9.0 SITE CONDITIONS REPORT

Included in this section are the following reports that characterize the exiting conditions on the site, and provide evidence of good standing for Weaver Wind LLC as a Maine corporation:

Exhibit 9-1, Wetland Delineation Report and Mapping

Exhibit 9-2, Wetland Determination Forms

Exhibit 9-3, Vernal Pool Determination Documentation

Exhibit 9-4, Wildlife Habitat Report

Exhibit 9-5, Evidence of Weaver Wind LLC Good Standing

Exhibit 9-1

Wetland Delineation Report and Mapping

Wetland and Stream Delineation and Vernal Pool Survey Report

Weaver Wind Project, Hancock County, Maine

August 9, 2018

Prepared for:

Weaver Wind LLC

Prepared by:

Stantec Consulting Services Inc.
30 Park Drive
Topsham, ME 04086

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Wetland and Stream Delineation and Vernal Pool Survey Report

August 23, 2018

1.0 INTRODUCTION

During the summer and fall of 2014, Stantec Consulting Services Inc. (Stantec) completed wetland and stream delineations for the design and siting phase of the proposed Weaver Wind Project (project) located in Hancock County, Maine. These delineations were completed to facilitate project planning and to allow incorporation of avoidance and minimization of natural resource impacts into the final project design. During the delineations, Stantec also identified vernal pools and potential vernal pools (PVP), as appropriate.

This report provides a brief discussion of the methodologies we employed and the delineation results. Summary tables of the results have been included in this report and Wetland Determination Data Forms, Maine State Vernal Pool Assessment Forms, and shapefiles of the delineation results have been provided separately. Representative site photographs are available on request.

2.0 SITE DESCRIPTION

The project area is centrally located in Hancock County in Osborn, T22 MD, T16 MD, and Eastbrook (Figure 7B, Delineated Natural Resources). It is located south of Route 9 and north of the existing Bull Hill Wind Project. Ridges within the project area range from about 500 to 700 feet in elevation and include Little Bull Hill, Een Ridge, Hardwood Hill, and Birch Hill. General site topography is nearly flat to gently sloping with narrow valleys between these small hills and low ridges. An esker that runs northwest to southeast and is known as the Whalesback intersects the northern part of the project area. Soils in this area are generally derived from glacial till, consisting of loam and sandy loam with boulders occurring at or near the soil surface. A number of large glacial erratics are present throughout the area. Spectacle Pond is centrally located within the project area. The East Branch Union River, Colson Branch, Leighton Brook, Garden Eden Brook, and Hopper Brook transect the project at various points.

Much of the area is managed for commercial timber production and there are many existing gravel roads that provide access throughout the area. Forested uplands within the project area are dominated by an even mix of early successional forests, young Beech-Birch-Maple forests, and conifer plantations. Smaller areas of second growth hardwood forests and second growth red spruce (*Picea rubens*) and eastern hemlock (*Tsuga canadensis)* forests are less common. The area includes beaver impoundments, and forested scrub-shrub, and emergent wetlands. Many wetlands have been altered by recent and historic timber harvesting.

3.0 FIELD SURVEY METHODS

Stantec completed field delineations for much of the project area between July and October 2014. Additionally, delineations along approximately 3,800 linear feet of existing access road were completed in 2009 as part of the Bull Hill Wind Project. In 2014, Stantec delineated wetlands within the project area in accordance with the *Corps of Engineers Wetlands Delineation Manual*[1] and the *Regional Supplement to the Corps of Engineers Wetland*

[1] Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual.* Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station. Vicksburg, MS.

Delineation Manual: Northcentral and Northeast Region (Version 2.0)[2]. Wetland boundaries and stream centerlines or banks were marked with pink flagging and flags were located using Trimble® Global Positioning System (GPS) receivers. Within the town of Eastbrook, Maine Department of Environmental Protection (MDEP) jurisdictional stream and Wetland of Special Significance (WSS) determinations were based on the criteria in the Maine Natural Resources Protection Act (NRPA). The remainder of the project area is located within the Land Use Planning Commission (LUPC) jurisdiction and identification of streams and P-WL1, WSS, was based on the LUPC *Chapter 10 Land Use Districts and Standards*. Throughout the project area, identification of streams and WSS was limited to observable conditions and available background information.

For a portion of the project area, identification of vernal pools and PVPs were completed in 2009 as part of the original Bull Hill Wind Project. For the remainder of the project area, vernal pools and PVPs were identified in 2014 concurrent with wetland delineations. Identified vernal pools and PVPs were located with the GPS. Because 2014 field delineations were conducted outside of the amphibian breeding period, vernal pool identification was based on the observed presence of remnant egg masses and larval amphibians or. PVPs were identified based upon wetland characteristics such as the presence of surface water that suggested these areas could provide habitat for breeding amphibians or habitat for other vernal pool associated species. In May of 2015, Stantec returned to the project area to survey PVPs that were naturally occurring and identified during previous surveys as potentially significant vernal pools (PSVPs). Unnatural PVPs, occurring in roadside ditches, excavations, and equipment ruts that do not meet the significance criteria as defined in the NRPA were not surveyed in 2015 and remain as PVPs. Maine State Vernal Pool Assessment Forms were completed for all naturally occurring vernal pools identified within the project area. These forms were submitted to the Maine Department of Inland Fisheries and Wildlife for their vernal pool significance determinations.

During the course of field work, Stantec also documented incidental observations of invasive plant species including Japanese knotweed (*Fallopia japonica*), purple loosestrife (*Lythrum salicaria*), and common reed (*Phragmites australis*). Each incidental observation was located with the GPS receiver. These observations do not represent a complete survey for invasive plant species but can be incorporated into a post-construction invasive management plan for the project.

4.0 FIELD SURVEY RESULTS

4.1 WETLAND AND STREAM DELINEATION RESULTS

Stantec delineated 287 wetlands within the project area (Table 1). Most of the wetlands are identified as palustrine forested (PFO) followed by an equal number of palustrine scrub-shrub (PSS) and palustrine emergent (PEM), and only a few wetlands were dominated by palustrine unconsolidated bottom (PUB). Many of the wetlands include two or more of these community types.

[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, C. V. Noble, and J. F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

Forested wetlands within the project area are dominated by northern white cedar (*Thuja occidentalis),* black ash *(Fraxinus nigra), green ash (Fraxinus pennsylvanica*), red maple *(Acer rubrum),* balsam fir *(Abies balsamea)* gray birch *(Betula populifolia),* and yellow birch (*Betula alleghaniensis*). Eastern hemlock and quaking aspen (*Populus tremuloides*) are also present and have adapted to wetland conditions by growing on mounds or developing shallow root systems.

