet or outlet ☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☒No Were fish sampled? ☐Yes ☒No

Describe the methods used for observing/sampling fish, and list species observed:_____

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

_____% Cover Class - Trees (5m and above)

__1__% Cover Class - Shrubs (0.5m to less than 5m)

_____% Cover Class - Woody debris (branches/twigs)

__3__% Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

_____% Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

__4__% Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

_____% Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees_____ Shrubs__ALDER__ Herbaceous__CAREX, SCIRPUS__

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	50+			S	3		
Spotted Salamander	34	5 H	3				
Blue-spotted salamander							
Fairy shrimp							

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

UNNATURAL

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☐Yes ☒No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature:_____ Date:__5-21-08__

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_D08VP09_M.
May 21, 2008.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: D-08-VP-2 **Milepost/Station:** NA **Date:** 5-21-08

Team: D **Time of Day:** 1405 **Town:** TOR2 WELS

Weather Conditions: ☐Sunny ☐Partly Sunny ☐Overcast ☒Raining ☐Snowing

Photos Taken: ☒Yes ☐No **Photo Info.:** 1-FLAG, 2-POOL (N), 3 POOL (NW) 4-POOL (SW), 5-POOL (NW)

Observers: S. GROVE / J LECLERC

Credentials

■ Please check all that apply:

☐Professional Herpetologist and/or Ecologist

☐Professional Wetland Scientist

☒Professional Biologist (concentration: WILDLIFE ECOLOGY)

☐Trained Citizen Scientist

☐Self-informed Naturalist

☐Other:

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

CWB + 12 YRS PROFESSIONAL EXP.

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1099988.33 Latitude/Northing: 999138.71

Model of GPS Unit: TRIM PRO XR

Please Check One:

☒The above GPS point is at the center of the vernal pool.

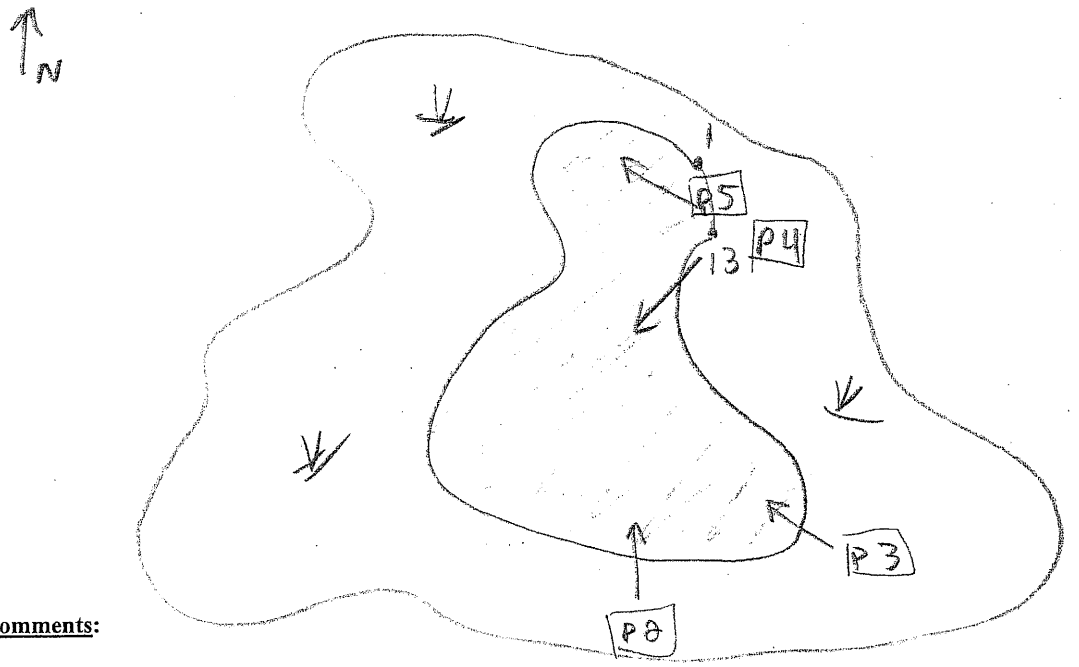
☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations:

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments:

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

100 **% Woodland** (check most dominant type) →

- ☐Hardwood (>75% deciduous)
- ☐Softwood (>75% coniferous)
- ☒Mixed (all others)

For woodland habitat, is the over story?

- ☒Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☐Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) →

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

For utility ROW, identify dominant vegetation type

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

_____ **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☐Other

_____ **% Residential**

_____ **% Roads**

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 125 Maximum Width: 40

Water Depth (inches): Max. When Observed: 18" Estimated Spring Max. 20"

Water temperature: 11°C ~~°F~~ (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☐Upland – Isolated (pool not part of a larger wetland)
- ☒Wetland Complex (pool associated with a larger wetland habitat)
- ☐Bottomland-isolated (pool part of a river or lake floodplain)
- ☐Man-made **Describe:**

Check all wetland types that best apply to this pool:

☒Forested swamp	☐Wet meadow	☐Slow stream
☐Shrub swamp	☐Shallow pond	☐Floodplain overflow
☐Peatland (fen or bog)	☐Abandoned beaver flowage	☐Headwater seepage
☒Emergent marsh	☐Active beaver flowage	☐Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☒Natural ☐Natural-Modified ☐Unnatural ☐Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

EVIDENCE OF LOGGING BUT NO OBVIOUS DIRECT IMPACT ON POOL

Pool determined to be located in an old skidder rut: man-made.

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐Permanent
- ☐Semi-permanent (drying partially in all years and completely in drought years)
- ☒Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☒Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐Mineral soil (sphagnum moss present)
- ☐Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☐Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☒Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☐Sphagnum moss (anchored or suspended)
- ☐Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☒No inlet or outlet ☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☐Ephemeral inlet or outlet ☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☒No Were fish sampled? ☐Yes ☒No

Describe the methods used for observing/sampling fish, and list species observed:_____

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

_____% Cover Class - Trees (5m and above)

_____% Cover Class - Shrubs (0.5m to less than 5m)

_____% Cover Class - Woody debris (branches/twigs)

__1__% Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

_____% Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

_____% Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

_____% Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees_____ Shrubs_____ Herbaceous CAREX SPP

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	45	S	3				
Spotted Salamander	32	S	3				
Blue-spotted salamander	2	S/H	2				
Fairy shrimp							

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen NATURAL

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☒Yes ☐No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: Steve O'Neil Date: 5-21-08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

Photo 1: VP_D08VP02_M.
May 21, 2008.

Photo 2: VP_D08VP02_M.
July 30, 2008.

Photo 3: VP_D08VP02_M.
May 28, 2014. Stantec.

Photo 4: VP_D08VP02_M.
May 28, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_01MD_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rodney Kelshaw, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: TD R2 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

Maine State Vernal Pool Assessment Form

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [ ] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [ ] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [ ] Isolated pool
- [x] Other: Roadside ditch/borrow pit

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ( ) Natural ( ) Natural-Modified (●) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Roadside ditch/borrow pit with sapling growth.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- (●) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Relatively small pool with mineral substrate and a leaf-litter bottom

■ Maximum depth at survey: ( ) 0-12" (0-1 ft.) (●) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 12 ( ) m (●) ft Length: 25 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- (●) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [x] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [x] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [ ] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [x] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [ ] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [ ] Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (●) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/13/2015, 5/28/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	5	0		3	--		H	--		N	N		--	--	
Spotted Salamander	42	42		3	0		F/M	NR		N	N		--	--	
Blue-spotted Salamander	0	0		--	--		--	--		N	N		--	--	
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Egg mass maturity not recorded (NR) at second visit.

High functioning man-made pool with egg mass counts that would meet the threshold of a significant vernal pool.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_01MD_M.
Date: May 13, 2015. Stantec.

Photo 2: VP_01MD_M, spotted salamander egg masses.
Date: May 13, 2015. Stantec.

Number Nine Wind Farm, Aroostook County, Maine

Photo 3: VP_01MD_M.
Date: May 28, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_15DB_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: D. Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T9 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [ ] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [ ] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [ ] Isolated pool
- [x] Other: Pooled borrow area forming wetland

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ( ) Natural ( ) Natural-Modified (●) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in borrow area adjacent to logging road

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- (●) Semi-permanent (drying partially in all years and completely in drought years)
- ( ) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Size, depth, number of green frogs observed

■ Maximum depth at survey: ( ) 0-12" (0-1 ft.) (●) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 35 ( ) m (●) ft Length: 60 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- (●) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [ ] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [x] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [x] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [ ] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [x] Other: adult green frogs

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (●) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/21/2014, 6/8/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	80			3			H			Yes			3		
Spotted Salamander	92			3			A			No			3		
Blue-spotted Salamander	2			3			A			No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Deep man-made pool, no indication of previous natural pool. High-functioning. Many wood frog tadpoles observed during first pool survey. Hatched wood frog egg mass number was estimated (difficult to count). Egg-mass numbers were not recorded at second visit; pool hydrology characterized by some drying, estimate appropriate for successful indicator species juvenile production.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_15DB_M.
May 21, 2014. Stantec.

Photo 2: VP_15DB_M.
May 21, 2014. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: D-08-VP-7 **Milepost/Station:** NA **Date:** 5-21-08

Team: D **Time of Day:** 1150 **Town:** TD R2 WELS

Weather Conditions: ☐Sunny ☐Partly Sunny ☐Overcast ☒Raining ☐Snowing

Photos Taken: ☒Yes ☐No **Photo Info.:** 1-FLAG, 2-WEST END OF POOL COMPLEX FACING SE, 3 CENTER OF POOL (SW), 4 center of POOL (SE)

Observers: S. GROVE / J LECLERC 5 POOL FROM ROAD (W)

6 east end of pool from Rd (E)

Credentials

■ Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☐Professional Wetland Scientist
- ☒Professional Biologist (concentration: WILDL ECOL)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other:

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

CWB, 12 YRS PROFESSIONAL EXP

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1100864.84 Latitude/Northing: 997414.60

Model of GPS Unit: TRIMB PRO XR

Please Check One:

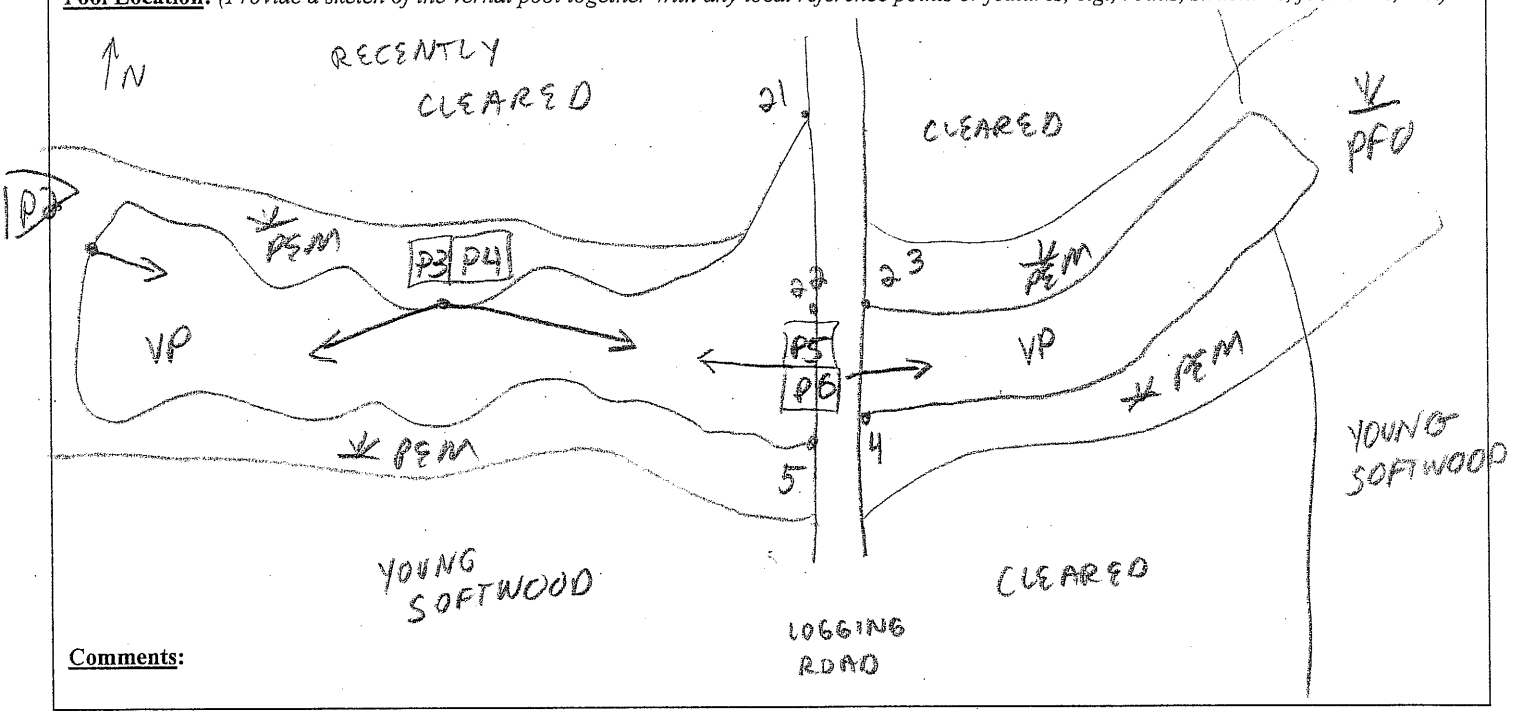
- ☒The above GPS point is at the center of the vernal pool.
- ☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations:

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments:

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

25 **% Woodland** (check most dominant type) → **For woodland habitat, is the over story?**

- ☐Hardwood (>75% deciduous)
- ☒Softwood (>75% coniferous)
- ☐Mixed (all others)

- ☐Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☒Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) → **For utility ROW, identify dominant vegetation type**

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

70 **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☒Other CLEARED AREA / ROAD EDGE HERBS + SHRUBS

_____ **% Residential**

5 **% Roads**

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 175' Maximum Width: 20'

Water Depth (inches): Max. When Observed: 14' Estimated Spring Max. 18

Water temperature: 11°C /F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☐Upland – Isolated (pool not part of a larger wetland)
- ☒Wetland Complex (pool associated with a larger wetland habitat)
- ☐Bottomland-isolated (pool part of a river or lake floodplain)
- ☐Man-made **Describe:**

Check all wetland types that best apply to this pool:

☒Forested swamp	☐Wet meadow	☐Slow stream
☐Shrub swamp	☐Shallow pond	☐Floodplain overflow
☐Peatland (fen or bog)	☐Abandoned beaver flowage	☐Headwater seepage
☒Emergent marsh	☐Active beaver flowage	☐Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☐Natural ☐Natural-Modified ☒Unnatural ☐Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

ROAD WITH CULVERT BISECTS VL/POOL COMPLEX
LINEAR SHAPE OF CHANNELS SUGGESTS POOLS ARE OLD
MAN-MADE DRAINAGE FEATURES BERMS ALONG
FEATURES APPEAR UNNATURAL

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐Permanent
- ☐Semi-permanent (drying partially in all years and completely in drought years)
- ☐Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☒Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐Mineral soil (sphagnum moss present)
- ☐Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☒Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☒Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☐Sphagnum moss (anchored or suspended)
- ☐Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☐No inlet or outlet

☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☒Ephemeral inlet or outlet VIA CULVERT

☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☒No Were fish sampled? ☒Yes ☐No

Describe the methods used for observing/sampling fish, and list species observed:_____

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

_____% Cover Class - Trees (5m and above)

1 % Cover Class - Shrubs (0.5m to less than 5m)

1 % Cover Class - Woody debris (branches/twigs)

2 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

_____% Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

3 % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

_____% Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees_____ Shrubs YEBI, REMA Herbaceous CAREX, SCIRPUS JUNCUS

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	200+			S/H	3		
Spotted Salamander	110	S H	3				
Blue-spotted salamander							
Fairy shrimp							

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

UNNATURAL

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☐Yes ☒No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: Alacie D Shore Date: 5-21-08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_D08VP07_M.
May 21, 2008.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_29JL_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: J. Leclerc

b. Contact and credentials previously provided? ◉ No (submit Addendum 1) ○ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T9 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [ ] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [ ] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [ ] Isolated pool
- [x] Other: Skidder ruts in upland clearing

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ( ) Natural ( ) Natural-Modified (●) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Man-made pool formed in recent skidder ruts.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- (●) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Due to depth and lack of inlet, minimal shading.

■ Maximum depth at survey: ( ) 0-12" (0-1 ft.) (●) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 4 ( ) m (●) ft Length: 25 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- (●) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [ ] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [ ] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [ ] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [x] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [ ] Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (●) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/2/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	3			3			H			Yes			3		
Spotted Salamander	11			3			A			No			3		
Blue-spotted Salamander	4			2			A			No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Hydroperiod likely very short; portions dried at site visit, some egg masses attached to slash, left out of water

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_29JL_M.
June 2, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_30JL_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: J. Leclerc

b. Contact and credentials previously provided? ◉ No (submit Addendum 1) ○ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T9 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Skidder ruts in clearing

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Man-made pool formed in skidder ruts.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Ephemeral to semi-permanent, due to depth and lack of outlet, though minimal shading.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 12 ○ m ◉ ft Length: 20 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☒ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☒ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: Green frog adults

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): No outlet; inlet from skidder ruts draining adj. upland

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/2/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			H			Yes			3		
Spotted Salamander	18			3			A, H			No			3		
Blue-spotted Salamander	0			3											
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Small pool, but depth may provide potential for higher functioning. Wood frog tadpoles observed.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_30JL_M.
June 2, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_50TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ○ Yes ◉ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T9 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool located adjacent to road and created by road impounding wetland.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Relatively small and shallow (4-6" deep) pool supporting terrestrial vegetation.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ○ m ◉ ft Length: 20 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☒ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): Ephemeral inlet; outlet through road culvert

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/21/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			--			--			--			--		
Spotted Salamander	16			3			F			--			--		
Blue-spotted Salamander	0			--			--			--			--		
Fairy Shrimp [3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool is located within 100 feet of VP_17DB_M and together these pools are considered as a single landscape unit (cluster pool) with significant egg mass numbers.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_50TT_M.
May 21, 2014. Stantec.

Photo 2: VP_50TT_M.
May 21, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_17DB_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: D. Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: ***Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.***

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T9 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Skidder ruts in shrub wetland

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in wetland by skidder ruts; road ditch flows into pool.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Size, depth, inflow from road-ditch (which is possibly a small stream)

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ○ m ◉ ft Length: 25 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ◉ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/21/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	1			3			A			No			3		
Spotted Salamander	4			3			M			No			3		
Blue-spotted Salamander	0			3			--			No			3		
Fairy Shrimp [3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Apparent man-made pool in skidder rutting; low level of indicator species use, but near (within 100' of) similar pools which, when considered in a cluster, form an ecological unit (i.e., reason for consideration as a non-significant VP).

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_17DB_M.
May 21, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_26JL_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: J. Leclerc

b. Contact and credentials previously provided? ◉ No (submit Addendum 1) ○ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T9 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Large, deep man-made pool in old, deeply-rutted skid trail.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Due to depth and lack of outlet.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ◉ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ○ m ◉ ft Length: 110 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☒ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/30/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	14			3			H			No			3		
Spotted Salamander	19			3			M			No			3		
Blue-spotted Salamander	1			3			M, A			No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Alders growing along edge of pool, majority of egg masses attached to balsam fir tops in pool. Recent tree cutting in adjacent areas. Uplands border portions of pool.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_26JL_M.
May 30, 2014. Stantec.

Photo 2: VP_26JL_M.
May 30, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_19DB_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: D. Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T9 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Skidder rut in PFO wetland

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in skidder rut

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Size, depth

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 3 ○ m ◉ ft Length: 20 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☒ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/21/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0						--			No			3		
Spotted Salamander	17			3			A			No			3		
Blue-spotted Salamander	8			3			A			No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Man-made pool in skidder rut.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_19DB_M.
May 21, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_143DB_N (was PSVP_143DB_N) **MDIFW Pool ID:** 2489

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rodney Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: ***Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.***

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T9 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Pool observed dry on July 21, 2014

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 50 ○ m ◉ ft Length: 100 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ◉ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☒ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	56			3			H			N			--		
Spotted Salamander	0			--			--			N			--		
Blue-spotted Salamander	1			3			M			N			--		
Fairy Shrimp[3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_143DB_N (MDIFW ID 2489).
Date: May 14, 2015. Stantec.

Photo 2: SVP_143DB_N (MDIFW ID 2489).
Date: May 14, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_181TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T9 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [ ] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [ ] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [ ] Isolated pool
- [x] Other: Man-made pool

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ( ) Natural ( ) Natural-Modified (●) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool is located within an excavated area.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- (●) Semi-permanent (drying partially in all years and completely in drought years)
- ( ) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Pool still held 12" of water in July and was devoid of vegetation.