In general, the scrub-shrub wetlands occur in areas with deeper organic soils or are associated with a water body or beaver impoundment. Typical shrubs found in these areas include common winterberry (*Ilex verticillata*), catberry (*Nemopanthus mucronatus*), speckled alder (*Alnus incana*), leatherleaf (*Chamaedaphne calyculata*), possumhaw (*Viburnum nudum*), broad-leaf meadowsweet (*Spiraea latifolia*), and steeplebush (*Spiraea tomentosa*). Emergent plants present in these wetlands include broad-leaf cat-tail (*Typha latifolia*), bluejoint (*Calamagrostis canadensis*), rattlesnake manna grass (*Glyceria canadensis*), American burr-reed (*Sparganium americanum*), three-way sedge (*Dulichium arundinaceum*), and northern water-horehound (*Lycopus uniflorus*).

Similar to the scrub-shrub wetlands described above, some emergent wetlands are naturally occurring and are found on deeper organic soils or in association with an open water area. More commonly the emergent wetlands within the project area are the result of timber harvesting. These altered wetlands include recently harvested forested wetlands and skidder trails. These areas are typically dominated by nodding sedge (*Carex gynandra*), cottongrass bulrush (*Scirpus cyperinus*), interrupted fern (*Osmunda claytoniana*), sensitive fern (*Onoclea sensibilis*), fowl manna grass (*Glyceria striata*), pointed broom sedge (*Carex scoparia*), and wrinkle-leaf goldenrod (*Solidago rugosa*).

Many wetlands in the project area contain dense glacial till or large boulders and rocks close to the ground surface. Groundwater is close to the surface and influences the vegetation, soils and hydrology. Shallow soils (10” to 15” deep) with a thick organic horizon and thin layer of reduced sandy or gravelly loam are common. There are also a number of wetlands that contain deep organic layer over a reduced clay loam. These wetlands tend to be larger but are less common.

Stantec delineated 41 streams within the project area (Table 2). The delineated streams vary in characteristics ranging from small ephemeral channels that flow only following snow melt or precipitation events to large perennial channels such as the East Branch of the Union River. Most of these streams either flowing through a wetland or flow out of a headwater wetland. In addition, there are several streams within the project area that are not associated with a wetland. Many of the streams occur along access roads where there are existing crossings. Of the 41 delineated streams:

- 19 are characterized as perennial
- 18 are characterized as intermittent
- 4 are characterized as ephemeral

4.2 VERNAL POOL SURVEY RESULTS

Stantec identified 32 vernal pools within the project area including vernal pools identified in 2009, 2014, and 2015 (Table 3). Fifteen of these identified vernal pools were characterized as naturally occurring and 2 meet the definition of an SVP under the NRPA. The 17 man-made vernal pools were located in roadside ditches, roadside borrow pits or occurred in equipment ruts. Stantec also located 40 PVPs in the project area all of which are man-made and located

in roadside ditches/excavations and equipment ruts.Due to their unnatural original, these PVPs do not meet the definition of a vernal pool as defined in the NRPA.

4.3 WETLANDS OF SPECIAL SIGNIFICANCE

As noted in Table 1, of the 287 identified wetlands, 38 are classified as WSS either under the NRPA or as P-WL1's.

- 27 are significant due to their association with a river stream or brook
- 7 are significant due to the presence of significant wildlife habitat including Inland Waterfowl and Wading bird Habitat (IWWH) or a SVP;
- 4 meet both of the above criteria and/or have 20,000 square feet or more of open water or emergent marsh vegetation

5.0 CONCLUSION

This report summarizes the results of Stantec's field delineation for the proposed project layout as of the date of this report. Subsequent changes to the project footprint or alignment may necessitate further field surveys. Impacts to 32 of the 287 wetlands are proposed as part of the project and further described in the MDEP Site Location of Development/NRPA combined application. Clearing will occur along the banks of 7 stream. No direct impacts to the channel or banks of any streams are proposed.

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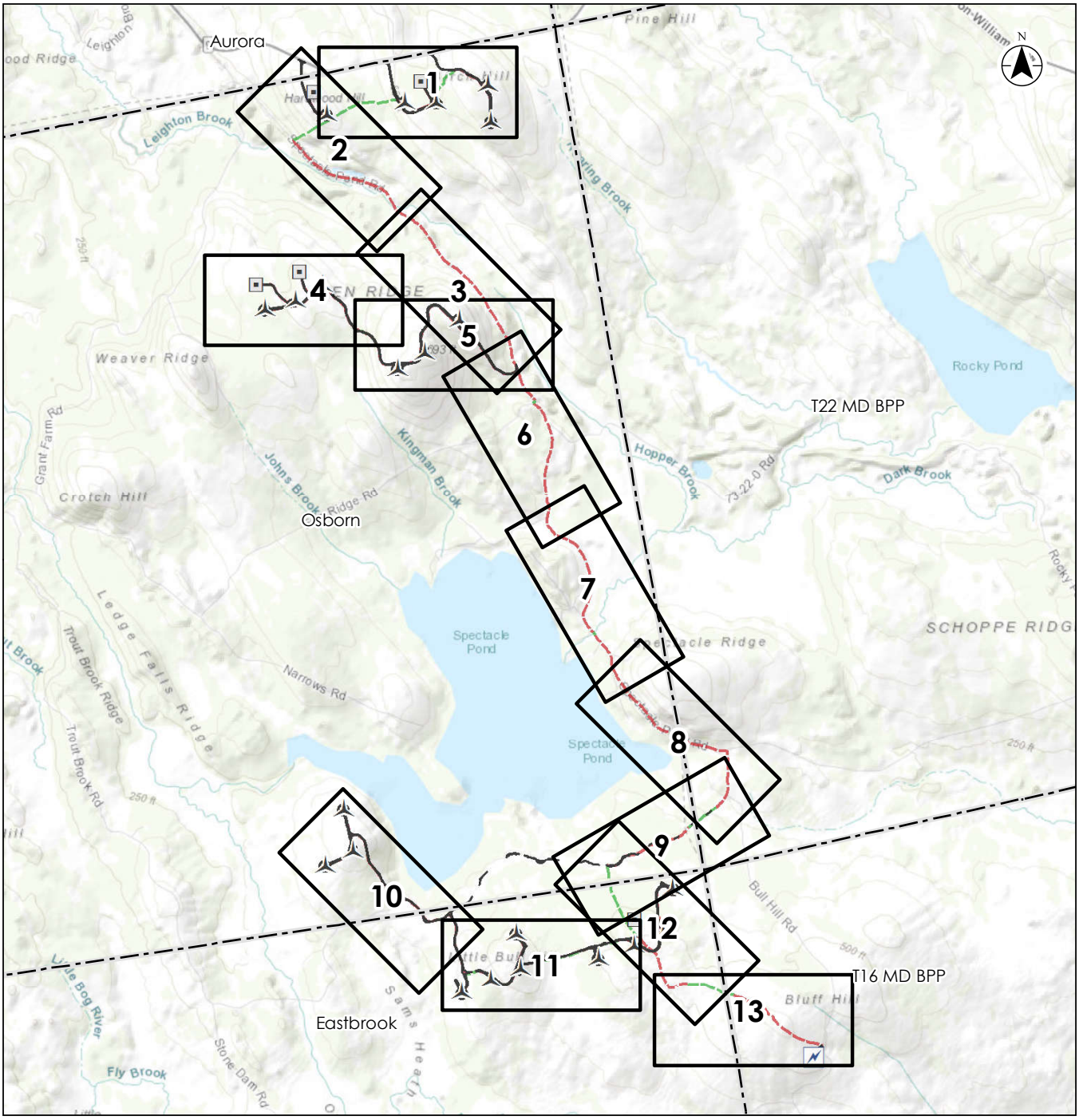

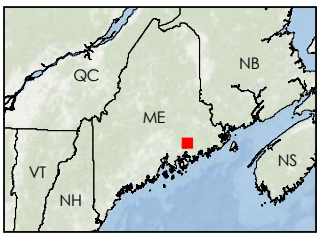

Legend

- Turbine Layout
- MET Tower
- Substation
- Major Overhead Collector Line
- Underground Collector Line
- Access Road

0 6,000 Feet

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Notes

1. Coordinate System: NAD 1983 UTM Zone 19N FT
2. Base map: ESRI Wowrld Topographic Map

Stantec

Project Location
Hancock County, Maine

195601223
Prepared by GAC on 2018-08-14
Reviewed by BRB on 2018-08-14

Client/Project
Weaver Wind Project
Longroad Energy Partners LLC

Figure No.
Key

Title
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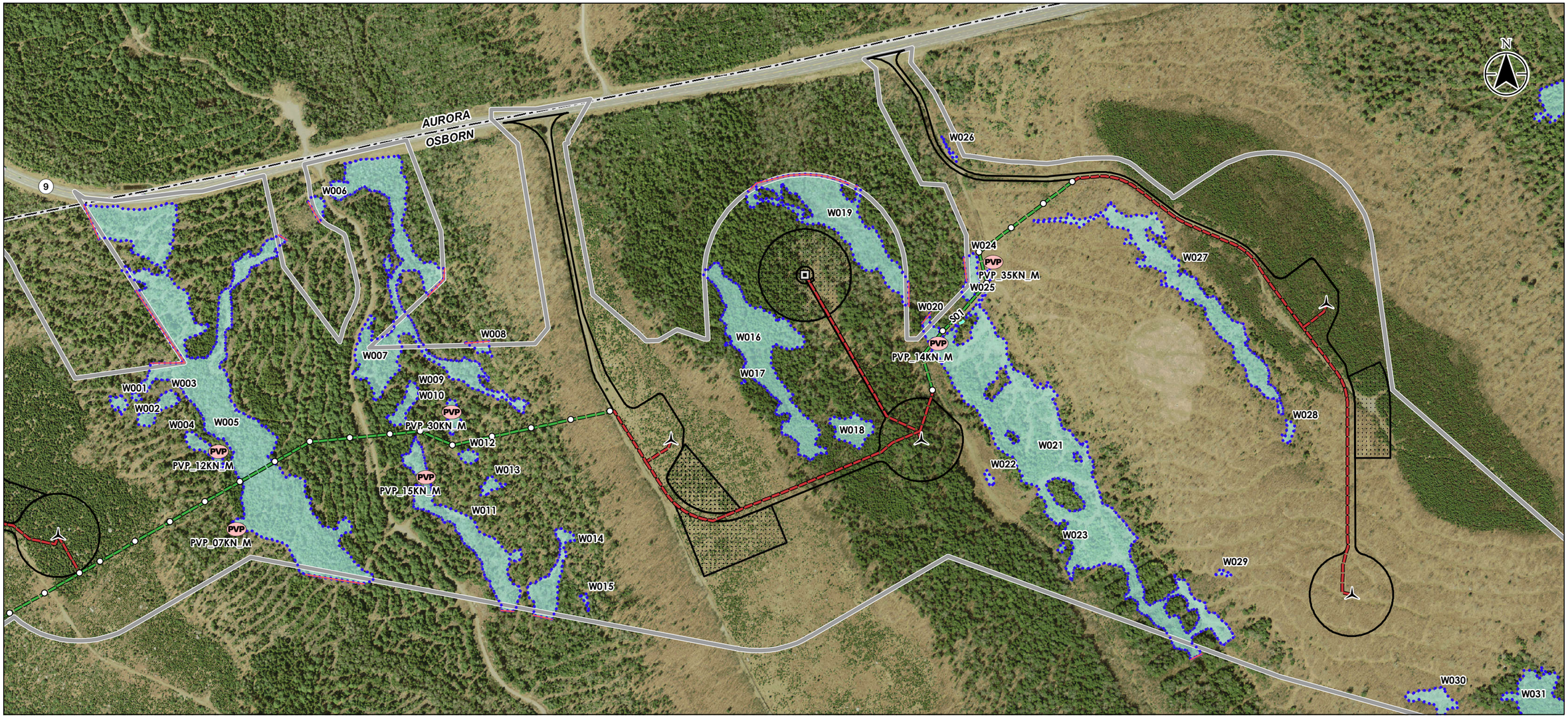

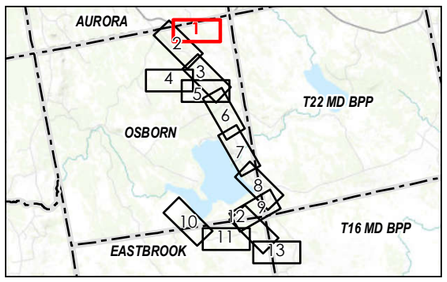

Legend

- Turbine Layout
- MET Tower
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Vernal Pool Center Point

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- Intermittent Stream
- Ephemeral Stream
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- Open Wetland Line
- Delineation Limit

0 500 1,000 Feet

1:6,000 (At original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 UTM Zone 19N FT
2. Orthoimagery: Maine Orthoimagery 2014

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Project Location
Hancock County, Maine