■ Maximum depth at survey: (●) 0-12" (0-1 ft.) ( ) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ( ) m (●) ft Length: 145 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- (●) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [ ] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [ ] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [ ] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [x] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [ ] Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (●) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 7/21/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			--			--			Yes			--		
Spotted Salamander	0			--			--			--			--		
Blue-spotted Salamander	0			--			--			--			--		
Fairy Shrimp [3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Thousands of wood frog tadpoles observed.

Pool is located within 100 feet of SVP_143DB_N and together these pools are treated as a landscape unit (cluster pool) with significant egg mass numbers.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_181TT_M.
Date: July 21, 2014. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: A-08-VP-7 (7 flags) **Milepost/Station:** N/A **Date:** 5-15-22

Team: A **Time of Day:** 1136 hrs **Town:** T8 R3 WELS

Weather Conditions: ☐Sunny ☑Partly Sunny ☐Overcast ☐Raining ☐Snowing

Photos Taken: ☑Yes ☐No **Photo Info.:** Photo 9 looking NE; photo 10 flag

Observers: N. Vail / B. Battaglia

Credentials

■ Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☑Professional Wetland Scientist
- ☐Professional Biologist (concentration:_____)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other:_____

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

12+ yrs exp.

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1094806.96' Latitude/Northing: 984840.95'

Model of GPS Unit: Trimble Geo XT

Please Check One:

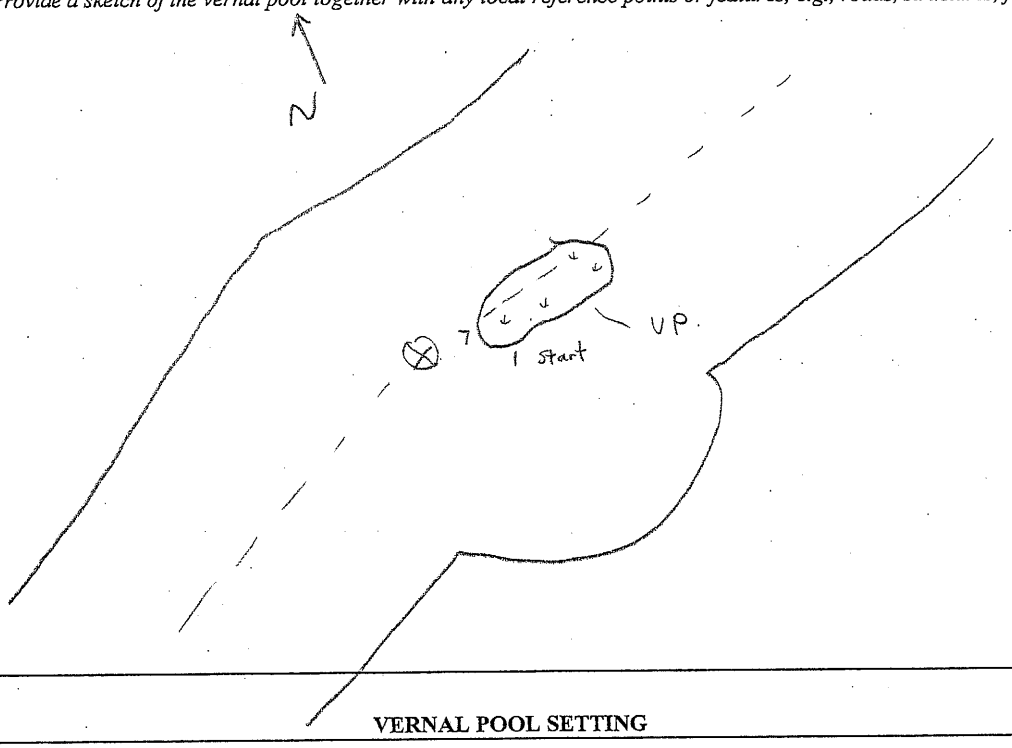
- ☑The above GPS point is at the center of the vernal pool.
- ☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations:_____

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments:

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

100 **% Woodland** (check most dominant type) →

- ☑ Hardwood (>75% deciduous)
- ☐ Softwood (>75% coniferous)
- ☐ Mixed (all others)

For woodland habitat, is the over story?

- ☐ Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☑ Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐ Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) →

- ☐ Pipeline
- ☐ Electric (cross country)
- ☐ Electric (edge of roadway)
- ☐ Other

For utility ROW, identify dominant vegetation type

- ☐ Shrubs
- ☐ Grass/forb
- ☐ Mixed – shrub/grass/forb
- ☐ Bare ground

_____ **% Open Land** (check most dominant type)

- ☐ Active agriculture
- ☐ Fields/pastures
- ☐ Lawn
- ☐ Other

_____ **% Residential**

_____ **% Roads**

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 70' ± Maximum Width: 45' ±

Water Depth (inches): Max. When Observed: 10" ± Estimated Spring Max. 14" ±

Water temperature: 61 °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☑ Upland – Isolated (pool not part of a larger wetland)
- ☐ Wetland Complex (pool associated with a larger wetland habitat)
- ☐ Bottomland-isolated (pool part of a river or lake floodplain)
- ☐ Man-made **Describe:** Logging around site 4/1

Check all wetland types that best apply to this pool:

☐ Forested swamp	☐ Wet meadow	☐ Slow stream
☐ Shrub swamp	☐ Shallow pond	☐ Floodplain overflow
☐ Peatland (fen or bog)	☐ Abandoned beaver flowage	☐ Headwater seepage
☑ Emergent marsh	☐ Active beaver flowage	☐ Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☑ Natural ☐ Natural-Modified ☐ Unnatural ☐ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐ Permanent
- ☑ Semi-permanent (drying partially in all years and completely in drought years)
- ☐ Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☑ Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☑ Mineral soil (sphagnum moss present)
- ☐ Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐ Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☑ Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☑ Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☐ Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☐ Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐ Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐ Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☑No inlet or outlet ☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☐Ephemeral inlet or outlet ☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☑No Were fish sampled? ☐Yes ☑No

Describe the methods used for observing/sampling fish, and list species observed: N/A

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

3 % Cover Class - Trees (5m and above) Beech, spruce, Birch

2 % Cover Class - Shrubs (0.5m to less than 5m) Amer Beech

1 % Cover Class - Woody debris (branches/twigs)

2 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

/ % Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

/ % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

_____% Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees / Shrubs / Herbaceous Carex spp

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	9	S	3				
Spotted Salamander	/	/	/				
Blue-spotted salamander	/	/	/				
Fairy shrimp	/	/	/				

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☐Yes ☑No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: Beth Barber Date: 5-15-07

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐Significant ☐Not Significant due to: ☐insufficient data OR ☐does not meet biological criteria and/or ☐does not meet vernal pool definition criteria.

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_A08VP07_N.
May 15, 2008.

Photo 2: VP_A08VP07_N.
July 29, 2008.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_A10VP16_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau, J. Leclerc

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: Pool covers 90% of an isolated wetland

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Grasses and shrubs growing throughout

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 75 ○ m ◉ ft Length: 100 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ◉ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☒ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: adult green frogs

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/28/14, 6/6/14

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? 100
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		3	3		H	H		Yes	Yes		3		
Spotted Salamander	1	36		3	3		M	H		No	No		3		
Blue-spotted Salamander	0	0		--	3		--	--		No	No		2		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

About 20 wood frog tadpoles observed in 2014. 2010 survey indicates SVP; 2014 survey and photos suggest potential for high indicator species use of this large pool. Old skid road on one outside edge of pool, but not affecting.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_A10VP16_N.
May 28, 2014. Stantec.

Photo 2: SVP_A10VP16_N.
May 28, 2014. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: A-08-VP-6 (8 flags connected) **Milepost/Station:** N/A **Date:** 5-15-08

Team: A **Time of Day:** 1043 hrs **Town:** T8-R3-WELS

Weather Conditions: ☐Sunny ☑Partly Sunny ☐Overcast ☐Raining ☐Snowing

Photos Taken: ☑Yes ☐No **Photo Info.:** Photo 7 VP Northwest ; P8 flag

Observers: Nate Vail / Brett Battaglia

Credentials

■ Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☑Professional Wetland Scientist
- ☐Professional Biologist (concentration:_____)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other:_____

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

12+ yrs experience
Delineated many VPs and wetlands

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1093832.70' Latitude/Northing: 984032.43'

Model of GPS Unit: Trimble Geo XT

Please Check One:

☑The above GPS point is at the center of the vernal pool.

☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

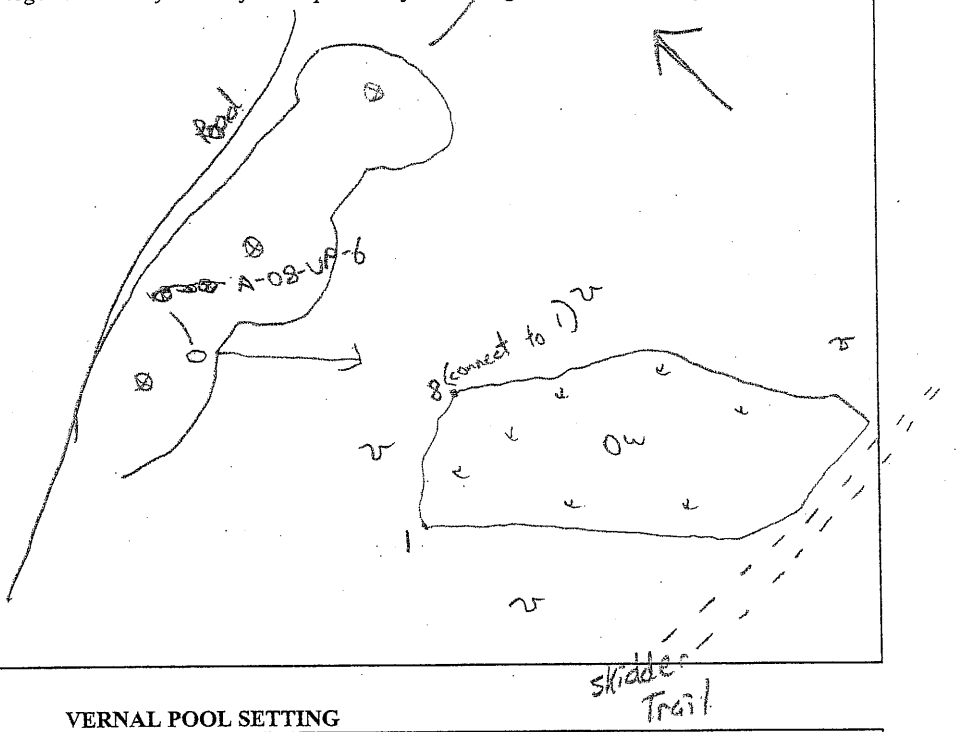
Additional Comments on GPS Locations: Skidder trail on SE side essentially formed a small earth dam and this feature is impounding H_2O somewhat

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

turbine array proposed

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments:

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

✓ **% Woodland** (check most dominant type) →

- ☐Hardwood (>75% deciduous)
- ☐Softwood (>75% coniferous)
- ☑Mixed (all others)

For woodland habitat, is the over story?

- ☐Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☐Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☑Sparse (<25% canopy cover of trees/shrubs >6' tall)

Recently logged

_____ **% Utility ROW** (check most dominant type) →

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

For utility ROW, identify dominant vegetation type

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

_____ **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☐Other

_____ **% Residential**

_____ **% Roads**

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 100' ± Maximum Width: 45' ±

Water Depth (inches): Max. When Observed: 10" ± Estimated Spring Max. 14 ±

Water temperature: 60 °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☑ Upland – Isolated (pool not part of a larger wetland)
- ☐ Wetland Complex (pool associated with a larger wetland habitat)
- ☐ Bottomland-isolated (pool part of a river or lake floodplain)
- ☑ Man-made **Describe:** Skidder trail somewhat impeding drainage

Check all wetland types that best apply to this pool:

- ☑ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☑ Emergent marsh (some emergent veg present)
- ☐ Wet meadow
- ☐ Shallow pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow
- ☐ Headwater seepage
- ☐ Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☐ Natural ☑ Natural-Modified ☐ Unnatural ☐ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:
Skidder trail to SE somewhat impeding drainage

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐ Permanent
- ☑ Semi-permanent (drying partially in all years and completely in drought years)
- ☐ Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☑ Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐ Mineral soil (sphagnum moss present)
- ☑ Organic matter (peat/muck/mud) shallow or restricted to deepest portion (some organic matter)
- ☐ Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☑ Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☐ Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☑ Sphagnum moss (anchored or suspended)
- ☑ Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐ Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐ Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☑No inlet or outlet ☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☐Ephemeral inlet or outlet ☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☑No Were fish sampled? ☐Yes ☑No

Describe the methods used for observing/sampling fish, and list species observed: N/A

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

2 % Cover Class - Trees (5m and above) (Beech, bal fir)

2 % Cover Class - Shrubs (0.5m to less than 5m) (spruce / beech)

1 % Cover Class - Woody debris (branches/twigs)

2 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

/ % Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

/ % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

/ % Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees / Shrubs / Herbaceous /

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	11	S	3				
Spotted Salamander	6	S	3				
Blue-spotted salamander	/	/	/				
Fairy shrimp	/	/	/				

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☐Yes ☑No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: [signature] Date: 5-15-08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_A08VP06_N.
May 15, 2008.

Photo 2: VP_A08VP06_N.
July 29, 2008.

Photo 3: VP_A08VP06_N.
May 28, 2014. Stantec.

Photo 4: VP_A08VP06_N.
May 28, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_14HS_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: H. Storlazzi-Ward, R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: -68.070865 Latitude/Northing: 46.363726

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [x] Shrub swamp
- [ ] Peatland (fen or bog)
- [x] Emergent marsh
- [ ] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [ ] Isolated pool
- [ ] Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ( ) Natural ( ) Natural-Modified (●) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

roadside pit

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- (●) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- ( ) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Very little veg in pool, wetted perimeter not reduced much in 2nd visit, intermittent inlet/outlet

■ Maximum depth at survey: ( ) 0-12" (0-1 ft.) (●) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ( ) m (●) ft Length: 50 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- (●) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [ ] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [ ] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [ ] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [x] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [ ] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [ ] Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ( ) No inlet or outlet
- (●) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/29/2014, 6/8/14

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	--		--	--		--	--		0	--		--	--	
Spotted Salamander	20	20		3	3		M, A	A		0	--		--	--	
Blue-spotted Salamander	0	--		-	--		--	--		0	--		--	--	
Fairy Shrimp[3]	0	--		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_14HS_M.
May 29, 2014. Stantec.

Photo 2: VP_14HS_M.
June 8, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_A10VP19_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: D. Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [x] Forested swamp
- [ ] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [ ] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [ ] Isolated pool
- [ ] Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ( ) Natural ( ) Natural-Modified (●) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Borrow pit along gravel road.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- (●) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- ( ) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Depth, submerged aquatic vegetation in pool.

■ Maximum depth at survey: ( ) 0-12" (0-1 ft.) ( ) 12-36" (1-3 ft.) (●) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 80 ( ) m (●) ft Length: 50 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- (●) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [ ] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [ ] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [x] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [ ] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [x] Other: Green frog adults

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (●) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/8/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			--			Yes			3		
Spotted Salamander	379			3			A			No			3		
Blue-spotted Salamander	0			3			--			No			3		
Fairy Shrimp[3]	No														

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

1000s of tadpoles and a few green frog adults observed.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_A10VP19_M.
June 8, 2014. Stantec.

Photo 2: VP_A10VP19_M.
June 8, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_A10VP17_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: D. Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ○ Pool associated with larger wetland complex
- ◉ Other: natural eroded channel stream oxbow in floodplain

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Natural channel from oxbow in floodplain of adjacent stream.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Deepest portions lack vegetation.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 100 ○ m ◉ ft Length: 10 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☒ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): Ephemeral overflow from adjacent stream at high flows.

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/8/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			--			Yes			3		
Spotted Salamander	203			3			A			No			3		
Blue-spotted Salamander	0			3			--			No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

1000s of wood frog tad poles, lots of caddisfly larvae, 1 red eft and 1 fish observed.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: SVP_A10VP17_N.
June 8, 2014. Stantec.

Photo 2: SVP_A10VP17_N, spotted salamander egg masses and wood frog tadpoles.
June 8, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_A10VP18_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: D. Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Natural pool in logged forest.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

6" of water at time of survey, cattails growing in deepest portions of pool.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 60 ○ m ◉ ft Length: 40 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/8/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			--			No			3		
Spotted Salamander	0			3			--			No			3		
Blue-spotted Salamander	0			3			--			No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_A10VP18_N.
June 8, 2014. Stantec.

Photo 2: VP_A10VP18_N.
June 8, 2014. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: A-08-VP-10 **Milepost/Station:** N/A **Date:** 5-15-08

Team: A **Time of Day:** 1353 **Town:** T8 R3 WELS

Weather Conditions: ☑Sunny ☐Partly Sunny ☐Overcast ☐Raining ☐Snowing

Photos Taken: ☑Yes ☐No **Photo Info.:** Photo 18 Easterly Pic 19 of VP flag

Observers: Nate Vail Brett Battaglia

Credentials

■ Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☑Professional Wetland Scientist
- ☐Professional Biologist (concentration:_____)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other:_____

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

12+ yrs experience

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1099754.64' Latitude/Northing: 981196.82'

Model of GPS Unit: Trimble Geo XT

Please Check One:

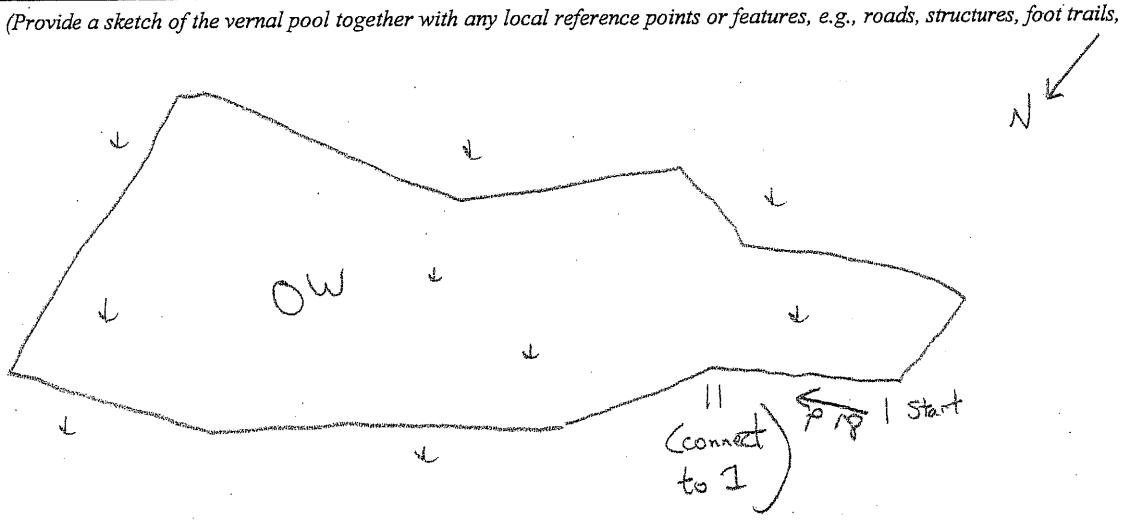
- ☑The above GPS point is at the center of the vernal pool.
- ☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations:_____

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments: Significant VP
Nice feature (Classic VP)

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

100 **% Woodland** (check most dominant type) →

- ☐Hardwood (>75% deciduous)
- ☐Softwood (>75% coniferous)
- ☑Mixed (all others)

For woodland habitat, is the over story?

- ☐Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☑Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) →

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

For utility ROW, identify dominant vegetation type

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

_____ **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☐Other

_____ **% Residential**

_____ **% Roads**

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 65' ± Maximum Width: 45' ±

Water Depth (inches): Max. When Observed: 14" ± Estimated Spring Max. 18" ±

Water temperature: 72 °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☑ Upland – Isolated (pool not part of a larger wetland)
- ☐ Wetland Complex (pool associated with a larger wetland habitat)
- ☐ Bottomland-isolated (pool part of a river or lake floodplain)
- ☐ Man-made **Describe:**

Check all wetland types that best apply to this pool:

☑ Forested swamp	☐ Wet meadow	☐ Slow stream
☑ Shrub swamp	☐ Shallow pond	☐ Floodplain overflow
☐ Peatland (fen or bog)	☐ Abandoned beaver flowage	☐ Headwater seepage
☐ Emergent marsh	☐ Active beaver flowage	☐ Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☑ Natural ☐ Natural-Modified ☐ Unnatural ☐ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐ Permanent
- ☑ Semi-permanent (drying partially in all years and completely in drought years)
- ☐ Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☑ Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐ Mineral soil (sphagnum moss present)
- ☑ Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐ Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☑ Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☐ Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☑ Sphagnum moss (anchored or suspended)
- ☑ Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐ Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐ Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☑No inlet or outlet ☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☐Ephemeral inlet or outlet ☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☑No Were fish sampled? ☐Yes ☑No

Describe the methods used for observing/sampling fish, and list species observed:_____

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

3 % Cover Class - Trees (5m and above)

2 % Cover Class - Shrubs (0.5m to less than 5m)

2 % Cover Class - Woody debris (branches/twigs)

2 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

— % Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

— % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

— % Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees Amer. elm / Yellow Birch Shrubs Yellow birch / Amer Elm Herbaceous Carex spp Sphagnum spp

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	38	S	3				
Spotted Salamander	30	S	3				
Blue-spotted salamander	—	—	—				
Fairy shrimp	—	—	—				

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☑**Yes** ☐**No**

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: Beth Battman Date: 5-15-08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_A08VP10_N.
May 15, 2008.