195601223

Prepared by GC on 2018-10-25
Reviewed by TT on 2018-10-25

Client/Project
Weaver Wind Project
Longroad Energy Partners LLC

Figure No.
1 of 13

Title
Delineated Natural Resources

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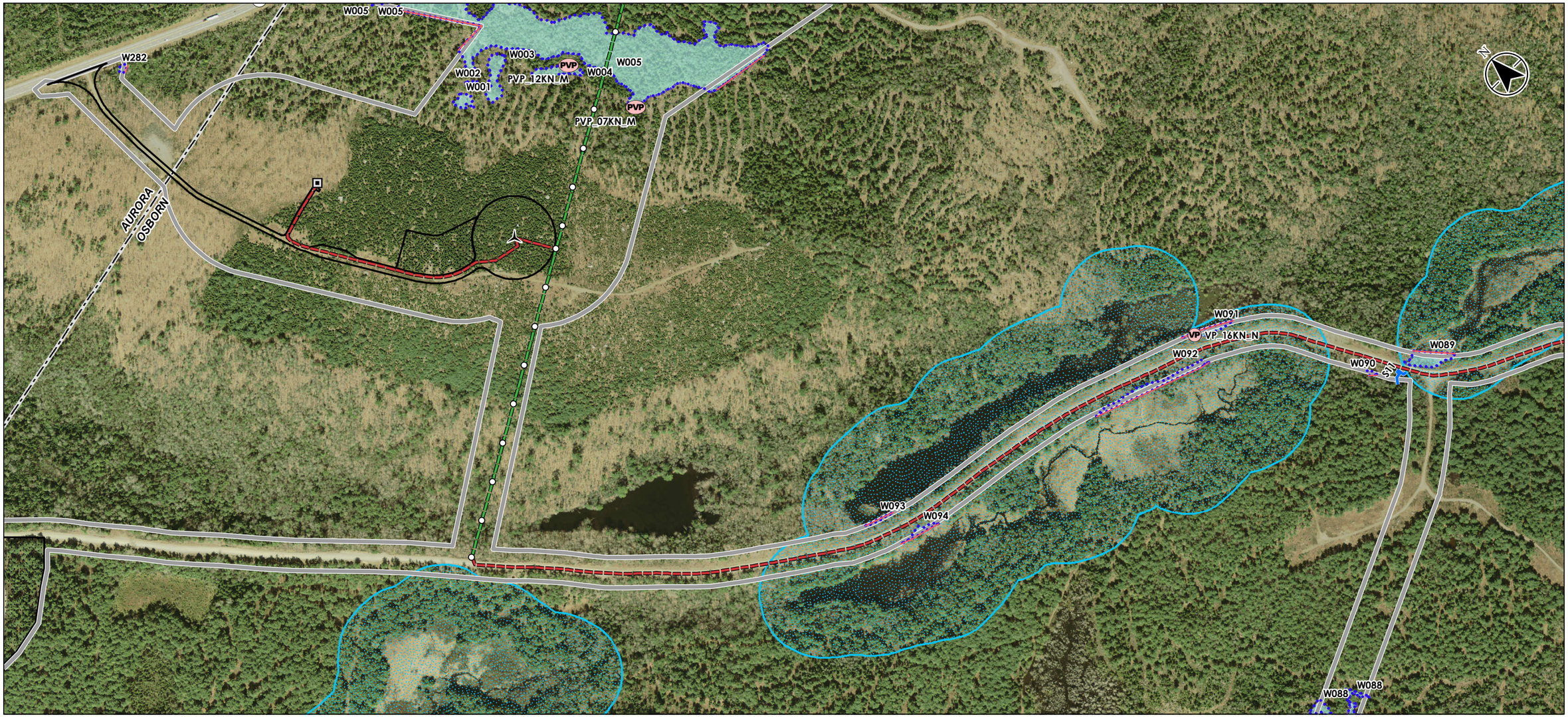

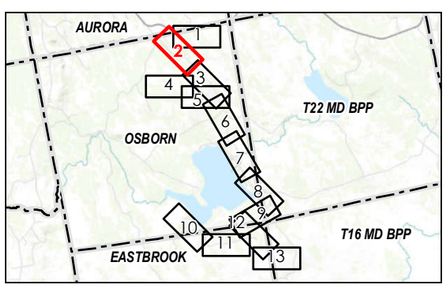

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Reviewed by TT on 2018-10-25

Client/Project
Weaver Wind Project
Longroad Energy Partners LLC

Figure No.
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Title
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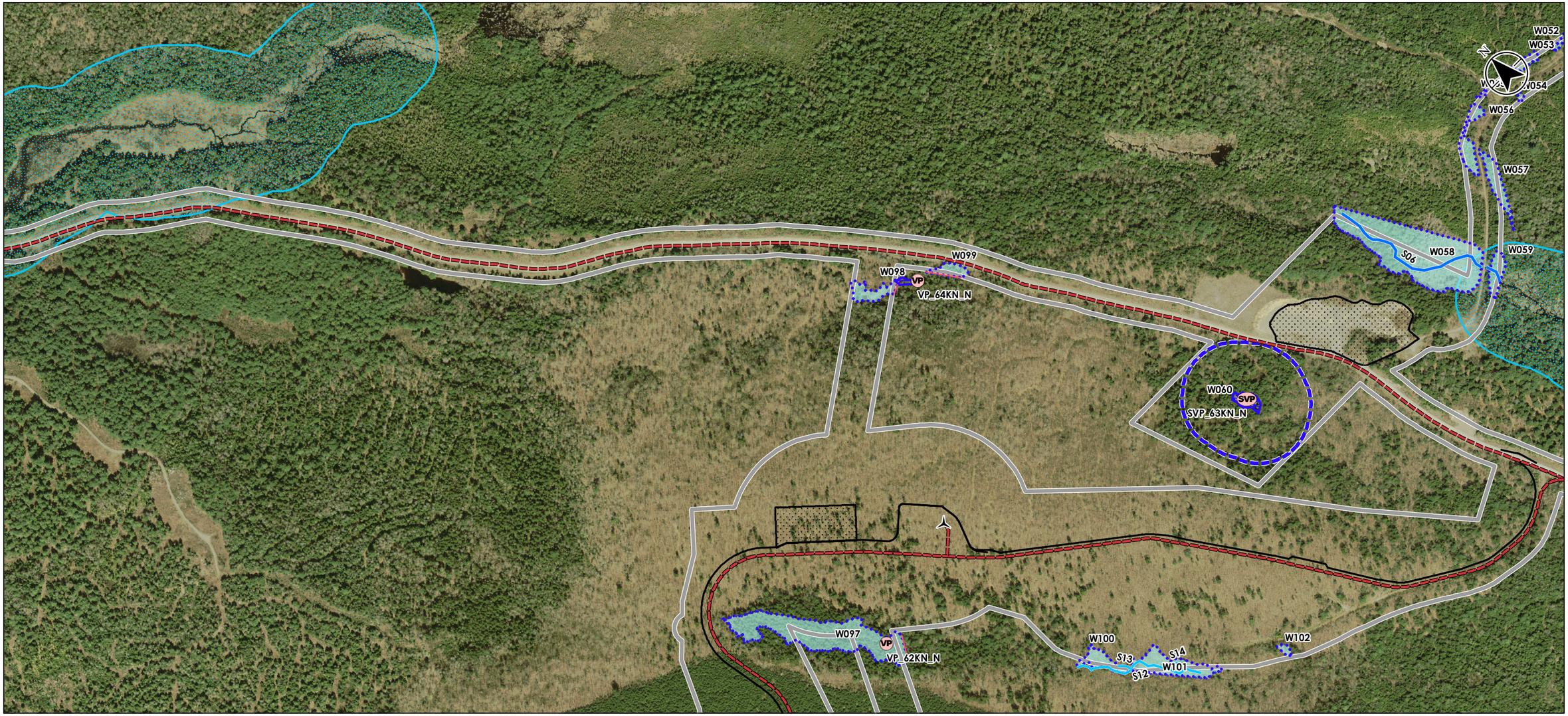

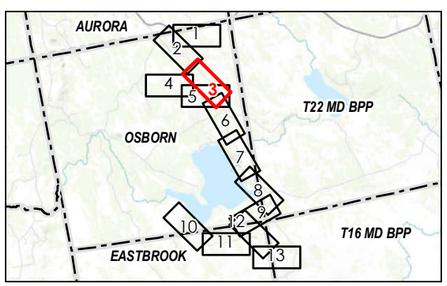

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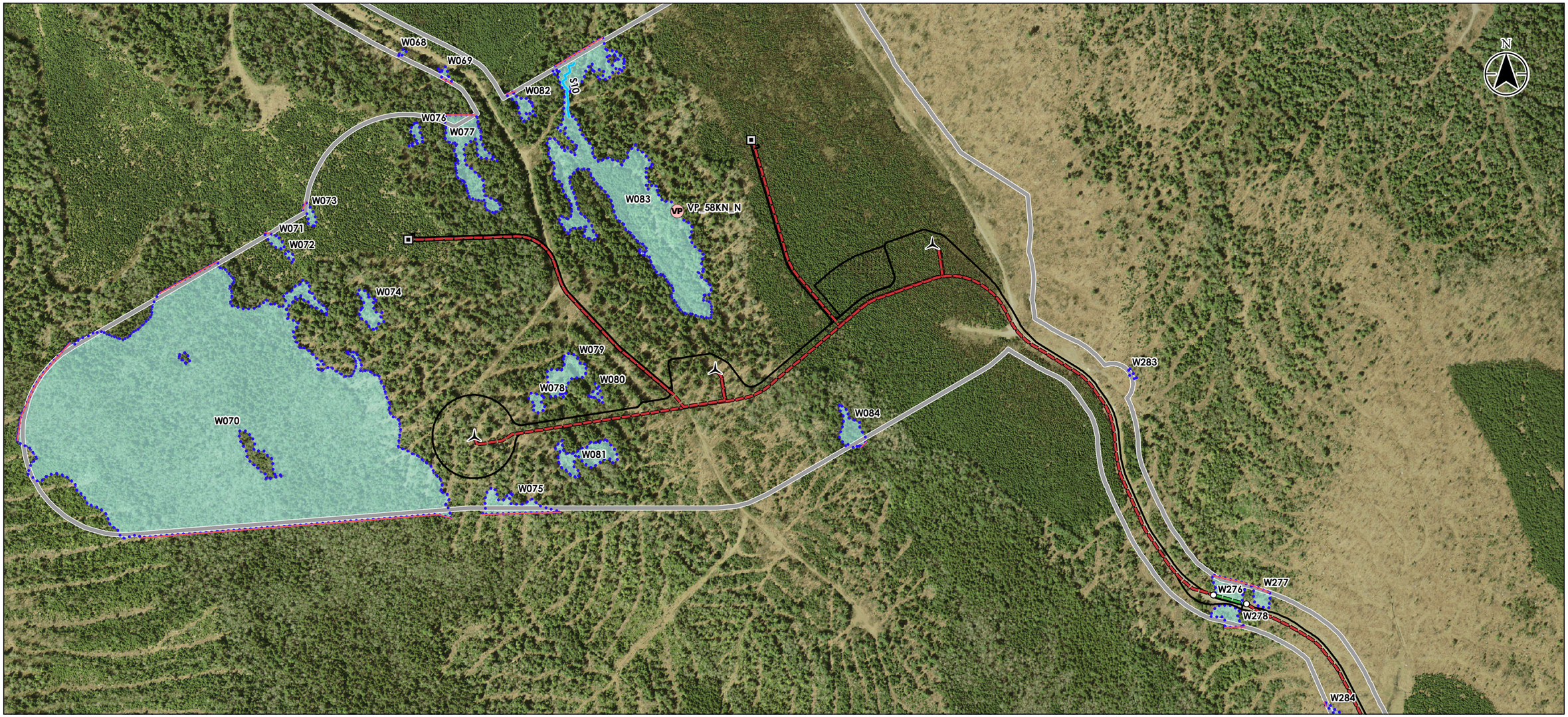
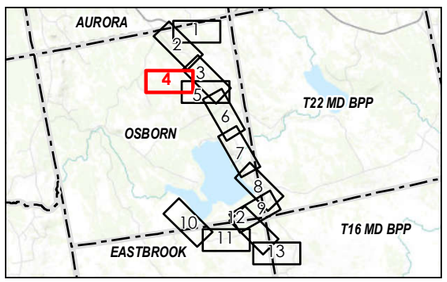
195601223
Prepared by GC on 2018-10-25
Reviewed by TT on 2018-10-25

Client/Project
Weaver Wind Project
Longroad Energy Partners LLC

Figure No.
3 of 13

Title
Delineated Natural Resources





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Prepared by GC on 2018-10-25
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Weaver Wind Project
Longroad Energy Partners LLC

Figure No.
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Title
Delineated Natural Resources

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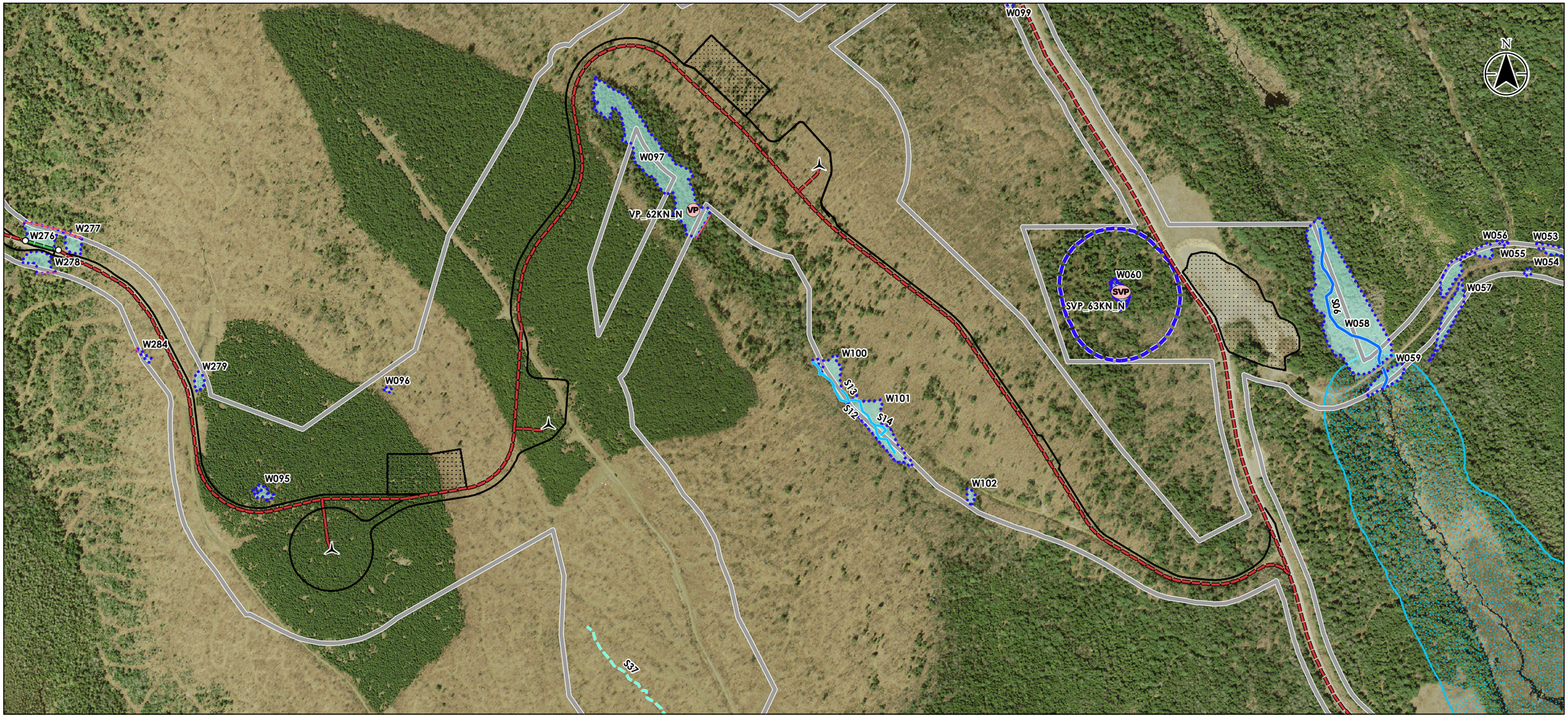