Photo 2: SVP_A08VP10_N.
July 28, 2008.

Photo 3: SVP_A08VP10_N.
May 28, 2014. Stantec.

Photo 4: SVP_A08VP10_N.
May 28, 2014. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: A-08-VP-9 (8 flags) **Milepost/Station:** N/A **Date:** 5-15-08

Team: A **Time of Day:** 1430hrs **Town:** T8 R3 WELS

Weather Conditions: ☑Sunny ☐Partly Sunny ☐Overcast ☐Raining ☐Snowing

Photos Taken: ☑Yes ☐No **Photo Info.:** Pic 16 of VP Easterly
Pic 17 of VP flag

Observers: N Vail B Battaglia

Credentials

■ Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☑Professional Wetland Scientist
- ☐Professional Biologist (concentration:_____)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other:_____

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

12+ yrs experience delineating/surveying wetlands & VP's

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool
Longitude/Easting: 1099111.16' Latitude/Northing: 982628.56'

Model of GPS Unit: Trimble Geo XT

Please Check One:

☑The above GPS point is at the center of the vernal pool.

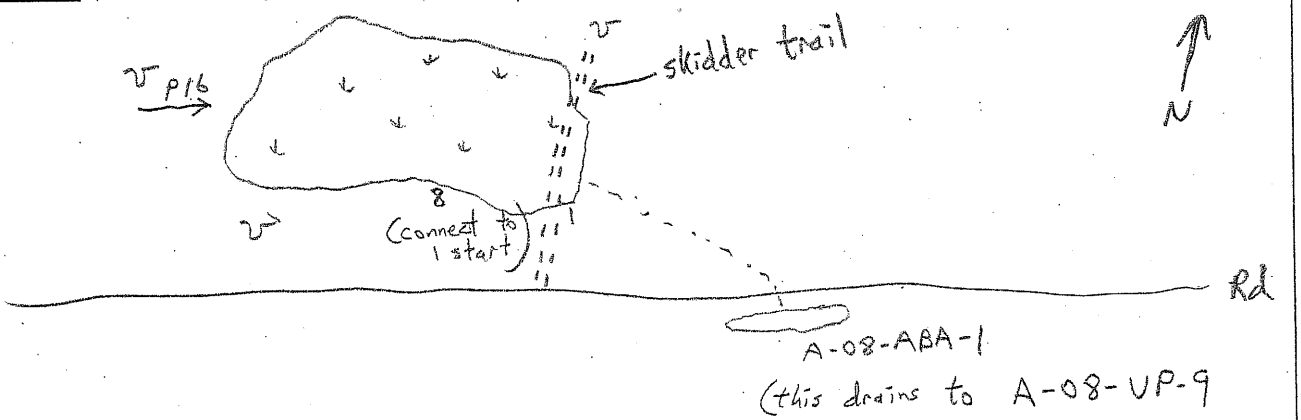
☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations:
Skidder trail through eastern edge of VP

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments: skidder trail on eastern edge

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

80 **% Woodland** (check most dominant type) →
- ☑ Hardwood (>75% deciduous)
- ☐ Softwood (>75% coniferous)
- ☐ Mixed (all others)

For woodland habitat, is the over story?
- ☐ Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☑ Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐ Sparse (<25% canopy cover of trees/shrubs >6' tall)

✓ **% Utility ROW** (check most dominant type) →
- ☐ Pipeline
- ☐ Electric (cross country)
- ☐ Electric (edge of roadway)
- ☐ Other

For utility ROW, identify dominant vegetation type
- ☐ Shrubs
- ☐ Grass/forb
- ☐ Mixed – shrub/grass/forb
- ☐ Bare ground

✓ **% Open Land** (check most dominant type)
- ☐ Active agriculture
- ☐ Fields/pastures
- ☐ Lawn
- ☐ Other

____ **% Residential**

20 **% Roads** to south of pool

✓ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 65' ± Maximum Width: 45' ±

Water Depth (inches): Max. When Observed: 14" ± Estimated Spring Max. 18" ±

Water temperature: 63 °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☑ Upland – Isolated (pool not part of a larger wetland)
- ☐ Wetland Complex (pool associated with a larger wetland habitat)
- ☐ Bottomland-isolated (pool part of a river or lake floodplain)
- ☑ Man-made **Describe:** skidder trail to east

Check all wetland types that best apply to this pool:

☑ Forested swamp	☐ Wet meadow	☐ Slow stream
☑ Shrub swamp	☐ Shallow pond	☐ Floodplain overflow
☐ Peatland (fen or bog)	☐ Abandoned beaver flowage	☐ Headwater seepage
☑ Emergent marsh	☐ Active beaver flowage	☐ Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☐ Natural ☑ Natural-Modified ☐ Unnatural ☐ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:
skidder trail goes through eastern edge of VP
Pool is essentially natural except for skidder trail

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐ Permanent
- ☑ Semi-permanent (drying partially in all years and completely in drought years)
- ☐ Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☑ Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐ Mineral soil (sphagnum moss present)
- ☑ Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐ Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☑ Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☐ Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☑ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐ Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐ Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☑No inlet or outlet

☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☐Ephemeral inlet or outlet

☑Other or Unknown (explain): Overland flow from road into UP

iv. Fishlessness

Were fish observed? ☐Yes ☑No Were fish sampled? ☐Yes ☑No

Describe the methods used for observing/sampling fish, and list species observed: N/A

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

2 % Cover Class - Trees (5m and above)

2 % Cover Class - Shrubs (0.5m to less than 5m)

2 % Cover Class - Woody debris (branches/twigs)

3 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

/ % Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

/ % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

/ % Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees Yellow birch, Red Maple Shrubs _____ Herbaceous Carex spp

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	13	S	3				
Spotted Salamander	1	S	3				
Blue-spotted salamander	/	/	/				
Fairy shrimp	/	/	/				

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☐Yes ☑No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: Brett Bailey Date: 5-15-08

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_A08VP09_N.
May 15, 2008.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_124TT_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Pool was observed dry on August 8, 2014.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 25 ○ m ◉ ft Length: 25 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☒ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2015, 5/27/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		--	--		--	--		N	N		--	--	
Spotted Salamander	0	1		--	3		--	M		N	N		--	--	
Blue-spotted Salamander	0	0		--	--		--	--		N	N		--	--	
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_124TT_N.
Date: May 13, 2015. Stantec.

Photo 2: VP_124TT_N.
Date: May 27, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_01HS_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: H. Storlazzi-Ward, R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Size, depth, canopy cover

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 120 ○ m ◉ ft Length: 140 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☒ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/27/2014, 6/7/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	3	0		3	3		A, H	H		Yes	Yes		3	3	
Spotted Salamander	2	10		3	3		A	A		No	No		3	3	
Blue-spotted Salamander	0	0		3	3		--	--		No	No		3	3	
Fairy Shrimp [3]	x	x		3	3										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Many fairy shrimp observed both visits.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_01HS_N.
May 27, 2014. Stantec.

Photo 2: SVP_01HS_N.
May 27, 2014. Stantec.

Photo 3: SVP_01HS_N. Fairy shrimp.
May 27, 2014. Stantec.

Photo 4: SVP_01HS_N.
June 7, 2014. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: C-08VP-32 **Milepost/Station:** _____ **Date:** 5/28/08

Team: C **Time of Day:** 9/15am **Town:** T8R3WELS

Weather Conditions: ☒Sunny ☐Partly Sunny ☐Overcast ☐Raining ☐Snowing

Photos Taken: ☒Yes ☐No **Photo Info.:** Pic 1 - Pool Pic 2 - Egg M. Pic 3 - 5+0 s

Observers: JZ, JG

Credentials

■ Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☒Professional Wetland Scientist
- ☐Professional Biologist (concentration: _____)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other: _____

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

Jgmt Wetlands

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1098658.75 Latitude/Northing: 972698.51

Model of GPS Unit: Trimble Geo XH

Please Check One:

☒The above GPS point is at the center of the vernal pool.

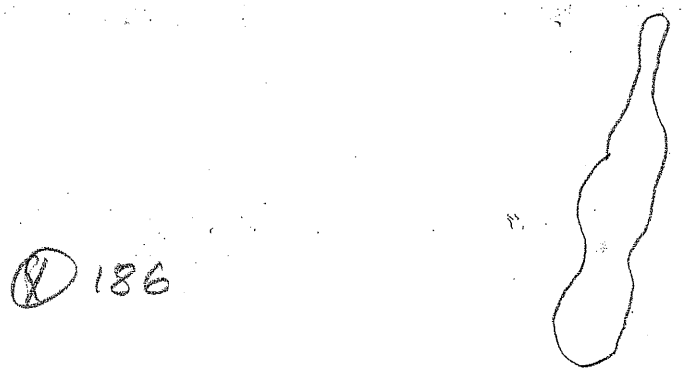
☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations: _____

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments: Pool is part of larger upland wetland complex

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

100 **% Woodland** (check most dominant type) →

- ☐Hardwood (>75% deciduous)
- ☐Softwood (>75% coniferous)
- ☒Mixed (all others)

For woodland habitat, is the over story?

- ☒Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☐Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) →

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

For utility ROW, identify dominant vegetation type

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

_____ **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☐Other

_____ **% Residential**

_____ **% Roads**

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: ~135' Maximum Width: ~65'

Water Depth (inches): Max. When Observed: 13" Estimated Spring Max. 19"

Water temperature: 52 °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☐Upland – Isolated (pool not part of a large wetland)
- ☒Wetland Complex (pool associated with a larger wetland habitat)
- ☐Bottomland-isolated (pool part of a river or lake floodplain)
- ☐Man-made **Describe:**

Check all wetland types that best apply to this pool:

☒Forested swamp	☐Wet meadow	☐Slow stream
☐Shrub swamp	☐Shallow pond	☐Floodplain overflow
☐Peatland (fen or bog)	☐Abandoned beaver flowage	☐Headwater seepage
☐Emergent marsh	☐Active beaver flowage	☐Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☒Natural ☐Natural-Modified ☐Unnatural ☐Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐Permanent
- ☒Semi-permanent (drying partially in all years and completely in drought years)
- ☐Ephemeral (drying out during the growing season in most years)

Rooted veg (FACW+, OBL)

Predominate substrate:

- ☐Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☒Mineral soil (sphagnum moss present)
- ☒Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☒Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☐Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☒Sphagnum moss (anchored or suspended)
- ☒Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☐No inlet or outlet ☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☒Ephemeral inlet or outlet ☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☒No Were fish sampled? ☐Yes ☒No

Describe the methods used for observing/sampling fish, and list species observed:_____

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

2 % Cover Class - Trees (5m and above)

1 % Cover Class - Shrubs (0.5m to less than 5m)

2 % Cover Class - Woody debris (branches/twigs)

1 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

1 % Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

2 % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

1 % Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees Cedar/Elm Shrubs Elm/Birch Herbaceous Ferns Fac to FACW/OBL

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	1						
Spotted Salamander	97	S, H, P	3	S	3		
Blue-spotted salamander	1						
Fairy shrimp	1						

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☒Yes ☐No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: Jason Brinck Date: 5/28/08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

Photo 1: SVP_C08VP32_N.
May 28, 2008.

Photo 2: SVP_C08VP32_N.
July 28, 2008.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: A-08-VP-23 (9 flags) **Milepost/Station:** N/A **Date:** 5-25-08

Team: A **Time of Day:** 1215 hrs **Town:** T8 R3 WELS

Weather Conditions: ☑Sunny ☐Partly Sunny ☐Overcast ☐Raining ☐Snowing

Photos Taken: ☑Yes ☐No **Photo Info.:** P 13 of VP SE
P 14 of VP Flag

Observers: M. McCann / B. Battaglia

Credentials

■ Please check all that apply:

☐Professional Herpetologist and/or Ecologist
☑Professional Wetland Scientist
☐Professional Biologist (concentration:_____)
☐Trained Citizen Scientist
☐Self-informed Naturalist
☐Other:_____

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

12+ yrs experience dilineating VP's and wetlands

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1097400.46' Latitude/Northing: 972121.67'

Model of GPS Unit: Trimble Geo XT

Please Check One:

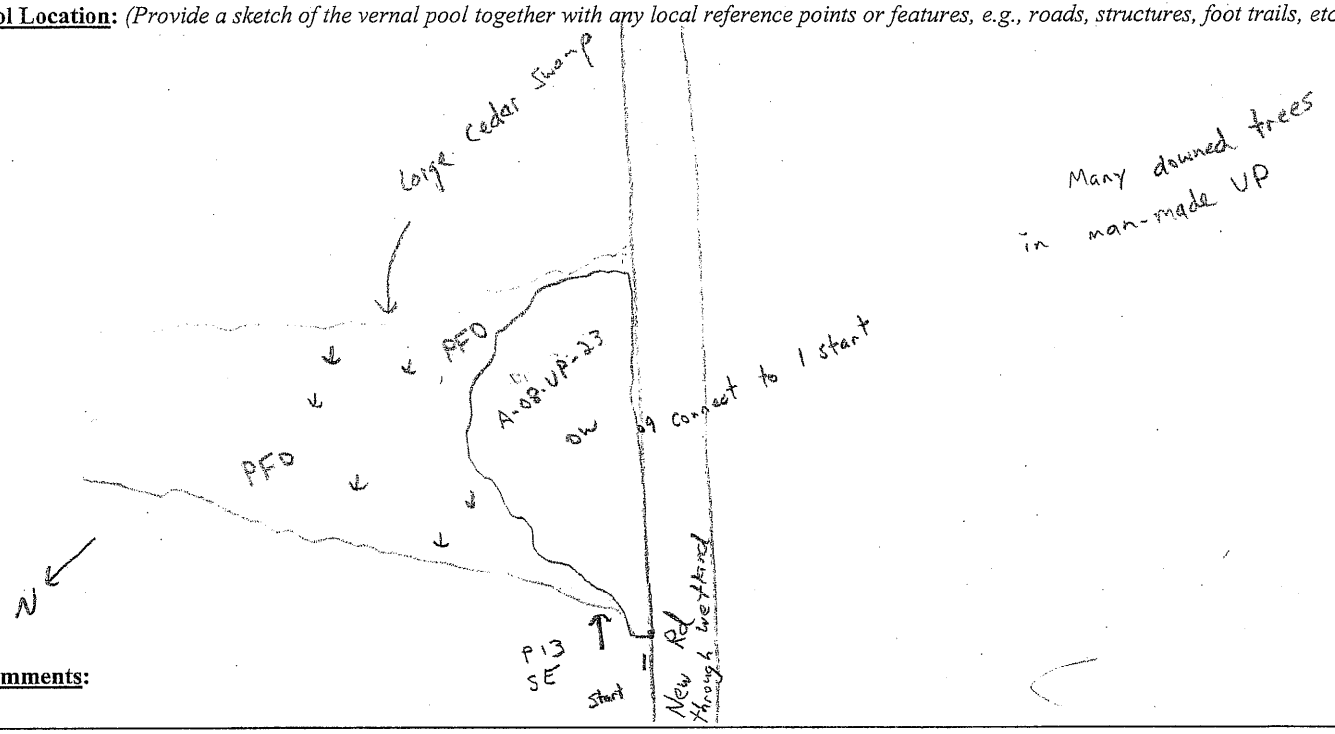
☑The above GPS point is at the center of the vernal pool.
☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations: Good GPS Positions
PDOP less than 6.0

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments:

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

80 **% Woodland** (check most dominant type) →

- ☐Hardwood (>75% deciduous)
- ☑Softwood (>75% coniferous)
- ☐Mixed (all others)

For woodland habitat, is the over story?

- ☐Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☑Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) →

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

For utility ROW, identify dominant vegetation type

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

_____ **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☐Other

_____ **% Residential**

20 **% Roads** (Logging Road)

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 75'± Maximum Width: 25'± (average)

Water Depth (inches): Max. When Observed: 20"± (average) Estimated Spring Max. 40"±

Water temperature: 64 °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☐Upland – Isolated (pool not part of a larger wetland)
- ☑Wetland Complex (pool associated with a larger wetland habitat) VP assoc. w/ cedar swamp filled for new Road
- ☐Bottomland-isolated (pool part of a river or lake floodplain)
- ☑Man-made **Describe:** New logging road fill goes directly through cedar swamp. Fill is backing up water, and deed ditches dug next to road.

Check all wetland types that best apply to this pool:

☑Forested swamp	☐Wet meadow	☐Slow stream
☐Shrub swamp	☐Shallow pond	☐Floodplain overflow
☐Peatland (fen or bog)	☐Abandoned beaver flowage	☐Headwater seepage
☐Emergent marsh	☐Active beaver flowage	☐Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☐Natural ☑Natural-Modified ☐Unnatural ☐Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

New logging road runs through cedar swamp. A lot of fill material

Pool determined to be man-made at second visit (see notes).

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☑Permanent (likely permanent in deep dug ditches)
- ☐Semi-permanent (drying partially in all years and completely in drought years)
- ☐Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☑Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐Mineral soil (sphagnum moss present)
- ☑Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☑Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☐Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☑Sphagnum moss (anchored or suspended) (in PFO wetland)
- ☐Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☐No inlet or outlet

☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☐Ephemeral inlet or outlet

☑Other or Unknown (explain): large culvert going under New Rd

iv. Fishlessness

Were fish observed? ☐Yes ☑No Were fish sampled? ☐Yes ☑No

Describe the methods used for observing/sampling fish, and list species observed: N/A

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

1 % Cover Class - Trees (5m and above)

2 % Cover Class - Shrubs (0.5m to less than 5m)

3 % Cover Class - Woody debris (branches/twigs)

2 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

/ % Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

/ % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

/ % Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees Atlantic white cedar, Black spruce Shrubs Atlantic white cedar Herbaceous Onoclea sen

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	22 (old)	S	3	S	3		
Spotted Salamander							
Blue-spotted salamander	12	S	3				
Fairy shrimp	/	/	/				

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☑Yes ☐No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: Brett Barton Date: 5-25-08

For MDIFW use only Reviewed by MDIFW Date: Initials:

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

5-29-08 Cont

2nd Visit to A-08-VP-2

P1 of drained VP NW
P2 of drained VP Northerly

* The flags on the GPS layer need to be corrected, pool not now as large.
Approx size 100'L x 40'W
A lot of carex stricta

2nd Visit to A-08-VP-8

13 WF & 6 SS

P3 of A-08-VP-8 showing flag + VP dry - Southerly

P4 of VP showing site dry Southerly

* Not a VP - Site totally dry - delete from data layer.

5-30-08 Sunny

0839 hrs

Revisit A-08-VP-20

Water depth approx 8-10" - a lot of algae forming in VP. No change in egg mass count. Area around pool really beat up by logging operations. Pool likely will have water for full egg mass development

1000hrs A-08-VP-23 2nd Visit (Sunny)

Water in dug ditches is approx 24" deep and looks permanent. Missed 2 SS masses first visit. Counted 14 egg masses on 2nd visit. Water in dug ditches looks permanent. Clearly man-made ditch feature has best VP habitat and most egg masses are in the dug ditch area. Nothing else changed. Not significant

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_A08VP23_M.
May 25, 2008.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_04HS_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: H. Storlazzi-Ward, R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [x] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [ ] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [ ] Isolated pool
- [ ] Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ( ) Natural (●) Natural-Modified ( ) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Old skidder ruts observed.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- (●) Semi-permanent (drying partially in all years and completely in drought years)
- ( ) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Size, depth, observed drying on second visit

■ Maximum depth at survey: ( ) 0-12" (0-1 ft.) (●) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 25 ( ) m (●) ft Length: 50 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- (●) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [x] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [x] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [x] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [x] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [x] Other: Caddis fly larvae

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (●) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/27/2014, 6/7/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ○ Yes ◉ No; what % of pool surveyed? 80%
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	17	0		2	2		A, H	H		Yes	Yes		2	2	
Spotted Salamander	30	71		2	2		A	A		No	No		2	2	
Blue-spotted Salamander	12	0		2	2		A	--		No	No		2	2	
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Beavers may have been present previously - possible abandoned flowage, but no inlet or outlet observed.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ○ does not meet biological criteria. ○ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_04HS_N.
May 27, 2014. Stantec.