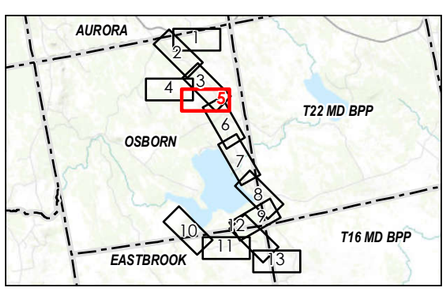

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Project Location
Hancock County, Maine

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Reviewed by TT on 2018-10-25

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Weaver Wind Project
Longroad Energy Partners LLC

Figure No.
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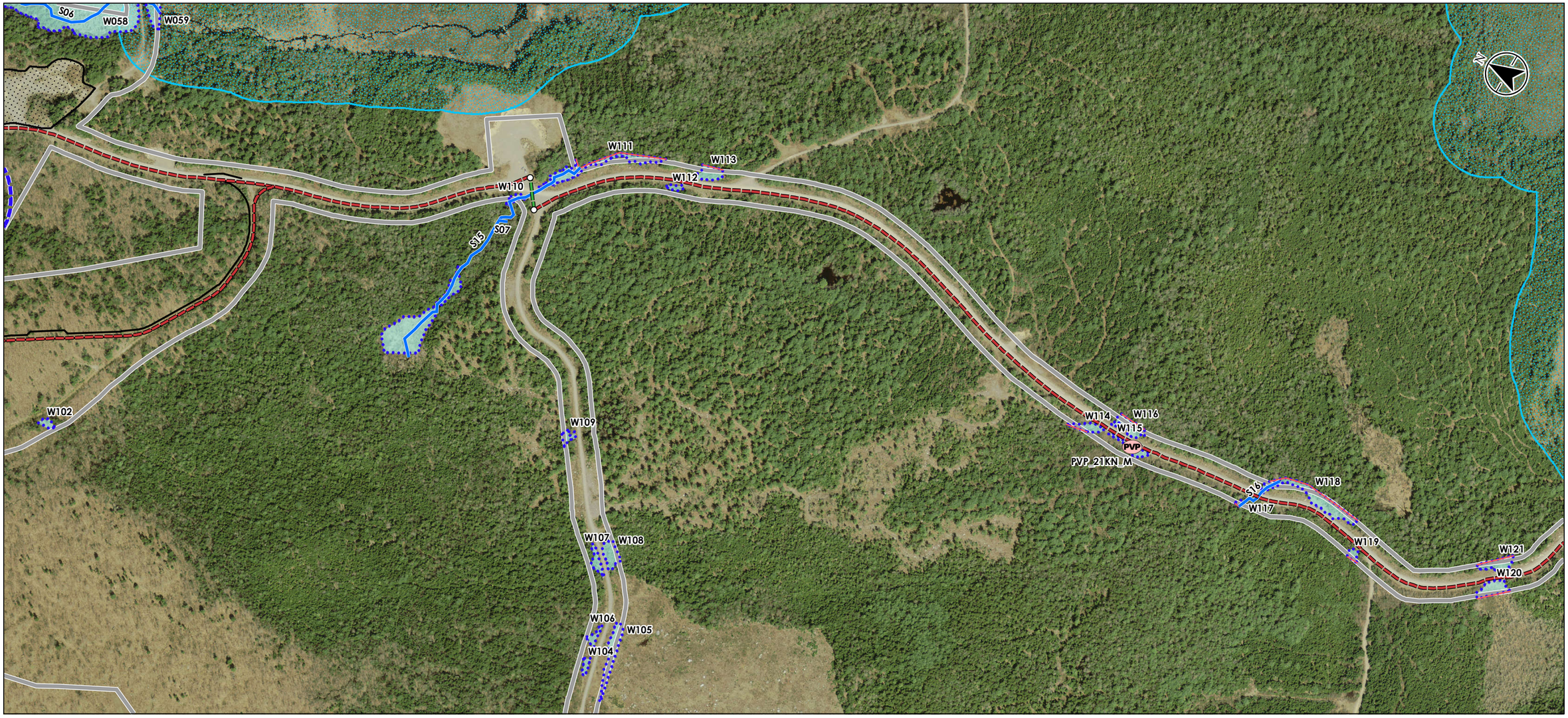
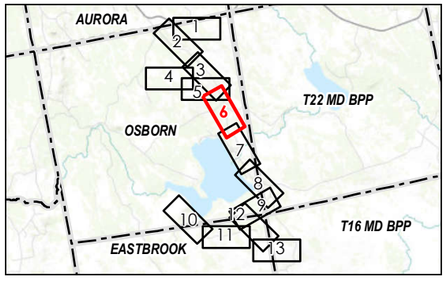
Title
Delineated Natural Resources





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Weaver Wind Project
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Figure No.
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Title
Delineated Natural Resources

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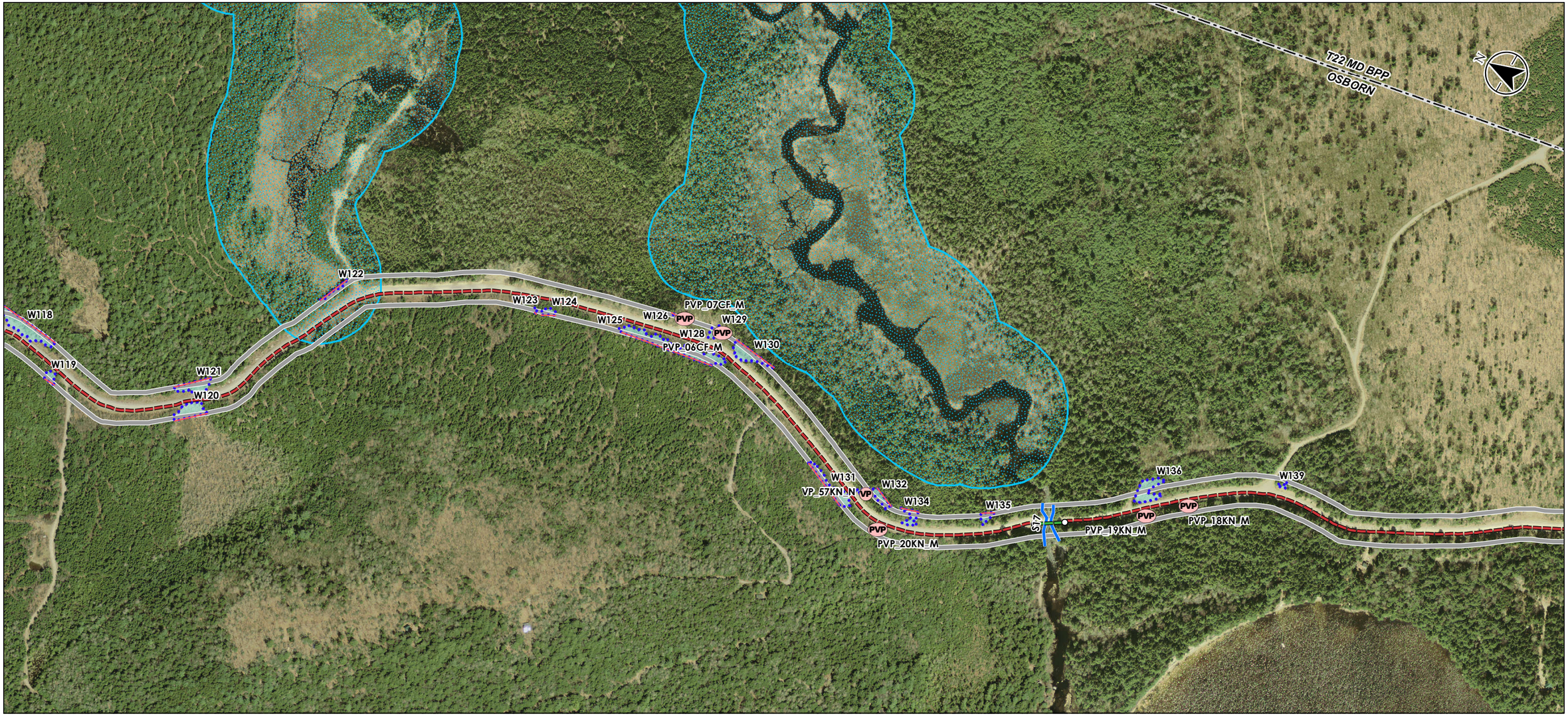

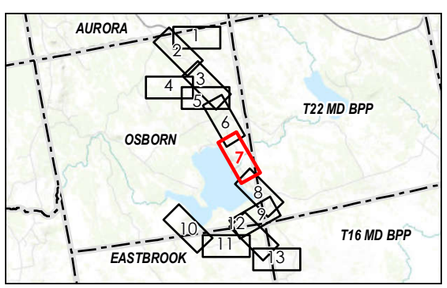

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Stantec

Project Location
Hancock County, Maine

195601223

Prepared by GC on 2018-10-25
Reviewed by TT on 2018-10-25

Client/Project
Weaver Wind Project
Longroad Energy Partners LLC

Figure No.
7 of 13

Title
Delineated Natural Resources

Revised: 2018-10-26 By: gcarpenter
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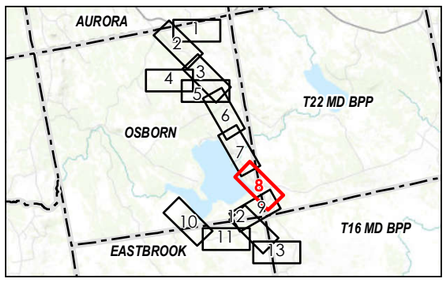

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Stantec

Project Location
Hancock County, Maine

195601223

Prepared by GC on 2018-10-25
Reviewed by TT on 2018-10-25

Client/Project
Weaver Wind Project
Longroad Energy Partners LLC

Figure No.
8 of 13

Title
Delineated Natural Resources

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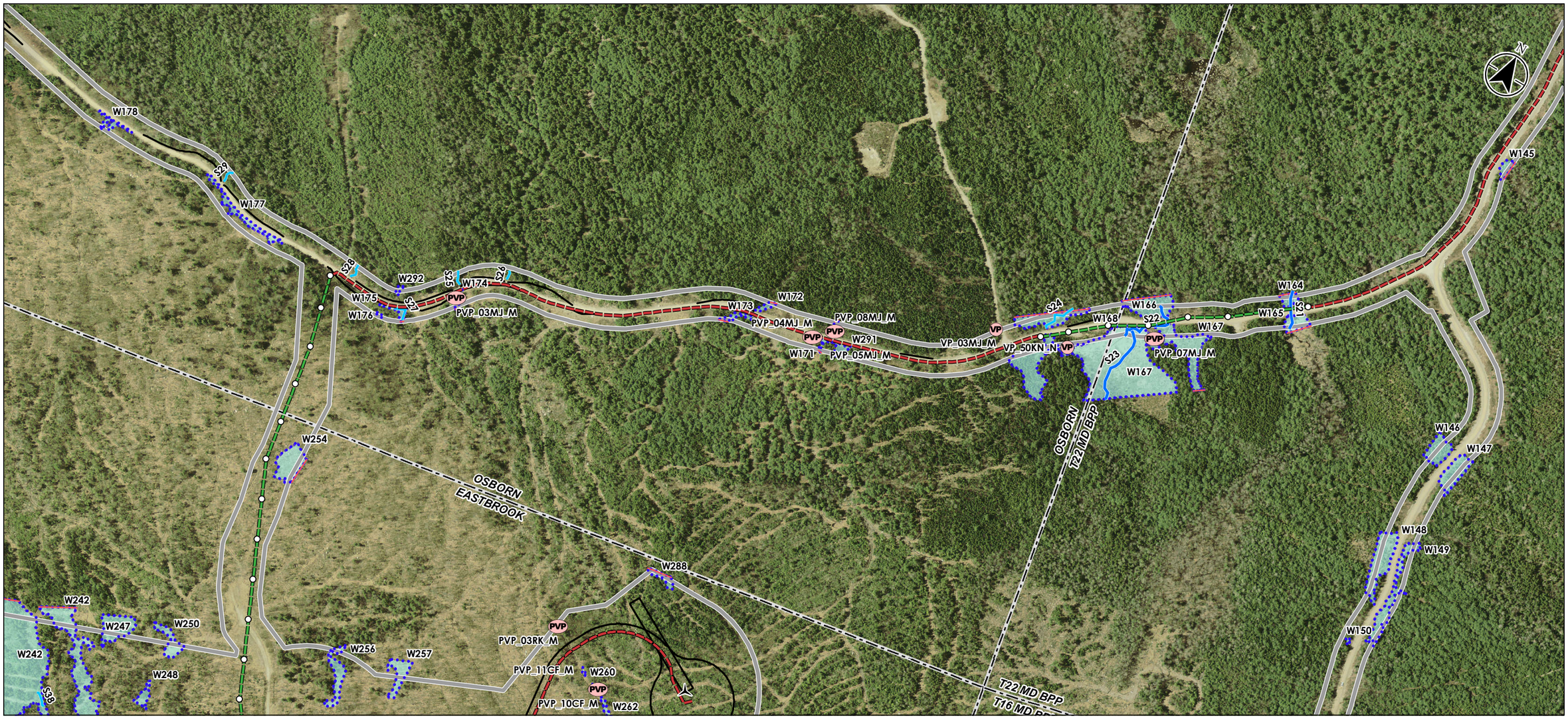