Photo 2: SVP_04HS_N.
June 7, 2014. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

(Sig)

Vernal Pool ID: A-08-VP-33 (17 flags connected) **Milepost/Station:** N/A **Date:** 5-28-08

Team: A **Time of Day:** 1511 hrs **Town:** T8 R3 WELS

Weather Conditions: ☐Sunny ☑Partly Sunny ☐Overcast ☐Raining ☐Snowing

Photos Taken: ☑Yes ☐No **Photo Info.:** P 12 of UP SW
P 13 of UP NW
P 14 of UP Flag

Observers: K McVane & B. Battaglia

Credentials

■ Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☑Professional Wetland Scientist
- ☐Professional Biologist (concentration:_____)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other:_____

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

Over 12 yrs experience delineating UP's & wetlands

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1092732.12' Latitude/Northing: 970840.35'

Model of GPS Unit: Trimble Geo XT

Please Check One:

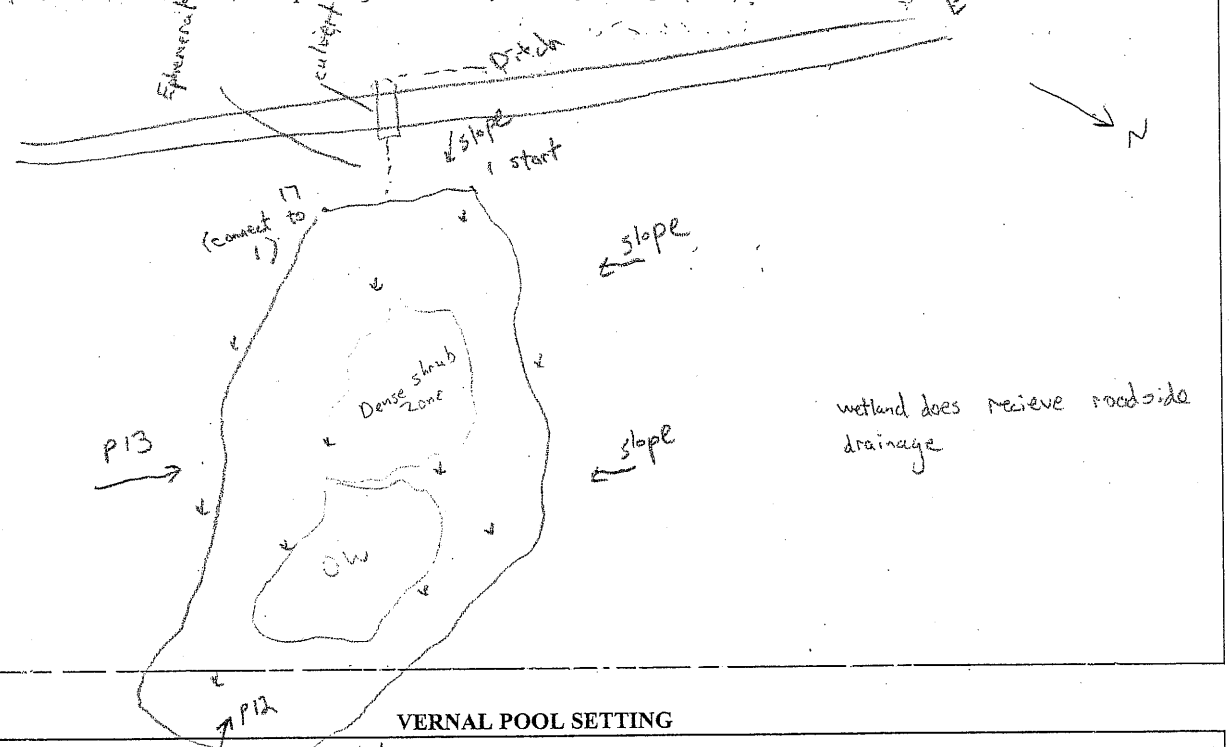
- ☑The above GPS point is at the center of the vernal pool.
- ☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations: PDOP 6.0 or less
Good GPS Reception

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments:

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

90 **% Woodland** (check most dominant type) →

- ☐Hardwood (>75% deciduous)
- ☑Softwood (>75% coniferous)
- ☐Mixed (all others)

For woodland habitat, is the over story?

- ☑Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☐Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) →

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

For utility ROW, identify dominant vegetation type

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

_____ **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☐Other

_____ **% Residential**

10 **% Roads** (Existing Harvey Siding Road)

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 130± Maximum Width: 80'±

Water Depth (inches): Max. When Observed: 20"± Estimated Spring Max. 35"±

Water temperature: 63 °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☐Upland – Isolated (pool not part of a larger wetland)
- ☑Wetland Complex (pool associated with a larger wetland habitat) Some wetland assoc. w/ pool
- ☐Bottomland-isolated (pool part of a river or lake floodplain)
- ☐Man-made **Describe:**

Check all wetland types that best apply to this pool:

☑Forested swamp	☐Wet meadow	☐Slow stream
☑Shrub swamp	☐Shallow pond	☐Floodplain overflow
☐Peatland (fen or bog)	☐Abandoned beaver flowage	☐Headwater seepage
☐Emergent marsh	☐Active beaver flowage	☐Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☑Natural ☐Natural-Modified ☐Unnatural ☐Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

wetland does show up on NWI layer

Nice depressional feature

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐Permanent
- ☑Semi-permanent (drying partially in all years and completely in drought years)
- ☐Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☐Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐Mineral soil (sphagnum moss present)
- ☑Organic matter (peat/muck/mud) shallow or restricted to deepest portion (Some cobbles at eastern edge)
- ☐Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☑Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☑Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☑Sphagnum moss (anchored or suspended)
- ☑Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☐No inlet or outlet ☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☑Ephemeral inlet or outlet (Rd side ditch - inlet ephemeral outlet) ☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☑No Were fish sampled? ☐Yes ☑No

Describe the methods used for observing/sampling fish, and list species observed: N/A

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

2 % Cover Class - Trees (5m and above)

3 % Cover Class - Shrubs (0.5m to less than 5m)

3 % Cover Class - Woody debris (branches/twigs)

2 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

/ % Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

/ % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

/ % Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees Yellow birch, Black spruce Shrubs Alnus incana Herbaceous Sphagnum spp, Onoclea sen

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	34 (old masses)	~~8~~ S	3	S	3		
Spotted Salamander	72	S	3				
Blue-spotted salamander	6	S	3				
Fairy shrimp	/	/	/				

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☑**Yes** ☐**No**

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: [signature] Date: 5-28-08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_A08VP33_N.
May 28, 2008.

Photo 2: SVP_A08VP33_N.
July 28, 2008.

Photo 3: SVP_A08VP33_N.
May 28, 2014. Stantec.

Photo 4: SVP_A08VP33_N.
May 28, 2014. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: A-08-VP-26 **Milepost/Station:** N/A **Date:** 5-25-08

Team: A **Time of Day:** 1630hrs **Town:** T8 R3 WELS

Weather Conditions: ☐Sunny ☑Partly Sunny ☐Overcast ☐Raining ☐Snowing

Photos Taken: ☑Yes ☐No **Photo Info.:** P 26 of Pool westerly

Observers: M. McCann, B. Battaglia P 27 of UP flag

Credentials

■ Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☑Professional Wetland Scientist
- ☐Professional Biologist (concentration:_____)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other:_____

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

Over 12 yrs professional experience delineating wetlands / VPs

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1093454.47 Latitude/Northing: 969477.54

Model of GPS Unit: Trimble GeoXT

Please Check One:

- ☑The above GPS point is at the center of the vernal pool.
- ☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations: Good GPS reception

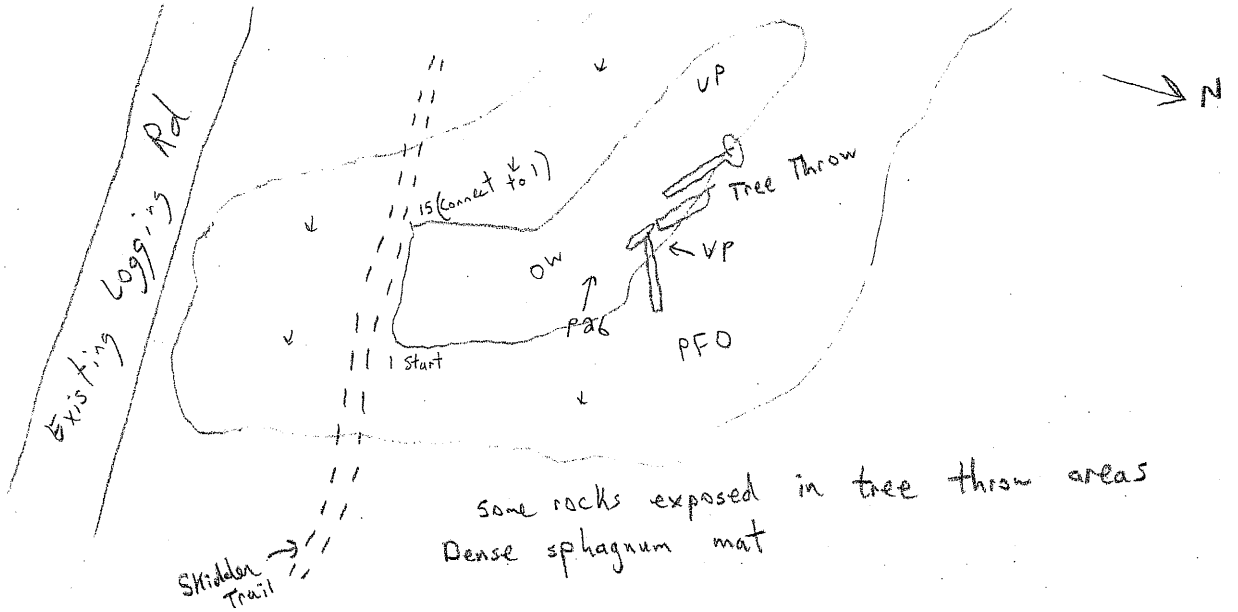
POOP less that 6.0

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

wetland system

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments: Skidder trail through southern edge of VP
Spring peepers heard

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

95 **% Woodland** (check most dominant type) →

- ☐Hardwood (>75% deciduous)
- ☐Softwood (>75% coniferous)
- ☐Mixed (all others)

For woodland habitat, is the over story?

- ☐Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☐Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) →

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

For utility ROW, identify dominant vegetation type

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

_____ **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☐Other

_____ **% Residential**

5 **% Roads** (Logging Rds)

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 120' ± Maximum Width: 45' ±

Water Depth (inches): Max. When Observed: 24" ± Estimated Spring Max. 32" ±

Water temperature: 66 °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☐Upland – Isolated (pool not part of a larger wetland)
- ☑Wetland Complex (pool associated with a larger wetland habitat) spruce / some cedar
- ☐Bottomland-isolated (pool part of a river or lake floodplain)
- ☐Man-made **Describe:**

Check all wetland types that best apply to this pool:

☑Forested swamp	☐Wet meadow	☐Slow stream
☑Shrub swamp	☐Shallow pond	☐Floodplain overflow
☐Peatland (fen or bog)	☐Abandoned beaver flowage	☐Headwater seepage
☐Emergent marsh	☐Active beaver flowage	☐Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☐Natural ☑Natural-Modified ☐Unnatural ☐Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

Some clearing adjacent to VP and skid trail through south end

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐Permanent
- ☑Semi-permanent (drying partially in all years and completely in drought years)
- ☐Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☐Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐Mineral soil (sphagnum moss present)
- ☑Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☑Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☐Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☑Sphagnum moss (anchored or suspended) A lot of sphagnum moss
- ☑Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☑No inlet or outlet

☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☐Ephemeral inlet or outlet

☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☑No Were fish sampled? ☐Yes ☑No

Describe the methods used for observing/sampling fish, and list species observed: N/A

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

3 % Cover Class - Trees (5m and above)

3 % Cover Class - Shrubs (0.5m to less than 5m)

3 % Cover Class - Woody debris (branches/twigs)

2 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

– % Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

– % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

– % Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees Black spruce / Atlantic white Cedar Shrubs Black spruce, Atlantic white cedar Herbaceous Onoclea sen, Sci cyp, Sphagnum spp

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	33 (dd masses)	S	3	S	3		
Spotted Salamander	28	S	3				
Blue-spotted salamander	3	S	3				
Fairy shrimp	–	–	–				

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☑**Yes** ☐**No**

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: [signature] Date: 5-25-08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_A08VP26_N.
May 25, 2008.

Photo 2: SVP_A08VP26_N.
July 28, 2008.

Photo 3: SVP_A08VP26_N.
May 28, 2014.

Photo 4: SVP_A08VP26_N.
May 28, 2014.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: A-03-VP-25 **Milepost/Station:** N/A **Date:** 5-25-08

Team: A **Time of Day:** 1433 **Town:** T8 R3 WELS

Weather Conditions: ☑Sunny ☐Partly Sunny ☐Overcast ☐Raining ☐Snowing

Photos Taken: ☑Yes ☐No **Photo Info.:** P 22 of VP Northerly

Observers: M. McCann, B. Battaglia P 23 of VP Flag

Credentials

■ Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☑Professional Wetland Scientist
- ☐Professional Biologist (concentration:_____)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other:_____

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

Over 12yrs experience delineating wetlands and VP's

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1095009.59 Latitude/Northing: 971300.58'

Model of GPS Unit: Trimble GeoXT

Please Check One:

- ☑The above GPS point is at the center of the vernal pool.
- ☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

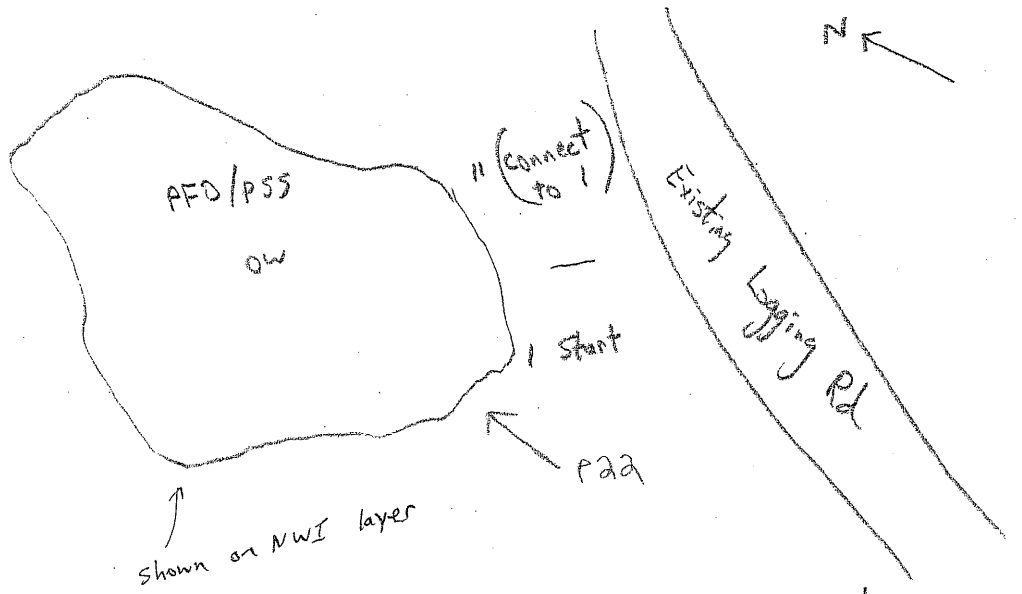
Additional Comments on GPS Locations: Good GPS Reception

PDOP below 6.0

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments: Classic VP habitat, small depression w/ no inlet/outland

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

90 **% Woodland** (check most dominant type) →

- ☑ Hardwood (>75% deciduous)
- ☐ Softwood (>75% coniferous)
- ☐ Mixed (all others)

For woodland habitat, is the over story?

- ☐ Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☑ Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐ Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) →

- ☐ Pipeline
- ☐ Electric (cross country)
- ☐ Electric (edge of roadway)
- ☐ Other

For utility ROW, identify dominant vegetation type

- ☐ Shrubs
- ☐ Grass/forb
- ☐ Mixed – shrub/grass/forb
- ☐ Bare ground

_____ **% Open Land** (check most dominant type)

- ☐ Active agriculture
- ☐ Fields/pastures
- ☐ Lawn
- ☐ Other

_____ **% Residential**

10 **% Roads** (Existing logging road)

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 70' ± Maximum Width: 35' ±

Water Depth (inches): Max. When Observed: 12" ± Estimated Spring Max. 24" ±

Water temperature: 62 °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☑ Upland – Isolated (pool not part of a larger wetland)
- ☑ Wetland Complex (pool associated with a larger wetland habitat) (Some adjacent wetland - not much)
- ☐ Bottomland-isolated (pool part of a river or lake floodplain)
- ☐ Man-made **Describe:**

Check all wetland types that best apply to this pool:

☑ Forested swamp	☐ Wet meadow	☐ Slow stream
☑ Shrub swamp	☐ Shallow pond	☐ Floodplain overflow
☐ Peatland (fen or bog)	☐ Abandoned beaver flowage	☐ Headwater seepage
☐ Emergent marsh	☐ Active beaver flowage	☐ Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☐ Natural ☑ Natural-Modified ☐ Unnatural ☐ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

Skidder trail adjacent to VP on northern boundary - very minimal disturbance

Some clearing adjacent to VP in buffer

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐ Permanent
- ☑ Semi-permanent (drying partially in all years and completely in drought years)
- ☐ Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☑ Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐ Mineral soil (sphagnum moss present)
- ☐ Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐ Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☑ Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☐ Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐ Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐ Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☑No inlet or outlet ☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☐Ephemeral inlet or outlet ☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☑No Were fish sampled? ☐Yes ☑No

Describe the methods used for observing/sampling fish, and list species observed: N/A

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

2 % Cover Class - Trees (5m and above)

3 % Cover Class - Shrubs (0.5m to less than 5m)

2 % Cover Class - Woody debris (branches/twigs)

1 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

0 % Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

— % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

— % Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees At. White cedar, Yellow birch Shrubs Yellow birch Herbaceous Some sphagnum - not much

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	—	—	—				
Spotted Salamander	3	S	3				
Blue-spotted salamander	—	—	—				
Fairy shrimp	Fairy shrimp present (observed 100% confidence)						

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☑**Yes** ☐**No**

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: Brett Battey Date: 5-26-08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_A08VP25_N.
May 25, 2008.

Photo 2: SVP_A08VP25_N.
July 28, 2008.

Photo 3: SVP_A08VP25_N.
May 28, 2014. Stantec.

Photo 4: SVP_A08VP25_N.
May 28, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_02JL_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Jeanna Leclerc

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool located within a skidder trail.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Relatively small pool with silt and organic substrate. Note water depth not recorded.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 5 ○ m ◉ ft Length: 35 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/27/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	8			3			A/H			--			--		
Spotted Salamander	8			3			M			--			--		
Blue-spotted Salamander	0			--			--			--			--		
Fairy Shrimp [3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool is located within 100 feet of VP_A08VP29_M and together these pools are considered as a single landscape unit (cluster pool) with significant egg mass numbers.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_02JL_M.
May 27, 2014. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: A-08-VP-28 **Milepost/Station:** N/A **Date:** 5-26-08

Team: A **Time of Day:** _____ **Town:** T8 R3 WELS

Weather Conditions: ☐Sunny ☐Partly Sunny ☐Overcast ☑Raining ☐Snowing

Photos Taken: ☑Yes ☐No **Photo Info.:** P6 SW of VP

Observers: P7 of VP flag

Credentials

■ Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☑Professional Wetland Scientist
- ☐Professional Biologist (concentration: _____)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other: _____

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

Over 12yrs experience delineating wetlands / VPs

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1090727.35' Latitude/Northing: 963253.88'

Model of GPS Unit: Trimble GeoXT

Please Check One:

- ☑The above GPS point is at the center of the vernal pool.
- ☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

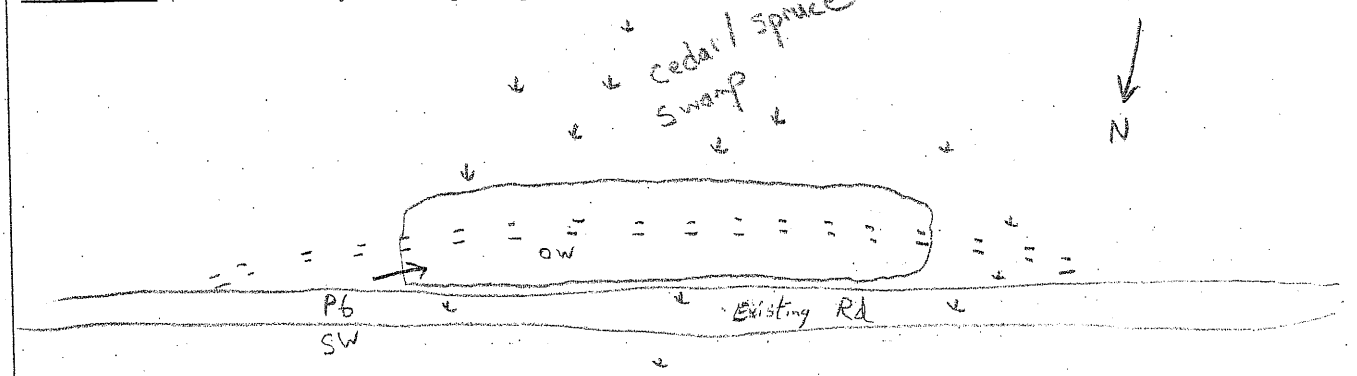
Additional Comments on GPS Locations: POOP below G.O

Good GPS reception

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments: Dense speckled alder around VP
A lot of sphagnum mats

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

95 **% Woodland** (check most dominant type) →

- ☐Hardwood (>75% deciduous)
- ☑Softwood (>75% coniferous)
- ☐Mixed (all others)

For woodland habitat, is the over story?

- ☑Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☐Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) →

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

For utility ROW, identify dominant vegetation type

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

_____ **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☐Other

_____ **% Residential**

5 **% Roads** (Existing logging rd)

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 65' ± Maximum Width: 20' ±

Water Depth (inches): Max. When Observed: 16" ± Estimated Spring Max. 20" ±

Water temperature: 62 °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☐ Upland – Isolated (pool not part of a larger wetland)
- ☑ Wetland Complex (pool associated with a larger wetland habitat)
- ☐ Bottomland-isolated (pool part of a river or lake floodplain)
- ☑ Man-made **Describe:** Old skid trail created VP habitat

Check all wetland types that best apply to this pool:

- ☑ Forested swamp
- ☑ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Shallow pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow
- ☐ Headwater seepage
- ☐ Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☐ Natural ☑ Natural-Modified ☐ Unnatural ☐ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:
skidder trail through wetland created deep depression opened canopy that created VP habitat

Determined that the pool was the result of impoundment by skidder road : man-made.

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐ Permanent
- ☑ Semi-permanent (drying partially in all years and completely in drought years)
- ☐ Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☐ Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐ Mineral soil (sphagnum moss present)
- ☑ Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐ Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☑ Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☑ Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☑ Sphagnum moss (anchored or suspended)
- ☑ Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐ Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐ Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☑No inlet or outlet ☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☐Ephemeral inlet or outlet ☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☑No Were fish sampled? ☐Yes ☑No

Describe the methods used for observing/sampling fish, and list species observed: N/A

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

1 % Cover Class - Trees (5m and above)

3 % Cover Class - Shrubs (0.5m to less than 5m)

2 % Cover Class - Woody debris (branches/twigs)

3 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

— % Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

— % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

— % Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees Black Spruce, Atlantic white cedar Shrubs Sam can Alnus incana Herbaceous Sphagnum spp ono sen

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	33 (old masses)	S	3	S	3		
Spotted Salamander	22	S	3				
Blue-spotted salamander	—	—	—				
Fairy shrimp	—	—	—				

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☒Yes ☐No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: Brett Butler Date: 5-26-08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐Significant ☐Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_A08VP28_M.
May 26, 2008.

Photo 2: VP_A08VP28_M.
July 28, 2008.

Photo 3: VP_A08VP28_M.
May 28, 2014.

Photo 4: VP_A08VP28_M.
May 28, 2014.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: 4-08-UP-29 (8 flags connected) **Milepost/Station:** N/A **Date:** 5-26-08

Team: A **Time of Day:** 1136 hrs **Town:** T8 R3 WELS

Weather Conditions: ☐Sunny ☐Partly Sunny ☐Overcast ☑Raining ☐Snowing

Photos Taken: ☑Yes ☐No **Photo Info.:** P8 west, sprinkling

Observers: M. McLean B Battaglia P9 of UP flag

Credentials

P10 of R2 between UPs 5W

■ Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☑Professional Wetland Scientist
- ☐Professional Biologist (concentration:_____)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other:_____

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

Over 12 yrs exp. delineating wetlands and VP's

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1090690.83' Latitude/Northing: 963290.40

Model of GPS Unit: Trimble GeoXT

Please Check One:

- ☑The above GPS point is at the center of the vernal pool.
- ☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

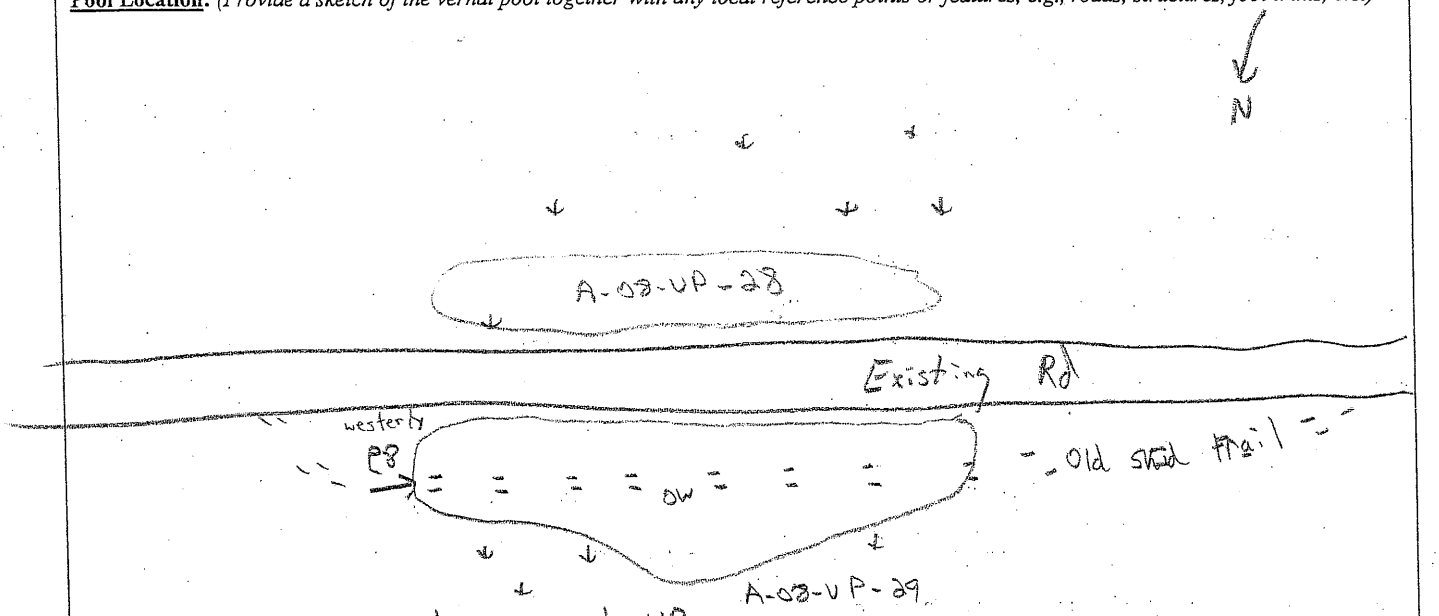
Additional Comments on GPS Locations: PDOP below 6.0

Good GPS reception

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments: Dense shrub layer around UP
Dense sphagnum mat

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

95 **% Woodland** (check most dominant type) →

- ☐Hardwood (>75% deciduous)
- ☑Softwood (>75% coniferous)
- ☐Mixed (all others)

For woodland habitat, is the over story?

- ☑Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☐Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) →

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

For utility ROW, identify dominant vegetation type

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

_____ **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☐Other

_____ **% Residential**

5 **% Roads** (Existing logging road)

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 60'± Maximum Width: 25'±

Water Depth (inches): Max. When Observed: 18"± Estimated Spring Max. [illegible]"±

Water temperature: 64 °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☐ Upland – Isolated (pool not part of a larger wetland)
- ☑ Wetland Complex (pool associated with a larger wetland habitat)
- ☐ Bottomland-isolated (pool part of a river or lake floodplain)
- ☑ Man-made **Describe:** Skid trail through wetland created VP habitat

Check all wetland types that best apply to this pool:

☑ Forested swamp	☐ Wet meadow	☐ Slow stream
☑ Shrub swamp	☐ Shallow pond	☐ Floodplain overflow
☐ Peatland (fen or bog)	☐ Abandoned beaver flowage	☐ Headwater seepage
☐ Emergent marsh	☐ Active beaver flowage	☐ Other

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☐ Natural ☑ Natural-Modified ☐ Unnatural ☐ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:
Skidder trail deepened area and opened canopy to create VP habitat
Other portions of wetland w/ pit & mound topography

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐ Permanent
- ☑ Semi-permanent (drying partially in all years and completely in drought years)
- ☐ Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☐ Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐ Mineral soil (sphagnum moss present)
- ☑ Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐ Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☑ Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☐ Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☐ Sphagnum moss (anchored or suspended)
- ☑ Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐ Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐ Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☑No inlet or outlet

☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☐Ephemeral inlet or outlet

☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☑No Were fish sampled? ☐Yes ☑No

Describe the methods used for observing/sampling fish, and list species observed:_____

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

1 % Cover Class - Trees (5m and above)

3 % Cover Class - Shrubs (0.5m to less than 5m)

2 % Cover Class - Woody debris (branches/twigs)

3 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

— % Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

— % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

— % Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool: Atlantic white cedar Sphagnum spp

Trees Black spruce Shrubs Aln inc Salix spp Herbaceous Carex sp

Atlantic white Cedar

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	6 (old masses)	S	3	S	3		
Spotted Salamander	7	S	3				
Blue-spotted salamander	—	—	—				
Fairy shrimp	—	—	—				

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☐Yes ☑No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: Bill Patton Date: 5-26-08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_A08VP29_M.
May 26, 2008. Stantec.

Photo 2: VP_A08VP29_M.
July 28, 2008. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_A10VP21_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Dave Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Linear pool with berms on either side, includes a borrow pit.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Shallow water depth and mineral soil substrate suggest pool dries out.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ○ m ◉ ft Length: 300 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☒ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): Ephemeral outlet

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: June 8, 2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0														
Spotted Salamander	26			3			A								
Blue-spotted Salamander	32			3			A								
Fairy Shrimp[3]	No														

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_A10VP21_M.
June 8, 2014. Stantec.

Photo 2: VP_A10VP21_M.
June 8, 2014. Stantec.

NATURAL MOD

(5)

Significant Vernal Pool Data Collection Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: A09VP04

1. PRIMARY OBSERVER INFORMATION

Contact Information and credentials previously provided? ○ No (complete all of section 1) ☒ Yes (only name and phone number required)

a. Contact Information

Name: STACIE GROVE Company: HDR IOTA

Street: City: State: Zip:

Phone: Email:

b. Credentials

■ Please check all that apply; Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required by nonprofessional observers. Label all photographs with the Observer, Pool Location, and Date of Image.

- ☐ Professional Herpetologist and/or Ecologist
- ☐ Professional Wetland Scientist
- ☒ Professional Biologist (concentration: WILDLIFE)
- ☐ Trained Citizen Scientist
- ☐ Self-informed Naturalist
- ☐ Other:

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools: CWB

2. VERNAL POOL LOCATION INFORMATION

a. Location

DeLorme page and grid (e.g. 04E2): 58 C5 Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

- ☒ USGS Topographic Map or USGS NWI Map (1:24,000 scale) with pool clearly marked.
- ☒ Large Scale Aerial Photograph (1:12,000 scale or better) with pool clearly marked.
- ☒ GPS Coordinates (complete section below).

GPS location of vernal pool (UTM, NAD83 preferred.)

Longitude/Easting: Latitude/Northing: Datum (e.g. NAD83):

Brand and model of GPS unit: TRIMBLE GEO XH

Check one:
- ☒ The pool perimeter is delineated by multiple GPS points. (best option)
  - Include map or spreadsheet with coordinates.
- ○ The above GPS point is at the center of the pool. (good option)
- ○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable option)

c. Landowner Contact Information

■ Are you the landowner? ○ Yes ☒ No If no, was landowner permission obtained for this survey? ☒ Yes ○ No

■ Does SVP Habitat (pool + 250') extend across abutting landowner parcel? ○ Yes ☒ No ○ Unknown

■ Landowner's contact information (if known) Name: FOREST LAND GRP Phone:

Street Address: City: State: Zip:

Significant Vernal Pool Data Collection Form

3. VERNAL POOL SURVEY INFORMATION

a. Survey Date(s): 5-7-09

b. Wetland Habitat Characterization

■ Choose the best descriptor for the physical setting:

- ○ Isolated upland depression
- ○ Floodplain depression
- ☒ Pool associated with larger wetland complex
- ☒ Other: CLEARED

PFO SPRUCE CEDAR

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Shallow pond
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain overflow
- ☐ Headwater seepage
- ☒ Other: CLEARED

c. Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ○ Natural ☒ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:
DIFF TO DETERMINE ORIGIN DUE TO SIGNIFICANT RECENT CLEARING BUT EGGS FOUND BOTH IN REMNANT PFO AND RUTS

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ☒ Ephemeral (drying out during the growing season in most years)
- ○ Unknown

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ☒ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 40 ○ m ☒ ft Length: 125 ○ m ☒ ft

■ Predominate substrate:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☒ Organic matter (peat/muck/mud) deep and widespread

■ Nonwoody pool vegetation indicators (check all that apply): BARE / SLASH

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood ferns, lady fern, polypody fern)
- ☐ Moist site ferns (e.g. sensitive fern, marsh fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☒ Sphagnum moss (anchored or suspended) MINIMAL
- ☐ Wet site ferns (e.g. royal fern, cinnamon fern, interrupted fern)
- ☒ Wet site graminoids (e.g. grasses, sedges, cattails) MINIMAL
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lilies, water shield, pond weeds, bladderwort)

■ Faunal indicators (check all that apply):

☐ Fish (list species if known: NA) ☐ Bull frog or green frog tadpoles

iii. Inlet/Outlet Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Ephemeral inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ☒ Other or Unknown (explain): HYDROLOGICALLY CONNECTED TO ROADSIDE DITCH AND MAN-MADE BORROW AREA

SEE PHOTOS (UNKNOWN IF CONNECTED PRIOR TO DISTURBANCE)

Significant Vernal Pool Data Collection Form

3. VERNAL POOL SURVEY INFORMATION, continued from page 2

d. Significant Vernal Pool Status Under NRPA

i. Survey Date(s): 5-7-09

ii. Abundance Criteria

- Was the entire pool comprehensively surveyed for egg masses? (X) Yes ( ) No
- For each indicator species, indicate the exact number of egg masses, method of verification, and confidence level for each life stage. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adults of Fairy Shrimp) #	Method of Verification*	Confidence Level**	Tadpoles/Larvae Method of Verification*	Confidence Level**
Wood Frog	26	P	3		
Spotted Salamander	37	P	3		
Blue-spotted Salamander	8	P	3		
Fairy Shrimp					

*Method of verification: S = Seen, H = Handled, P = Photographed **Confidence level in observation: 1= <60%, 2= 60-95%, 3= >95%

iii. Rarity Criteria

- Was a specific effort made to survey for rare species? ( ) Yes (X) No
- If yes above, indicate which species were targeted: _____
- Note any rare species associated with vernal pools. Check the method(s) of verification and fill in the confidence level (CL) for each species observation. Observations must be accompanied by a Rare Animal Form (available from MDIFW) and photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification* V	P	H	S	CL**	SPECIES	Method of Verification* V	P	H	S	CL**
Blanding's Turtle	☐	☐	☐	☐		Wood Turtle	☐	☐	☐	☐	
Spotted Turtle	☐	☐	☐	☐		Ribbon Snake	☐	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐	☐		Other:	☐	☐	☐	☐	

*Method of verification: V = Vouchered, P = Photographed, H = Handled, S = Seen
**CL - Confidence level in observation: 1= <60%, 2= 60-95%, 3= >95%

e. General Comments and/or Observations of Other Wildlife Species:

Pool was determined to be an impoundment created by road and log-landing: man-made.

4. OBSERVER SIGNATURE

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature [signature] Date 5-7-09

All submissions and supporting documents will be retained by the Maine Department of Inland Fisheries and Wildlife. Information submitted on this form and accompanying documents is part of the public record.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401
Tara.King@maine.gov

For MDIFW use only Reviewed by MDIFW Date: Initials:

This pool is: ☐ significant ☐ significant but no landowner permission ☐ not significant due to: ( ) insufficient data OR ( ) does not meet biological criteria and/or ( ) does not meet vernal pool definition criteria.

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_A09VP04_M.
May 7, 2009.

Photo 2: VP_A09VP04_M.
May 7, 2009.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_E10VP05_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: T. Tetreau, D. Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Grasses and shrubs growing throughout, but aquatic plants and deep water observed as well.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 150 ○ m ◉ ft Length: 250 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☒ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☒ Bullfrog or Green Frog tadpoles
- ☒ Other: Caddis fly larvae

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/28/14, 6/7/14

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ○ Yes ◉ No; what % of pool surveyed? 80
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		2	2		H	H		Yes	Yes		2	2	
Spotted Salamander	8	25		2	2		M	A		No	No		2	2	
Blue-spotted Salamander	0	0		2	2		--	--		No	No		2	2	
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Very large forested pool. Only 80% surveyed due to middle being too deep. Log landing and skid trails adjacent to pool but do not seem to be impacting pool. 1,000's of wood frog tadpoles observed.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ○ does not meet biological criteria. ○ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_E10VP05_N.
May 28, 2014. Stantec.

Photo 2: SVP_E10VP05_N.
May 28, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_E10VP02_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: D. Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8_R3_WELS011

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Lacked vegetation in deepest portions of pool.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 70 ○ m ◉ ft Length: 30 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☒ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/8/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)			Tadpoles/Larvae		
	#	Confidence Level[1]	Egg Mass Maturity[2]	Observed	Confidence Level[1]	
Wood Frog	0	3	--	No	3	
Spotted Salamander	20	3	A	No	3	
Blue-spotted Salamander	0	3	---	No	3	
Fairy Shrimp[3]	0					

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Deep organic soils throughout the pool. Pool in pit/mound wetland forest formation.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_E10VP02_N.
June 8, 2014. Stantec.

Photo 2: SVP_E10VP02_N.
June 8, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_E10VP06_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: D. Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8_R3_WELS011

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Probably created by impoundment from gravel road construction. No culvert observed.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ◉ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Depth. Lacks vegetation in deepest portions of pool. Aquatic vegetation in shallow portions.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ◉ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 95 ○ m ◉ ft Length: 60 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☒ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☒ Fish
- ☒ Bullfrog or Green Frog tadpoles
- ☒ Other: adult green frogs (many)

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/8/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			--			No			3		
Spotted Salamander	31			3			A			No			3		
Blue-spotted Salamander	0			3			---			No			3		
Fairy Shrimp[3]	0														

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

100s of small fish (1-2"), 100s of green frog adults, and water scorpion observed.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_E10VP06_M.
June 7, 2014. Stantec.

Photo 2: VP_E10VP06_M.
June 7, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_E10VP07_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Dave Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Excavated borrow pit

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool is located in an excavated borrow pit adjacent to an existing road.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ◉ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Deep pool (48") supporting fish.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ◉ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 40 ○ m ◉ ft Length: 50 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☒ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☒ Other: red-spotted newt eft stage

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain):_____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/7/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			--			--			--			--		
Spotted Salamander	0			--			--			--			--		
Blue-spotted Salamander	0			--			--			--			--		
Fairy Shrimp [3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool is located within 100 feet of VP_E10VP06_M and together these pools are considered as a single landscape unit (cluster pool) with significant egg mass numbers.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_E10VP07_M.
June 7, 2014. Stantec.

Photo 2: VP_E10VP07_M.
June 7, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_E10VP12_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: D. Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8_R3_WELS011

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Man-made pool within larger wetland

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Borrow pit along gravel road.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ◉ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Depth and presence of green frog/bullfrog tadpoles.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 24 ○ m ◉ ft Length: 36 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☒ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☒ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): Ditch connected to pool

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/7/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			--			100's			3		
Spotted Salamander	53			3			A			No			3		
Blue-spotted Salamander	0			3			---			No			3		
Fairy Shrimp[3]	No														

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_E10VP12_M.
June 7, 2014. Stantec.

Photo 2: VP_E10VP12_M.
June 7, 2014. Stantec.

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

GENERAL INFORMATION

Vernal Pool ID: A-08-VP-22 **Milepost/Station:** N/A **Date:** 5-22-08

Team: A **Time of Day:** 1424 hrs **Town:** T8 R3 WELS

Weather Conditions: ☐Sunny ☑Partly Sunny ☐Overcast ☐Raining ☐Snowing

Photos Taken: ☑Yes ☐No **Photo Info.:** P3 of Pool SE
P4 of spotted salamander masses
P5 of VP Flag

Observers: Kelly McVane / Brett Battaglia

Credentials

■ Please check all that apply:

- ☐Professional Herpetologist and/or Ecologist
- ☑Professional Wetland Scientist
- ☐Professional Biologist (concentration:_____)
- ☐Trained Citizen Scientist
- ☐Self-informed Naturalist
- ☐Other:_____

■ Please indicate your professional education, training, or certification that qualifies you to conduct biological surveys of vernal pools:

12+ yrs experience delineating wetlands / VPs

VERNAL POOL LOCATION INFORMATION

GPS Location of Vernal Pool

Longitude/Easting: 1075055.97 Latitude/Northing: 973599.30'

Model of GPS Unit: Trimble Geo XT

Please Check One:

- ☑The above GPS point is at the center of the vernal pool.
- ☐The center of the pool is approximately _____ft. in the compass direction of _____degrees from the above GPS point.

Additional Comments on GPS Locations: Good GPS

Man-made VP in old Skidder Rd.
Plenty of sun for amphibians.
Leaf / mud bottom
Old beaver sign observed.

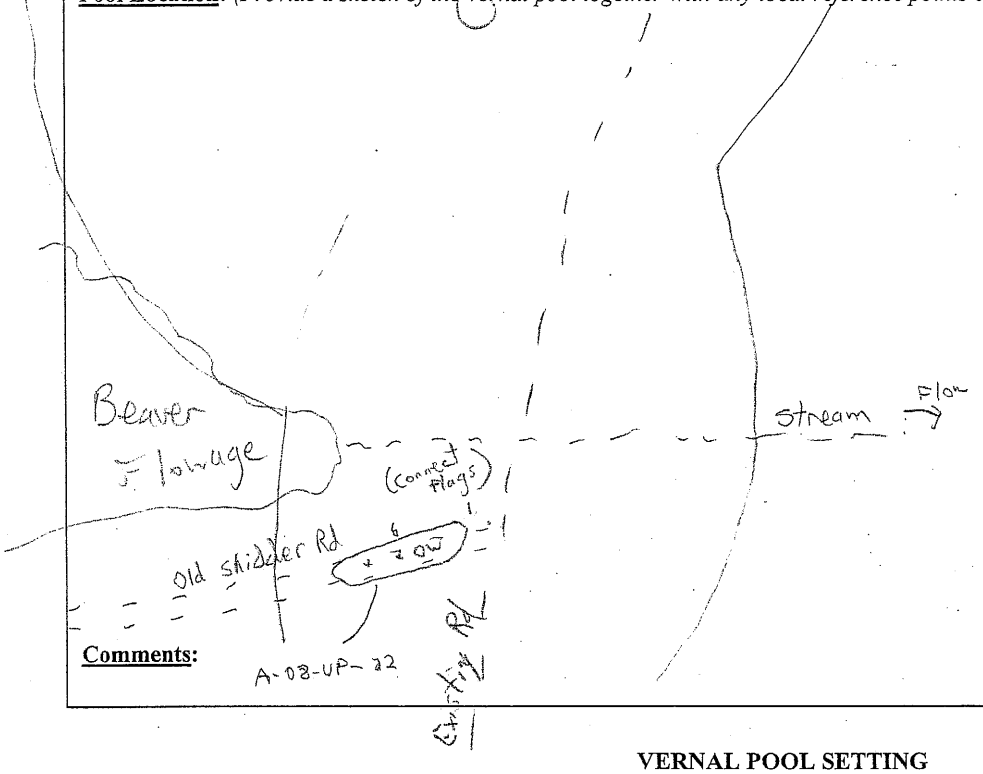
AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

N

Turb 134

VERNAL POOL LOCATION INFORMATION (continued)

Pool Location: *(Provide a sketch of the vernal pool together with any local reference points or features, e.g., roads, structures, foot trails, etc.)*



Comments:

VERNAL POOL SETTING

Adjacent Vernal Pool Habitat:

Estimate % of each within 250 feet of the pool, excluding cover directly over pool. Estimates should total 100%

90 **% Woodland** (check most dominant type) →

- ☐Hardwood (>75% deciduous)
- ☐Softwood (>75% coniferous)
- ☑Mixed (all others)

For woodland habitat, is the over story?

- ☐Heavy (>50% canopy cover of trees and shrubs >6' tall)
- ☑Moderate (25-50% canopy cover of trees/shrubs >6' tall)
- ☐Sparse (<25% canopy cover of trees/shrubs >6' tall)

_____ **% Utility ROW** (check most dominant type) →

- ☐Pipeline
- ☐Electric (cross country)
- ☐Electric (edge of roadway)
- ☐Other

For utility ROW, identify dominant vegetation type

- ☐Shrubs
- ☐Grass/forb
- ☐Mixed – shrub/grass/forb
- ☐Bare ground

_____ **% Open Land** (check most dominant type)

- ☐Active agriculture
- ☐Fields/pastures
- ☐Lawn
- ☐Other

_____ **% Residential**

10 **% Roads** (Existing / skidder)

_____ **% Other**

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION

WETLAND HABITAT CHARACTERIZATION

Pool Dimensions (ft): Max. Length: 100'± Maximum Width: 20'±

Water Depth (inches): Max. When Observed: 14"± Estimated Spring Max. 20"±

Water temperature: 64 °F (around egg masses, 3-5 inches below water surface)

Site Type (choose the best descriptor for the physical setting:

- ☐Upland – Isolated (pool not part of a larger wetland)
- ☐Wetland Complex (pool associated with a larger wetland habitat)
- ☐Bottomland-isolated (pool part of a river or lake floodplain)
- ☑Man-made **Describe:** Man-made pool adjacent to existing road located on old skid rd. Forested wetland to south / stream

Check all wetland types that best apply to this pool:

☐Forested swamp	☐Wet meadow	☐Slow stream
☐Shrub swamp	☐Shallow pond	☐Floodplain overflow
☐Peatland (fen or bog)	☐Abandoned beaver flowage	☐Headwater seepage
☐Emergent marsh	☐Active beaver flowage	☑Other Old skid road

Vernal Pool Status Under the Natural Resources Protection Act (NRPA)

i. Natural Origin

■ Select the pool's origin: ☐Natural ☐Natural-Modified ☑Unnatural ☐Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the wetland:

VP created by twitching logs out of skidder road

ii. Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ☐Permanent
- ☑Semi-permanent (drying partially in all years and completely in drought years)
- ☐Ephemeral (drying out during the growing season in most years)

Predominate substrate:

- ☑Mineral Soil (bare, leaf litter bottom, or upland mosses present)
- ☐Mineral soil (sphagnum moss present)
- ☑Organic matter (peat/muck/mud) shallow or restricted to deepest portion
- ☐Organic matter (peat/muck/mud) deep and widespread

Nonwoody pool vegetation indicators (check all that apply):

- ☐Terrestrial nonvascular spp. (e.g., haircap moss, lycopodium spp.)
- ☐Dry site ferns (e.g., spinulose wood ferns, lady fern, polypody fern)
- ☑Moist site ferns (e.g., sensitive fern, marsh fern, New York fern)
- ☐Moist site vasculars (e.g., skunk cabbage, jewelweed, blue flag iris)
- ☐Sphagnum moss (anchored or suspended)
- ☐Wet site ferns (e.g., royal fern, cinnamon fern)
- ☐Aquatic vascular spp. (e.g., cattail, pickerelweed)
- ☐Floating or submerged aquatics (e.g., water lilies, water shield, pond weeds, bladderwort)

AROOSTOOK WIND ENERGY PROJECT
VERNAL POOL DOCUMENTATION FORM

VERNAL POOL SURVEY INFORMATION (continued)

iii. Inlet/Outlet Permanency (Type of inlet [an inlet is a seasonal or permanent channel providing water flowing into the pool])

☑No inlet or outlet ☐Permanent inlet or outlet (channel with well-defined banks and permanent flow)

☐Ephemeral inlet or outlet ☐Other or Unknown (explain):_____

iv. Fishlessness

Were fish observed? ☐Yes ☑No Were fish sampled? ☐Yes ☑No

Describe the methods used for observing/sampling fish, and list species observed: N/A

Plant Cover:

(List the percent cover of dominant vegetation by height strata within the pool)

-1- % Cover Class - Trees (5m and above)

1 % Cover Class - Shrubs (0.5m to less than 5m)

1 % Cover Class - Woody debris (branches/twigs)

1 % Cover Class - Emergent vegetation (0 to less than 0.5m) (e.g., cattails, grasses, sedges, rushes)

— % Cover Class - Floating vegetation (e.g., water lily, duckweed, etc.)

— % Cover Class - Submergent vegetation (vegetation submerged at egg-laying)

— % Cover Class - Other

% Cover Class: 1 = 0-5%; 2 = 6-25%; 3 = 26-50%; 4 = 51-75%; 5 = >75%

Dominant Plant Species within the Pool:

Trees Bal Fir Shrubs Bal Fir Herbaceous Ona Sen Sphagnum Carex spp

VERNAL POOL BIOLOGICAL DATA

Species Status – Abundance Criteria

		Egg Masses		Tadpoles/Larvae		Adults	
Indicator Species	No.	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^	Method of Verification*	Confidence Level^
Wood Frog	42	S	3	S	3		
Spotted Salamander	83	S	3				
Blue-spotted salamander	—	—	—				
Fairy shrimp	—	—	—				

* Method of verification, S = Seen; H = Handled; P = Photographed

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Rarity Criteria (check all boxes that apply)

Species	V	P	H	S	CL^	Species	V	P	H	S	CL^
Blanding's Turtle						*Ribbon Snake*					
Spotted Turtle						*Comet Darner*					
Ringed Boghaunter						*Swamp Darner*					
Wood Turtle											

Method of verification, V = Vouchered, P = Photographed, H= Handled, S = Seen

^Confidence level in observation, 1 = <60%; 2 = 60-95%, 3 = >95%

Does this pool qualify as a "significant wildlife habitat" under draft revisions of the MDEP Chapter 335? ☐Yes ☑No

Observer Signature

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

Signature: Brett Bailey Date: 5-22-08

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ Significant ☐ Not Significant due to: ☐ insufficient data OR ☐ does not meet biological criteria and/or ☐ does not meet vernal pool definition criteria.

5-30-08

A-08-VP-22 Revisit

Still counted 18 SS massed
Many WF tadpoles observed
Water is likely permanent due
to beaver dam / plugged culvert
No ↑ significant due to road
through edge of VP. Beaver
activity is fresh and
beaver lodge present
water approx 24" deep.

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_A08VP22_M.
May 22, 2008.

Photo 2: VP_A08VP22_M.
May 22, 2008.

Photo 3: VP_A08VP22_M.
May 28, 2008. Stantec.

Photo 4: VP_A08VP22_M.
May 28, 2008. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_119RK_N (was PSVP_119RK_N) **MDIFW Pool ID:** 2545

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: ***Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.***

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Logging trail runs through the southern edge of the pool

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Relatively shallow pool with a silty mineral substrate

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 30 ○ m ◉ ft Length: 80 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/13/2015, 5/27/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	42	--		3	--		A	--		Y	Y		3	3	
Spotted Salamander	10	10		3	3		M	NR		N	N		--	--	
Blue-spotted Salamander	2	--		3	--		M	--		N	N		--	--	
Fairy Shrimp[3]	No	--		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Full egg mass counts not conducted at second visit. At second visit, there was 12-14" of water in the pool.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: SVP_119RK_N (MDIFW ID 2545).
Date: May 13, 2015. Stantec.

Photo 2: SVP_119RK_N (MDIFW ID 2545).
Date: May 13, 2015. Stantec.

Photo 3: SVP_119RK_N (MDIFW ID 2545).
Date: May 27, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_134RK_N (was PSVP_134RK_N) **MDIFW Pool ID:** 2547

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Logging trail through the wet meadow portion of pool near the southern boundary

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Shallow pool with a mineral soil substrate

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 40 ○ m ◉ ft Length: 80 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/13/2015, 5/27/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	45	--		3	--		A	--		Y	Y		3	3	
Spotted Salamander	89	--		3	--		M	--		N	N		--	--	
Blue-spotted Salamander	9	--		3	--		M	--		N	N		--	--	
Fairy Shrimp[3]	No	--		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Egg mass counts not conducted at second visit. Water depth 8-10" at second visit.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_134RK_N (MDIFW ID 2547).
Date: May 13, 2015. Stantec.

Photo 2: SVP_134RK_N (MDIFW ID 2547).
Date: May 27, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_105RK_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Ditch turnout

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in old road ditch turnout

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Pool size and depth, degree of drying observed

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ○ m ◉ ft Length: 60 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/19/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			H			Yes			3		
Spotted Salamander	0			3			--			No			3		
Blue-spotted Salamander	0			3			--			No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

This pool contained many wood frog tadpoles on June 19, 2014.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_105RK_M.
June 19, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_28DB_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: D. Brenneman, R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Ditch connected to man-made pond

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in ditch connected to road-side impoundment, all formed by road blocking drainage

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Size, depth. Roadside man-made pond feed this pool. Likely no connection to pond at low water.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 50 ○ m ◉ ft Length: 100 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☒ Other: adult green frogs

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ◉ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/22/2014, 6/7/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ○ Yes ◉ No; what % of pool surveyed? 50 or less
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	51	0		2	--		H	H		Yes	--		2	2	
Spotted Salamander	30	32		2	2		A	A		No	No		2	2	
Blue-spotted Salamander	61	0		2	2		A	--		No	No		2	2	
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Man-made pool in ditch adjacent to logging road; pool is connected to a larger ponded area that was not surveyed thoroughly (out of project area).

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ○ does not meet biological criteria. ○ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_28DB_M.
May 22, 2014. Stantec.

Photo 2: VP_28DB_M.
June 7, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_29DB_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: D. Brenneman, R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Pooled borrow area

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in small borrow area near logging road

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Size, depth. Roadside man-made pond feed this pool. Likely no connection to pond at low water.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ○ m ◉ ft Length: 20 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/22/2014, 6/7/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0					--	--		No	No		3	3	
Spotted Salamander	0	7			3		A	A		No	No		3	3	
Blue-spotted Salamander	7	1		3	3		A	A		No	No		3	3	
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

More water observed during 2nd visit (22") than 1st visit (12")

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_29DB_M.
May 22, 2014. Stantec.

Photo 2: VP_29DB_M.
June 7, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_30DB_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: D. Brenneman, R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Pooled ditch

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in ditch near logging road

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Size, depth. Roadside man-made pond feed this pool. Likely no connection to pond at low water.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 3 ○ m ◉ ft Length: 20 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/22/2014, 6/7/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0					--	--		No	No		3	3	
Spotted Salamander	0	0		3	3		--	--		No	No		3	3	
Blue-spotted Salamander	9	0		3			M	--		No	No		3	3	
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Very shallow, no indicator species observed on second visit.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_30DB_M.
May 22, 2014. Stantec.

Photo 2: VP_30DB_M.
June 7, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_72_DB_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Dave Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Saint Croix TWP

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [x] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [ ] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [ ] Isolated pool
- [ ] Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ( ) Natural ( ) Natural-Modified (●) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool located in a borrow pit adjacent to an existing road.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- (●) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Relatively shallow pool (10") with a mineral, leaf-litter bottom.

■ Maximum depth at survey: (●) 0-12" (0-1 ft.) ( ) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 35 ( ) m (●) ft Length: 75 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- (●) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [ ] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [x] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [x] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [ ] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [ ] Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (●) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/9/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			--			--			Yes			--		
Spotted Salamander	11			3			A			No			--		
Blue-spotted Salamander	0			--			--			--			--		
Fairy Shrimp [3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Hundreds of wood frog tadpoles observed.

This pool is located within 100 feet of VP_71DB_M and together these pool are treated as a single landscape unit (cluster pool) with significant egg mass numbers.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_72DB_M.
June 9, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_71DB_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: D. Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Saint Croix Twp

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Borrow pit in isolated wetland

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Lacks vegetation in deepest portions of pool

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 30 ○ m ◉ ft Length: 15 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☒ Other: adult green frog

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/9/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			--			No			3		
Spotted Salamander	27			3			A			No			3		
Blue-spotted Salamander	0			3			--			No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_71DB_M.
June 9, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_102RK_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Saint Croix Twp

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Borrow area/ditch forming wetland

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in borrow area/ditch adjacent to logging road

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ◉ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Size, depth

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ◉ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ○ m ◉ ft Length: 45 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☒ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☒ Other: adult bull and green frogs

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ◉ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): Man-made ditch is outlet

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/9/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			H			Yes			3		
Spotted Salamander	23			3			A			No			3		
Blue-spotted Salamander	0			3											
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Deep man-made pool, no indication of previous natural pool. Many wood frog tadpoles observed during pool survey.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_102RK_M.
June 9, 2014. Stantec.

Photo 2: VP_102RK_M.
June 9, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_101RK_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Saint Croix Twp

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [ ] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [ ] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [ ] Isolated pool
- [x] Other: Borrow area/ditch forming wetland

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ( ) Natural ( ) Natural-Modified (●) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in borrow area/ditch adjacent to logging road

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- (●) Semi-permanent (drying partially in all years and completely in drought years)
- ( ) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Size, depth (range = 2" to 50").

■ Maximum depth at survey: ( ) 0-12" (0-1 ft.) ( ) 12-36" (1-3 ft.) (●) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ( ) m (●) ft Length: 25 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- (●) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [ ] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [ ] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [ ] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [x] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [x] Other: adult green frogs

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (●) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/9/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			H			Yes			3		
Spotted Salamander	23			3			A			No			3		
Blue-spotted Salamander	0			3											
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Deep man-made pool, no indication of previous natural pool. Many wood frog tadpoles observed during pool survey. Pool is approximately 20 feet from VP_100RK_M, a similar man-made pool.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_101RK_M.
June 9, 2014. Stantec.

Photo 2: VP_101RK_M.
June 9, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_100RK_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: ***Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.***

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Saint Croix Twp

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Borrow area/ditch in wetland

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in borrow area/ditch adjacent to logging road (in a forested wetland)

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ◉ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Size, depth. But portions may be semi-permanent (drying expected). No fish expected.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ◉ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ○ m ◉ ft Length: 50 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☒ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/9/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			H			Yes			3		
Spotted Salamander	47			3			A			No			3		
Blue-spotted Salamander	0			3											
Fairy Shrimp [3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Deep man-made pool, no indication of previous natural pool. Wood frog tadpoles observed during pool survey. Pool is approximately 20 feet from VP_101RK_M, a similar man-made pool.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_100RK_M.
June 9, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_206TT_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rodney Kelshaw, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Saint Croix TWP

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [ ] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [ ] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [x] Isolated pool
- [ ] Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: (●) Natural ( ) Natural-Modified ( ) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- (●) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Pool was nearly dry at second visit with all, but one egg mass stranded out of the water.

■ Maximum depth at survey: (●) 0-12" (0-1 ft.) ( ) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ( ) m (●) ft Length: 40 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- (●) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [x] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [ ] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [x] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [x] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [ ] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [ ] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [ ] Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (●) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/13/2015, 5/27/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		--	--		--	--		N	N		--	--	
Spotted Salamander	4	5		3	3		M	A		N	N		--	--	
Blue-spotted Salamander	0	0		--	--		--	--		N	N		--	--	
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_206TT_N.
Date: May 13, 2015. Stantec.

Photo 2: VP_206TT_N.
Date: May 27, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_207TT_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rodney Kelshaw, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Saint Croix TWP

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [ ] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [ ] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [x] Isolated pool
- [ ] Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ( ) Natural (●) Natural-Modified ( ) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Natural depression in old logging road

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- (●) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Relatively small, shallow pool that was almost completely dry at second visit.

■ Maximum depth at survey: (●) 0-12" (0-1 ft.) ( ) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ( ) m (●) ft Length: 20 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- (●) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [ ] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [ ] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [ ] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [x] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [ ] Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (●) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/13/2015, 5/27/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		--	--		--	--		N	N		--	--	
Spotted Salamander	4	4		3	3		M	A		N	N		--	--	
Blue-spotted Salamander	0	0		--	--		--	--		N	N		--	--	
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

At second visit, egg masses were stranded out of the water and desiccated.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_207TT_N.
Date: May 13, 2015. Stantec.

Photo 2: VP_207TT_N.
Date: May 27, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_155RK_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rodney Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Saint Croix TWP

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [ ] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [x] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [x] Isolated pool
- [ ] Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: (●) Natural ( ) Natural-Modified ( ) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- (●) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Pool almost dry at time of visit (2" of water).

■ Maximum depth at survey: (●) 0-12" (0-1 ft.) ( ) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 30 ( ) m (●) ft Length: 30 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- ( ) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- (●) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [ ] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [ ] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [x] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [ ] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [ ] Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (●) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/20/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			--			--			N			--		
Spotted Salamander	3			3			M			N			--		
Blue-spotted Salamander	0			--			--			N			--		
Fairy Shrimp[3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool expected to dry before egg masses could hatch and larvae develop to emergence. Not expected to support significant level of amphibian breeding activity.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_155RK_N.
Date: May 20, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_98RK_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Borrow area/ditch in wetland

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in borrow area/ditch adjacent to logging road (in a forested wetland)

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Size, depth

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ◉ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 12 ○ m ◉ ft Length: 70 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☒ Other: Water striders, bull and green frog adults

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/9/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			H			Yes			3		
Spotted Salamander	79			3			A			No			3		
Blue-spotted Salamander	0			3											
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Deep man-made pool, no indication of previous natural pool. Many wood frog tadpoles observed during pool survey. 95% of pool is devoid of vegetation. Pool is approximately 200 feet from VP_99RK_M and 30 feet from VP_70DB_M, both high-functioning man-made pools.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_98RK_M.
June 9, 2014. Stantec.

Photo 2: VP_98RK_M.
June 9, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_99RK_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Borrow area/ditch in wetland

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in borrow area/ditch adjacent to logging road (in a forested wetland)

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ◉ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Size, depth. But portions may be semi-permanent (drying expected). No fish expected.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ◉ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 12 ○ m ◉ ft Length: 70 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☒ Other: Water striders, green frog adults

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/9/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			H			Yes			3		
Spotted Salamander	104			3			A			No			3		
Blue-spotted Salamander	0			3											
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Deep man-made pool, no indication of previous natural pool. Many wood frog tadpoles observed during pool survey. 95% of pool is devoid of vegetation. Pool is approximately 200 feet from VP_98RK_M and 30 feet from VP_70DB_M, both high-functioning man-made pools.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_99RK_M.
June 9, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_70DB_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: D. Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

borrow pit along gravel road associated with PFO

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ◉ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Vegetation primarily absent in pool. Depth at survey 27", Spring max ~ 36"

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 165 ○ m ◉ ft Length: 30 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☒ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☒ Other: adult green frogs

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/9/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			3			--			No			3		
Spotted Salamander	84			3			A			No			3		
Blue-spotted Salamander	0			3			--			No			3		
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching

3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_70DB_M.
June 9, 2014. Stantec.

Photo 2: VP_70DB_M.
June 9, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_76DB_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Dave Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool is located in ruts within a skidder trail.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Relatively small and shallow pool (2-3" deep) with a mineral substrate.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 3 ○ m ◉ ft Length: 50 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☒ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/18/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			--						Yes			3		
Spotted Salamander	8			A						--			--		
Blue-spotted Salamander	0			--						--			--		
Fairy Shrimp [3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Few wood frog tadpoles observed.

Pool is located within 100 feet of VP_67TT_M and these pools are treated as a single landscape unit (cluster pool) with significant egg mass numbers.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_76DB_M.
June 18, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_64TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool is located in ruts within the footprint of an old log landing.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Relatively small and shallow pool (4-6") supporting terrestrial vegetation.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ○ m ◉ ft Length: 20 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/23/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	6			3			A			--			--		
Spotted Salamander	8			3			M			--			--		
Blue-spotted Salamander	0			--			--			--			--		
Fairy Shrimp [3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool is located within 100 feet of VP_67TT_M and together these pools are treated as a single landscape unit (cluster pool) with significant egg mass numbers.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_64TT_M.
May 23, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_67TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau, Rodney Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

From Harvey Siding Road, take unnamed logging road south towards Howe Brook Mountain. Pool is located in the log landing area approximately 50 feet from the end of the gravel road.

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ○ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Depressions created by logging equipment in disturbed PEM wetland in log landing area.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

very shallow, leaf litter bottom

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ○ m ◉ ft Length: 10 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain):_____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/23/14, 6/7/14

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	1	0		3	3		A	--		No	Yes		--	3	
Spotted Salamander	15	27		3	3		M	A		No	No		--	--	
Blue-spotted Salamander	0	0		3	3		--	--		No	No		--	--	
Fairy Shrimp[3]	--	--		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_67TT_M.
May 23, 2014. Stantec.

Photo 2: VP_67TT_M.
June 7, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_161RK_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rodney Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Natural depression along old logging trail

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Relatively small and shallow pool depth (5")

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ○ m ◉ ft Length: 40 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/28/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			--			--			Y			3		
Spotted Salamander	0			--			--			N			--		
Blue-spotted Salamander	0			--			--			N			--		
Fairy Shrimp[3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

No wood frog egg masses were observed and fewer than approximately 250 wood frog tadpoles were seen. Based upon characteristics of the pool and breeding activity observed in this and other area pools, it is not expected that this pool would support significant numbers of breeding amphibians.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_161RK_N.
Date: May 28, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_158RK_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rodney Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool located in logging trail to wetland

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Relatively small, shallow pool (8" depth).

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 5 ○ m ◉ ft Length: 10 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/22/2015, 5/28/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		--	--		--	--		N	N		--	--	
Spotted Salamander	3	3		3	3		M	M		N	N		--	--	
Blue-spotted Salamander	0	0		--	--		--	--		N	N		--	--	
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_158RK_N.
Date: May 22, 2015. Stantec.

NO PHOTO AVAILABLE
Photo 2: VP_158RK_N.
Date: May 28, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_157RK_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rodney Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Natural pool with logging trails

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Relatively small pool with shallow water depth (10" at first visit and 8" at second visit).

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 25 ○ m ◉ ft Length: 50 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/21/2015, 6/2/15

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		--	--		--			Y	NR		3		
Spotted Salamander	34	41		3	3		M	NR		N	N		--		
Blue-spotted Salamander	0	0		--	--		--			N	N		--		
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Wood frog tadpoles not noted on second visit, but may have been present.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_157RK_N.
Date: May 21, 2015. Stantec.

Photo 2: SVP_157RK_N.
Date: June 2, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_201TT_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Southern end of pool has evidence of a logging road

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Firm mineral substrate with leaf litter bottom

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 120 ○ m ◉ ft Length: 45 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/13/2015, 5/27/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	57	--		3	--		A	--		Yes	Yes		3	3	
Spotted Salamander	8	--		3	--		F	--		No	No		--	--	
Blue-spotted Salamander	3	--		3	--		M	--		No	No		--	--	
Fairy Shrimp[3]	No	--		3	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Egg mass counts not conducted on second visit; hydrology check only. Water depth 12 to 24" on first visit and approximately 16" on second visit.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_201TT_N.
Date: May 13, 2015. Stantec.

Photo 2: SVP_201TT_N.
Date: May 13, 2015. Stantec.

Number Nine Wind Farm, Aroostook County, Maine

Photo 3: SVP_201TT_N.
Date: May 27, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_156RK_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rodney Kelshaw

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Natural pool with logging trail through southern edge of pool

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Shallow water depth (5") suggests surface water dries, but widespread organic substrate remains saturated.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 30 ○ m ◉ ft Length: 50 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/21/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			--			--			Y			3		
Spotted Salamander	20			3			M			N			--		
Blue-spotted Salamander	0			--			--			N			--		
Fairy Shrimp[3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Wood frog tadpoles observed, but no egg masses remaining.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_156RK_N.
Date: May 21, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_02BE_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Hydrology variable from permanent at center (adult red-spotted newt) to ephemeral in remainder.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 40 ○ m ◉ ft Length: 60 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ◉ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☒ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☒ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☒ Other: adult red-spotted newt, adult bullfrog

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/13/2015, 5/27/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	40	0		3	--		A	--		Yes	Yes		3	--	
Spotted Salamander	16	39		3	3		F	M		No	No		--	--	
Blue-spotted Salamander	2	0		3	--		M	--		No	No		--	--	
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Firm mineral substrate with abundant terrestrial vegetation suggests much of the pool is ephemeral. The deep center portion of the pool with adult red-spotted newt and Sparganium americanum may be permanent or at least semi-permanent.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_02BE_N.
Date: May 13, 2015. Stantec.

Photo 2: SVP_02BE_N.
Date: May 13, 2015. Stantec.

Photo 3: SVP_02BE_N.
Date: May 27, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_01BE_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T8 R3 WELS

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Evidence of an old logging road across the western edge of the pool

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Deep center of pool with organic accumulation may be semi-permanent; remainder ephemeral.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 155 ○ m ◉ ft Length: 70 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/13/2015, 5/27/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	96	--		3	--		M	--		N	--		3	--	
Spotted Salamander	62	--		3	--		F	--		N	--		3	--	
Blue-spotted Salamander	25	--		3	--		M	--		N	--		3	--	
Fairy Shrimp[3]	No	--		3	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Egg mass counts not conducted on second visit; hydrology check only. Water depth 8" to 24".

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_01BE_N.
Date: May 13, 2015. Stantec.

Photo 2: SVP_01BE_N.
Date: May 13, 2015. Stantec.

Number Nine Wind Farm, Aroostook County, Maine

Photo 3: SVP_01BE_N.
Date: May 27, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_98DB_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rodney Kelshaw, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Hammond

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Logging equipment widened pool slightly

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Shallow pool with leaf litter bottom

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 30 ○ m ◉ ft Length: 30 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/13/2015, 5/27/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	12	1		3	3		H	H		Yes	Yes		3	3	
Spotted Salamander	4	1		3	3		M	A		No	No		--	--	
Blue-spotted Salamander	0	0		--	--		--	--		No	No		--	--	
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool nearly dry at time of second visit and pool size reduced to a 2' x 5' area in the center.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_98DB_N.
Date: May 13, 2015. Stantec.

NO PHOTO AVAILABLE
Photo 2: VP_98DB_N.
Date: May 27, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_93DB_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Dave Brenneman

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Hammond

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool is located in the ruts of a skidder trail within a recently harvested softwood stand.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Relatively shallow water depth suggests pool is ephemeral.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 30 ○ m ◉ ft Length: 50 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): Ephemeral flow into pool from surrounding ruts.

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/27/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			--			--			Yes			3		
Spotted Salamander	12			3			H			No			--		
Blue-spotted Salamander	0			--			--			--			--		
Fairy Shrimp[3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Approximately 50 wood frog tadpoles observed.

Pool is one of a cluster of vernal pools on the landscape that together had a significant number of egg masses.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_93DB_M.
June 27, 2014. Stantec.

Photo 2: VP_93DB_M.
June 27, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_132TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Hammond

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool is located in a turnout from a new clearing.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Pool is relatively small and shallow (2-3") with limited organic accumulation.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 6 ○ m ◉ ft Length: 15 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☒ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/27/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			--			--			Yes			3		
Spotted Salamander	10			3			H			No			--		
Blue-spotted Salamander	0			--			--			--			--		
Fairy Shrimp[3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Approximately 100 wood frog tadpoles observed.

Pool is one of a cluster of vernal pools on the landscape that together had a significant number of egg masses.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_132TT_M.
June 27, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_02ED_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Hammond

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [ ] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [x] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [ ] Isolated pool
- [ ] Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ( ) Natural ( ) Natural-Modified (●) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool created by road impounding water

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- (●) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Relatively shallow pool (8-10") with mineral substrate and terrestrial vegetation suggests ephemeral hydrology.

■ Maximum depth at survey: (●) 0-12" (0-1 ft.) ( ) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ( ) m (●) ft Length: 70 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- (●) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [ ] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [x] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [x] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [ ] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [ ] Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (●) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain):_____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/3/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			--			--			Y			3		
Spotted Salamander	50			3			A			N			--		
Blue-spotted Salamander	0			--			--			N			--		
Fairy Shrimp[3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Abundant wood frog tadpoles observed; no egg masses visible.

High functioning man-made pool with egg mass counts that would meet the threshold of a significant vernal pool.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_02ED_M.
Date: June 3, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_03ED_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Hammond

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [ ] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [x] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [ ] Isolated pool
- [ ] Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ( ) Natural ( ) Natural-Modified (●) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool impounded by road

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- (●) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Shallow roadside pool (12-14") with a mineral substrate

■ Maximum depth at survey: ( ) 0-12" (0-1 ft.) (●) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ( ) m (●) ft Length: 160 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- (●) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [ ] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [ ] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [x] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [ ] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [ ] Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (●) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/3/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			--			--			Y			3		
Spotted Salamander	31			3			A			N			--		
Blue-spotted Salamander	0			--			--			N			--		
Fairy Shrimp[3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Wood frog tadpoles observed, but no egg masses visible.

High functioning man-made pool with egg mass counts that would meet the threshold of a significant vernal pool.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_03ED_M.
Date: June 3, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_102DB_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rodney Kelshaw, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Hammond

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool located at the base of a tree tip-up

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Relatively small, shallow pool depth with muck restricted to the deepest portions

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 5 ○ m ◉ ft Length: 20 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☒ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/13/2015, 5/27/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		--	--		--	--		No	No		--	--	
Spotted Salamander	0	4		--	3		--	M		No	No		--	--	
Blue-spotted Salamander	0	0		--	--		--	--		No	No		--	--	
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_102DB_N.
Date: May 13, 2015. Stantec.

Photo 2: VP_102DB_N.
Date: May 27, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_02MA_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Matt Arsenault

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Hammond

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool created by road installation and associated ditching.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Deep roadside pool with widespread organic accumulation suggests semi-permanent to permanent pool.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 220 ○ m ◉ ft Length: 275 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): Only a portion of the pool surveyed.

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/4/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ○ Yes ◉ No; what % of pool surveyed? 50
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			--			--			N			3		
Spotted Salamander	23			3			A			N			3		
Blue-spotted Salamander	1			3			A			N			3		
Fairy Shrimp[3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

The pool was not completely surveyed as it extended beyond the project boundary. Full size of the pool estimated based upon aerial photography.

High functioning man-made pool with egg mass counts that would meet the threshold of a significant vernal pool.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ○ does not meet biological criteria. ○ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_02MA_M.
Date: June 4, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_03MA_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Matt Arsenault

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Hammond

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool created by road impounding wetland.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ◉ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Deep pool with wide spread muck; vegetation restricted to hummocks.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 200 ○ m ◉ ft Length: 270 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): Only a portion of the pool surveyed

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/4/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ○ Yes ◉ No; what % of pool surveyed? 50
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			--			--			N			--		
Spotted Salamander	18			3			A			N			--		
Blue-spotted Salamander	0			--			--			N			--		
Fairy Shrimp[3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

The pool was not completely surveyed as it extended beyond the project boundary. Full size of the pool estimated based upon aerial photography.

High functioning man-made pool with egg mass counts that would likely have met the threshold of a significant vernal pool if the entire pool were surveyed.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ○ does not meet biological criteria. ○ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_03MA_M.
Date: June 4, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_01KR_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: K. Ryan, B. Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Project

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Houlton

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☒ Other: Pool made by roads blocking drainage

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool formed in junction of two gravel roads, impounded drainage

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Depth, pool size, lack of outlet

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 35 ○ m ◉ ft Length: 100 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☒ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/19/2014, 6/4/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ○ Yes ◉ No; what % of pool surveyed? 50
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	2	0		3	3		H	H		Yes	Yes		3	3	
Spotted Salamander	6	7		3	3		A	A		No	No		3	3	
Blue-spotted Salamander	81	0		3	3		M,A,H	H		No	Yes		3	3	
Fairy Shrimp[3]															

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Large, high-functioning, man-made pool formed by 2 roads bocking drainage. Only surveyed part - part is out of project area/delineation limits. Hydrology was slightly down at 2nd visit.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ○ does not meet biological criteria. ○ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_01KR_M.
May 19, 2014. Stantec.

Photo 2: VP_01KR_M.
June 4, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_01BE_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ◉ same as observer ○ other _____

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ○ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Houlton

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool was created by road impounding wetland.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Deepest portion of pool may be semi-permanent; dense vegetation & mineral substrate in remainder ephemeral.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 75 ○ m ◉ ft Length: 150 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☒ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 6/4/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ○ Yes ◉ No; what % of pool surveyed? 90
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			--			--			N			--		
Spotted Salamander	11			3			A			N			--		
Blue-spotted Salamander	0			--			--			N			--		
Fairy Shrimp[3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Deepest parts of the pool with approximately 36" of water not surveyed.

Pool is located within 100 feet of VP_01KR_M and together these pools are considered as a single landscape unit (cluster pool) with significant egg mass numbers.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ○ does not meet biological criteria. ○ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_01BE_M.
June 4, 2014. Stantec.

Photo 2: VP_01BE_M.
June 4, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_204TT_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rodney Kelshaw, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Houlton

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Shallow pool depth with a shallow muck substrate

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ○ m ◉ ft Length: 65 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/12/2015, 5/26/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		--	--		--	--		No	No		--	--	
Spotted Salamander	0	1		--	3		--	M		No	No		--	-	
Blue-spotted Salamander	0	0		--	--		--	--		No	No		--	--	
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_204TT_N.
Date: May 12, 2015. Stantec.

Photo 2: VP_204TT_N.
Date: May 26, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_28RK_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rod Kelashaw, Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Houlton

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool appears be an historic borrow or impoundment created by adjacent substation and Ludlow Road.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Firm mineral substrate and presence of vegetation throughout pool. Water level 6-12" at center on 6/3/2014.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 30 ○ m ◉ ft Length: 380 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): Culvert outlet at Ludlow road

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/19/2014, 6/3/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		--	--		H			Yes	Yes		3	3	
Spotted Salamander	13	3		3	3		A			No	Yes		--	1	
Blue-spotted Salamander	220	0		3	--		A, H			No	Yes		--	1	
Fairy Shrimp [3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Wood frog egg masses had hatched before first visit and many wood frog tadpoles were observed. Salamander larvae observed at second visit, but limited confidence at to whether larvae were from one or both species.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_28RK_M.
May 19, 2014. Stantec.

Photo 2: VP_28RK_M.
May 19, 2014. Stantec.

Photo 3: VP_28RK_M.
June 3, 2014. Stantec.

Photo 4: VP_28RK_M.
June 3, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_31TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Houlton

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [ ] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [ ] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [ ] Isolated pool
- [x] Other: Excavate farm pond

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ( ) Natural ( ) Natural-Modified (●) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Old farm pond near edge of a large forested wetland complex.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- (●) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- ( ) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Depth of pond and absence of vegetation.

■ Maximum depth at survey: ( ) 0-12" (0-1 ft.) ( ) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) (●) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 50 ( ) m (●) ft Length: 75 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- ( ) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- (●) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [ ] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [ ] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [ ] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [x] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [x] Other: Waterfowl

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (●) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	30			3			F/M								
Spotted Salamander	1			3			F								
Blue-spotted Salamander	64			3			A								
Fairy Shrimp [3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Wet graminoids and shrubs on very edge of pool.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_31TT_M.
May 14, 2014. Stantec.

Photo 2: VP_31TT_M.
May 14, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_29TT_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau, Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Houlton

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

On August 5, only 3-5 inches of water in an area approximately 8' by 8'.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 12 ○ m ◉ ft Length: 20 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2014, 6/3/2014, 8/5/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	8	0		3	--		A			No	Yes*	No	2		
Spotted Salamander	0	0		--	--		--			No	No	No	--		
Blue-spotted Salamander	150+	0		3	--		A			No	Yes*	No	2		
Fairy Shrimp [3]	No	No													

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

*2nd visit- There were hundreds of amphibian larvae seen in pool, probably a mix of wood frog and blue-spotted.
3rd visit - No amphibian larvae or juveniles observed in or around pool.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_29TT_N.
May 14, 2014. Stantec.

Photo 2: SVP_29TT_N.
June 3, 2014. Stantec.

Photo 3: SVP_29TT_N.
August 5, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_30TT_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau, Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Houlton

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Deep muck and duckweed in pool.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ○ m ◉ ft Length: 30 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2014, 6/3/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ○ Yes ◉ No; what % of pool surveyed? 75%
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	10	0		3	--		A	--		No	Yes		--	1	
Spotted Salamander	0	1		--	3		--	A		No	No		--	--	
Blue-spotted Salamander	5	0		3	--		A	--		No	Yes		--	1	
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Water levels differed at the 2nd visit, depending on strata present: open ROW 4-6" and closed canopy 8-12".

Uncertain what species of amphibian larvae were present at 2nd visit. Possible both wood frog and blue-spotted salamander larvae were present.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ○ does not meet biological criteria. ○ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_30TT_N.
May 14, 2014. Stantec.

Photo 2: VP_30TT_N.
June 3, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_26TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Hodgdon

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ATV/sled ruts in wetland.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Shallow water depth and grass growing throughout pool.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 6 ○ m ◉ ft Length: 20 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	24			F			3								
Spotted Salamander	0			--			--								
Blue-spotted Salamander	0			--			--								
Fairy Shrimp [3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

VP_26TT_M and VP_27TT_M are located within 100 feet of one another and together form a relatively high functioning ecological unit.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_26TT_M.
May 14, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_27TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Hodgdon

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ATV/sled ruts in emergent wetland.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Due to shallow water depth and grasses growing throughout pool.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ○ m ◉ ft Length: 15 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	18			3											
Spotted Salamander	0			--											
Blue-spotted Salamander	0			--											
Fairy Shrimp [3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

VP_26TT_M and VP_27TT_M are located within 100 feet of one another and together form a relatively high functioning ecological unit.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_27TT_M.
May 14, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_28TT_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau, Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Hodgdon

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Pool relatively free of vegetation in center, with duckweed covering center of pool. Water depth stable.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ○ m ◉ ft Length: 10 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2014, 6/3/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	6	0		3	--		F	--		No	Yes		--	3	
Spotted Salamander	0	0		--	--		--	--		No	No		--	--	
Blue-spotted Salamander	0	0		--	--		--	--		No	No		--	--	
Fairy Shrimp [3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_28TT_N.
May 14, 2014. Stantec.

Photo 2: VP_28TT_N.
June 3, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_25TT_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau, Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Linneus

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Water level may be slightly impounded by the adjacent road, but mostly a natural depression.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Relatively stable water depth between visits and deep organic matter throughout pool.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 30 ○ m ◉ ft Length: 50 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): possible outlet offsite to north, no culvert

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2014, 6/3/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ○ Yes ◉ No; what % of pool surveyed? 80
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	103	0		3	3		M	--		No	Yes		--	3	
Spotted Salamander	8	0		3	3		F	--		No	No		--	--	
Blue-spotted Salamander	0	0		--	--		--	--		No	No		--	--	
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ○ does not meet biological criteria. ○ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_25TT_N.
May 14, 2014. Stantec.

Photo 2: SVP_25TT_N.
May 14, 2014. Stantec.

Photo 3: SVP_25TT_N, outlet.
May 14, 2014. Stantec.

Photo 4: SVP_25TT_N.
June 3, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_17TT_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau, Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Linneus

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☒ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Possible pool alterations in past, possibly excavated or compacted to increase depth.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Water depth and presence of deep organic matter throughout pool.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 50 ○ m ◉ ft Length: 50 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☒ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☒ Other: Predaceous diving beetle

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/13/2014, 6/3/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ○ Yes ◉ No; what % of pool surveyed? 40
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	137	0		3	--		M/A	-		No	Yes			3	
Spotted Salamander	2	0		3	--		F	--		No	Yes				
Blue-spotted Salamander	0	0		--	--		--	--		No	Yes				
Fairy Shrimp [3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Depression seems to have been altered in the past, but depression and wetland looks to be natural, therefore pool is natural modified.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ○ does not meet biological criteria. ○ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: SVP_17TT_N.
May 13, 2014. Stantec.

Photo 2: SVP_17TT_N.
May 13, 2014. Stantec.

Photo 3: SVP_17TT_N, exposed wood frog egg masses.
May 13, 2014. Stantec.

Photo 4: SVP_17TT_N.
June 3, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_22TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Linneus

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool in ATV trail in small shrub wetland.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Depth of water and absence of vegetation in pool . Bottom of pool well below surrounding ground level.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ○ m ◉ ft Length: 80 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☒ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	23			3			A								
Spotted Salamander	2			3			F								
Blue-spotted Salamander	300+			3			M								
Fairy Shrimp [3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Wet graminoids and wet shrubs are growing along the edge of pool.

High number and density of blue-spotted egg masses made counting individual masses difficult.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_22TT_M.
May 14, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_21TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Linneus

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [ ] Forested swamp
- [x] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [ ] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [ ] Isolated pool
- [ ] Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ( ) Natural ( ) Natural-Modified (●) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ATV trail in small shrub wetland.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- (●) Semi-permanent (drying partially in all years and completely in drought years)
- ( ) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Depth of water and lack of vegetation in pool.

■ Maximum depth at survey: ( ) 0-12" (0-1 ft.) (●) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ( ) m (●) ft Length: 40 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- ( ) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- (●) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [ ] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [ ] Wet site ferns (e.g. royal fern, marsh fern)
- [ ] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [ ] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [x] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [ ] Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (●) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	13			M			3								
Spotted Salamander	0			--			--								
Blue-spotted Salamander	153			M			3								
Fairy Shrimp [3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Wet site shrubs and graminoids along the edge of pool.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_21TT_M.
May 14, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_18TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Linneus

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ATV trail in forested wetland. Long, linear emergent pool in middle of forested wetland.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Relatively shallow water depth (10-12") suggest that the pool dries out.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 7 ○ m ◉ ft Length: 200 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	17			3			M			No					
Spotted Salamander	13			3			F			No					
Blue-spotted Salamander	62			3			M			No					
Fairy Shrimp [3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Blue-spotted salamander eggs scattered throughout pool, silt covered and hard to see.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_18TT_M.
May 14, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_20TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Linneus

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ATV trail through forested wetland.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Water depth, lack of vegetation and the pool bottom 12-18" below surrounding ground suggest semi-permanent.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15-20 ○ m ◉ ft Length: 700 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☒ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/14/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	137			3			F								
Spotted Salamander	16			3			F								
Blue-spotted Salamander	24			3			F								
Fairy Shrimp [3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

No vegetation in pool, but shrubs and wet site graminoids growing along pool edge.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_20TT_M.
May 14, 2014. Stantec.

Photo 2: VP_20TT_M.
May 14, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_15TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Linneus

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Pool is located within a depression in an old road.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Relatively small and shallow pool (2-4" deep) with a mineral substrate.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ○ m ◉ ft Length: 25 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain):_____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/13/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	20			3			M			N			--		
Spotted Salamander	1			3			F			N			--		
Blue-spotted Salamander	0			--			--			N			--		
Fairy Shrimp[3]	No			--											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool is located within 100 feet of SVP_16TT_M and VP_112CF_N, and together these pools are considered as a single landscape unit (cluster pool) with significant egg mass numbers.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_15TT_M.
Date: May 13, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: SVP_16TT_N (formerly PSVP_16TT_N) **MDIFW Pool ID:** 2293

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Linneus

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Natural depression in wetland with recently logging activity along the pool's boundary

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Although deep muck, shallow water depth (8-10") suggests pool remains saturated but w/out surface water.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 60 ○ m ◉ ft Length: 100 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☒ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/12/2015, 5/26/2015

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	24	0		3	--		A	--		Y	N		3	--	
Spotted Salamander	22	20		3	3		F/M	NR		N	N		--	--	
Blue-spotted Salamander	0	0		--	--		--	--		--	--		--	--	
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☒ SVP ☐ Potential SVP ☐ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Note that recent logging activity has occurred around the borders of SVP_16TT_N

Thick algal mat at second visit made locating egg masses difficult; egg mass count is approximate.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: SVP_16TT_N (MDIFW ID 2293).
Date: May 12, 2015. Stantec.

Photo 2: View looking west to SVP_16TT_N (MDIFW ID 2293).
Date: May 12, 2015. Stantec.

Photo 3: SVP_16TT_N (MDIFW ID 2293).
Date: May 26, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_112CF_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Charles Ferris, Eric Doucette

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Linneus

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ◉ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Natural depression in wetland with recent logging activity in and around wetland

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Water depth at time of survey was 4-8" with restricted organic matter accumulation.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ○ m ◉ ft Length: 40 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☒ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/12/2015, 5/26/15

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	8	0		3	--		A	--		--	--		--	--	
Spotted Salamander	12	0		3	--		F	--		--	--		--	--	
Blue-spotted Salamander	0	0		--	--		--	--		--	--		--	--	
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool separated from SVP_16TT_N by recent logging activity and cut/slash pile.
Thick algae cover at time of second visit resulting in difficulty obtaining exact egg mass counts.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_112CF_N, recently harvested area.
Date: May 12, 2015. Stantec.

Photo 2: VP_112CF_N, recently harvested area.
Date: May 12, 2015. Stantec.

Number Nine Wind Farm, Aroostook County, Maine

Photo 3: VP_112CF_N.
Date: May 26, 2015. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_11TT_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau, Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: _____

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ◉ Semi-permanent (drying partially in all years and completely in drought years)
- ○ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Deep muck throughout, more water dependent plant species present. 12-18" of water at second visit.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 40 ○ m ◉ ft Length: 40 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): flowing outlet, but no defined channel

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/13/2014, 6/3/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	10	0		3	--		F			No	Yes		--	3	
Spotted Salamander	1	0		3	--		F			No	No		--	--	
Blue-spotted Salamander	0	0		--	--		--			No	No		--	--	
Fairy Shrimp [3]	No	No													

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_11TT_N.
May 13, 2014. Stantec.

Photo 2: VP_11TT_N.
June 3, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_07TT_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau, Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: _____

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Very shallow water, grass growing throughout. Only pockets of water remaining at second visit.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ○ m ◉ ft Length: 50 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ◉ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/13/14, 6/2/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	9	0		3	--		A	--		No	No				
Spotted Salamander	0	1		--	3		F	--		No	No				
Blue-spotted Salamander	0	0		--	--		--	--		No	No				
Fairy Shrimp [3]	No	No													

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_07TT_N.
May 13, 2014. Stantec.

Photo 2: VP_07TT_N, exposed wood frog egg masses.
May 13, 2014. Stantec.

Photo 3: VP_07TT_N.
June 6, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_09RK_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rod Kelshaw, Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Forkstown Township

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☒ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Skidder rut in cut over wetland.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Small size, relatively shallow water depth (15") and mineral substrate.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ○ m ◉ ft Length: 100 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/13/2014, 6/2/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	22	0		3	--		A	H		No	Yes		--	3	
Spotted Salamander	3	4		3	3		M	A		No	No		--	--	
Blue-spotted Salamander	13	0		3	--		A	--		No	No		--	--	
Fairy Shrimp [3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_09RK_M.
May 13, 2014. Stantec.

Photo 2: VP_09RK_M.
June 2, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_04TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Haynesville

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Skidder ruts in large cedar swamp wetland

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Grass growing throughout ruts and relatively shallow water depth at survey.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 10 ○ m ◉ ft Length: 30 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/12/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			--			--								
Spotted Salamander	14			3			F								
Blue-spotted Salamander	0			--			--								
Fairy Shrimp [3]	No														

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

VP_04TT_M and VP_05TT_M are located within 100 feet of each other and together form a relatively high functioning ecological unit.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_04TT_M.
May 12, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_05TT_M **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Haynesville

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ○ Natural ○ Natural-Modified ◉ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Skidder ruts in large cedar swamp wetland.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Shallow water depth, and graminoids growing throughout pool.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 15 ○ m ◉ ft Length: 30 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/12/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0			--			--								
Spotted Salamander	14			3			F								
Blue-spotted Salamander	0			--			--								
Fairy Shrimp [3]	No														

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

VP_04TT_M and VP_05TT_M are located within 100 feet of each other and together form a relatively high functioning ecological unit.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_05TT_M.
May 12, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_01TT_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Tom Tetreau, Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Haynesville

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ● Floodplain depression
- ○ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☐ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☒ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ● Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ● Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Pool dry on June 2.

■ Maximum depth at survey: ● 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 35 ○ m ● ft Length: 35 ○ m ● ft

■ Predominate substrate in order of increasing hydroperiod:

- ● Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☒ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ● No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain):_____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/12/2014, 6/2/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		--	--		--	--		No	No				
Spotted Salamander	2	0		3			F	--		No	No				
Blue-spotted Salamander	0	0		--	--		--	--		No	No				
Fairy Shrimp[3]	No	--													

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool dry at second visit, no sign of egg mass.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_01TT_N.
May 12, 2014. Stantec.

Photo 2: VP_01TT_N.
June 2, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_02RK_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rod Kelshaw, Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Haynesville

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Less than an inch of water remaining in pool on June 4.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 12 ○ m ◉ ft Length: 23 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☒ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/12/2014, 6/4/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		--	--		--	--		No					
Spotted Salamander	3	0		3	--		M	--		No					
Blue-spotted Salamander	0	0		--	--		--	--		No					
Fairy Shrimp [3]	No	--		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_02RK_N.
May 12, 2014. Stantec.

Photo 2: VP_02RK_N.
June 4, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_03RK_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rod Kelshaw, Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: ***Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.***

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Haynesville

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Less than an inch of water remaining in pool on June 4.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 23 ○ m ◉ ft Length: 48 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☒ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/12/2014, 6/4/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0					--	--		No	No				
Spotted Salamander	3	0		3	--		M	--		No	No				
Blue-spotted Salamander	0	0					--	--		No	No				
Fairy Shrimp [3]	No	--		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_03RK_N.
May 12, 2014. Stantec.

Photo 2: VP_03RK_N.
June 4, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_04RK_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rod Kelshaw, B. Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: ***Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.***

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Haynesville

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ○ Isolated depression
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☒ Forested swamp
- ☒ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or Pond Cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Isolated pool
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Very little surface water remaining on June 4 leaving egg mass stranded.

■ Maximum depth at survey: ○ 0-12" (0-1 ft.) ◉ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 12 ○ m ◉ ft Length: 12 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
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- ☐ Sphagnum moss (anchored or suspended)
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- ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
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- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☐ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ◉ No inlet or outlet
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/12/14, 6/4/14

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		--	--					No	No				
Spotted Salamander	1	1		3	3		M	M		No	No				
Blue-spotted Salamander	0	0		--	--					No	No				
Fairy Shrimp[3]	No	No		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

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Comments:

Number Nine Wind Farm, Aroostook County, Maine

Photo 1: VP_04RK_N.
May 12, 2014. Stantec.

Photo 2: VP_04RK_N.
June 4, 2014. Stantec.

Maine State Vernal Pool Assessment Form

INSTRUCTIONS: Complete all 3 pages of form as thoroughly as possible. Most fields are required for pool registration.

Observer's Pool ID: VP_01RK_N **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Rod Kelshaw, Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Bryan Emerson

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Number Nine Wind Farm

NOTE: Clear photographs or digital images of a) the pool and b) the indicators (one example of each species egg mass) are required for nonprofessional observers and encouraged for all observers.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: _____ Phone: _____

Street Address: _____ City: _____ State: _____ Zip: _____

c. ☒ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Haynesville

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements: At least 2 of the 3 must be submitted (check those submitted):

☐ USGS topographic map with pool clearly marked.

☒ Large scale aerial photograph with pool clearly marked.

☒ GPS data (complete section below).

GPS location of vernal pool

Longitude/Easting: _____ Latitude/Northing: _____

Check Datum: ○ NAD27 ◉ NAD83 / WGS84 Coordinate system: _____

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (best)

○ The pool perimeter is delineated by multiple GPS points. (excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (good)

○ The center of the pool is approximately _____ m ○ /ft ○ in the compass direction of _____ degrees from the above GPS point. (acceptable)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):_____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- (●) Isolated depression
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

■ Check all wetland types that best apply to this pool:

- [x] Forested swamp
- [ ] Shrub swamp
- [ ] Peatland (fen or bog)
- [ ] Emergent marsh
- [ ] Wet meadow
- [ ] Lake or Pond Cove
- [ ] Abandoned beaver flowage
- [ ] Active beaver flowage
- [ ] Slow stream
- [ ] Floodplain
- [ ] Isolated pool
- [ ] Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ( ) Natural (●) Natural-Modified ( ) Unnatural ( ) Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Natural low spot in landscape with older skid ruts.

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale for opinion.

- ( ) Permanent
- ( ) Semi-permanent (drying partially in all years and completely in drought years)
- (●) Ephemeral (drying out completely in most years)
- ( ) Unknown

Explain:

Dry on second visit.

■ Maximum depth at survey: (●) 0-12" (0-1 ft.) ( ) 12-36" (1-3 ft.) ( ) 36-60" (3-5 ft.) ( ) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 50 ( ) m (●) ft Length: 50 ( ) m (●) ft

■ Predominate substrate in order of increasing hydroperiod:

- (●) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- [ ] Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- [ ] Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- [ ] Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- [ ] Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- [ ] Sphagnum moss (anchored or suspended)
- [x] Wet site ferns (e.g. royal fern, marsh fern)
- [x] Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- [ ] Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- [ ] Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- [ ] Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- [ ] No vegetation in pool

■ Faunal indicators (check all that apply):

- [ ] Fish
- [ ] Bullfrog or Green Frog tadpoles
- [x] Other: caddis fly larvae, water striders

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- (●) No inlet or outlet
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 05/12/2014, 6/4/2014

b. Indicator abundance criteria

- Was the entire pool surveyed for egg masses? ◉ Yes ◯ No; what % of pool surveyed?_____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae					
	#			Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		--	--					No	No				
Spotted Salamander	5	0		3	--		M			No	No				
Blue-spotted Salamander	0	0		--	--					No	No				
Fairy Shrimp[3]	No	--		--	--										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy Shrimp: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs (labeled with observer name, pool location, and date).

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Vernal pool dry at time of second visit.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only Reviewed by MDIFW Date:_____ Initials:_____

This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ◯ does not meet biological criteria. ◯ does not meet MDEP vernal pool criteria.

Comments:

Photo 1: VP_01RK_N.
May 12, 2014. Stantec.

Photo 2: VP_01RK_N.
June 4, 2014. Stantec.

Appendix F REPRESENTATIVE PHOTOGRAPHS

F.1 TURBINE AREA PHOTOGRAPHS

Photo 1. Wetland T10R3_W038, typical emergent wetland in forested landscape. Stantec, July 8, 2014.

Photo 2. Wetland T8R3_W073, typical forested wetland from previous delineation, verified in 2014. Stantec, June 17, 2014.

Photo 3. Wetland T9R3_W008, typical emergent wetland in a roadside ditch.
Stantec, September 3, 2014.

Photo 4. Wetland ETWP_W249, typical forested wetland.
Stantec, August 19, 2014.

Photo 5. Wetland T10R3_W118, typical emergent wetland in a roadside ditch. Stantec, September 4, 2014.

Photo 6. Wetland T8R3_W387, typical emergent wetland in an old skidder trail. Stantec, June 8, 2014.

Photo 7. Wetland TDR2_W120, typical scrub-shrub and emergent wetland along an existing road. Stantec, August 26, 2014.

Photo 8. Stream T9R3_S011, Number Nine Stream. Stantec, July 31, 2014.

Photo 9. Stream TDR2_S026, typical upper perennial stream in forested landscape. Stantec, July 25, 2014.

Photo 10. Stream T9R3_S054, typical intermittent stream. Stantec, August 27, 2014.

F.2 NORTH GENERATOR LEAD LINE PHOTOGRAPHS

Photo 1. Wetland HAMM_W075, typical emergent component of larger forested wetland. Stantec, August 29, 2014.

Photo 2. Wetland HAMM_W013, typical emergent wetland in a roadside ditch. Stantec, September 11, 2014.

Photo 3. Wetland T8R3_W540, typical forested wetland with forest management disturbance. Stantec, August 28, 2014.

Photo 4. Wetland T8R3_W547, typical emergent wetland in an old skidder road. Stantec, August 29, 2014.

Photo 5. Wetland HAMM_W050, typical emergent wetland in a roadside ditch.
Stantec, September 5, 2014.

Photo 6. Wetland T8R3_W593, typical forested wetland delineated in "winter conditions".
Stantec, November 6, 2014

Photo 7. Wetland LITT_W003, typical scrub-shrub wetland delineated in "winter conditions." Stantec, November 13, 2014.

Photo 8. Stream HOUL_S002, B Stream.
Stantec, July 31, 2014

F.3 BRIDAL PATH GENERATOR LEAD LINE PHOTOGRAPHS

Photo 1. Wetland HOUL_W010, scrub-shrub spruce bog within previously cleared ROW. Stantec, August 14, 2014.

Photo 2. Wetland TAR2_W012, typical emergent wetland within previously cleared ROW. Stantec, August 13, 2014

Photo 3. Wetland FORK_W017, typical scrub-shrub/emergent wetland within previously cleared ROW. Stantec, August 12, 2014.

Photo 4. Wetland FORK_W007, typical emergent wetland within previously cleared ROW with forested wetland outside of cleared ROW. Stantec, September 24, 2014.

Photo 5. Wetland TAR2_W001, typical scrub-shrub wetland in previously cleared ROW. Stantec, August 13, 2014.

Photo 6. Wetland LINN_W033, typical scrub-shrub/forested wetland within previously cleared ROW. Stantec, August 13, 2014.

Photo 7. Wetland LINN_W002, typical emergent wetland within previously cleared ROW with forested wetland outside of cleared ROW. Stantec, August 14, 2014.

Photo 8. Stream HAYN_S003, typical perennial stream within previously cleared ROW. Stantec, August 11, 2014