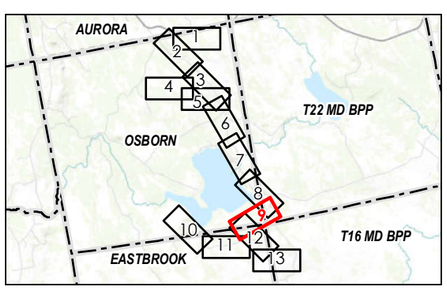

Notes
1. Coordinate System: NAD 1983 UTM Zone 19N FT
2. Orthoimagery: Maine Orthoimagery 2014

Legend

- Turbine Layout
- MET Tower
- Overhead Collector Pole
- Overhead Collector Line
- Underground Collector Line
- Access Road
- Laydown Area
- Town Boundary

Vernal Pool Center Point

- VP
- SVP
- PVP
- Vernal Pool Boundary
- Significant Vernal Pool Critical Terrestrial Habitat
- Inland Waterfowl / Wading Bird Habitat

Delineated Stream

- Perennial Stream
- Intermittent Stream
- Ephemeral Stream
- Delineated Wetland
- Open Wetland Line
- Delineation Limit

0 500 1,000 Feet

1:6,000 (At original document size of 11x17)

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Project Location
Hancock County, Maine

195601223
Prepared by GC on 2018-10-25
Reviewed by TT on 2018-10-25

Client/Project
Weaver Wind Project
Longroad Energy Partners LLC

Figure No.
9 of 13

Title
Delineated Natural Resources

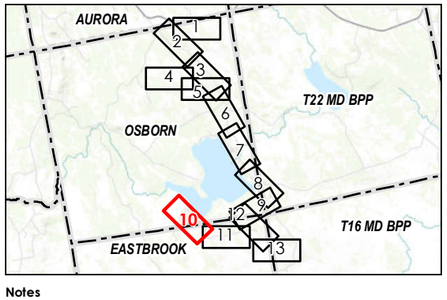

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Figure No.
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Title
Delineated Natural Resources

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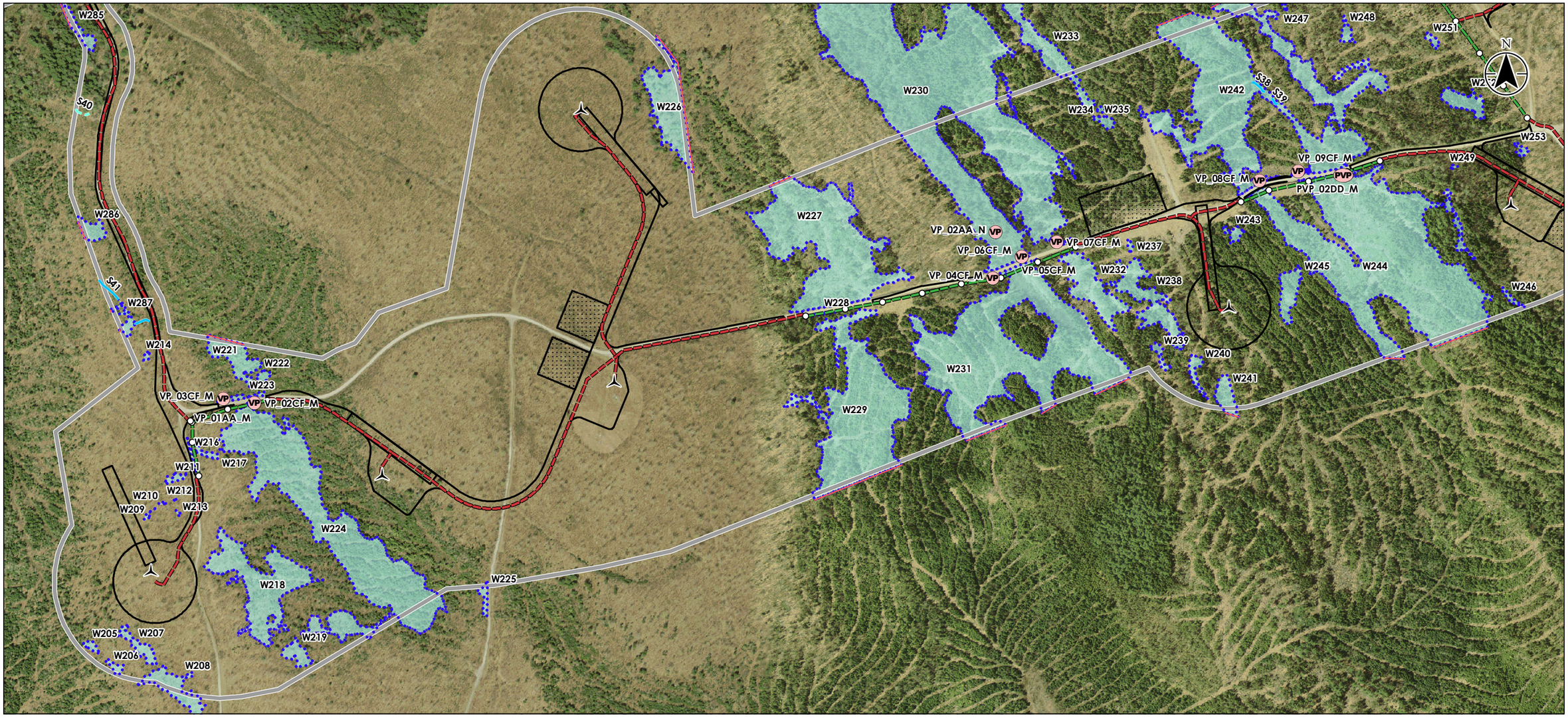

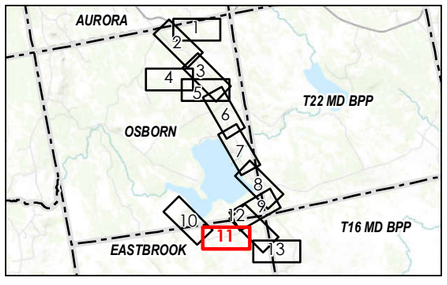

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Weaver Wind Project
Longroad Energy Partners LLC

Figure No.
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Title
Delineated Natural Resources

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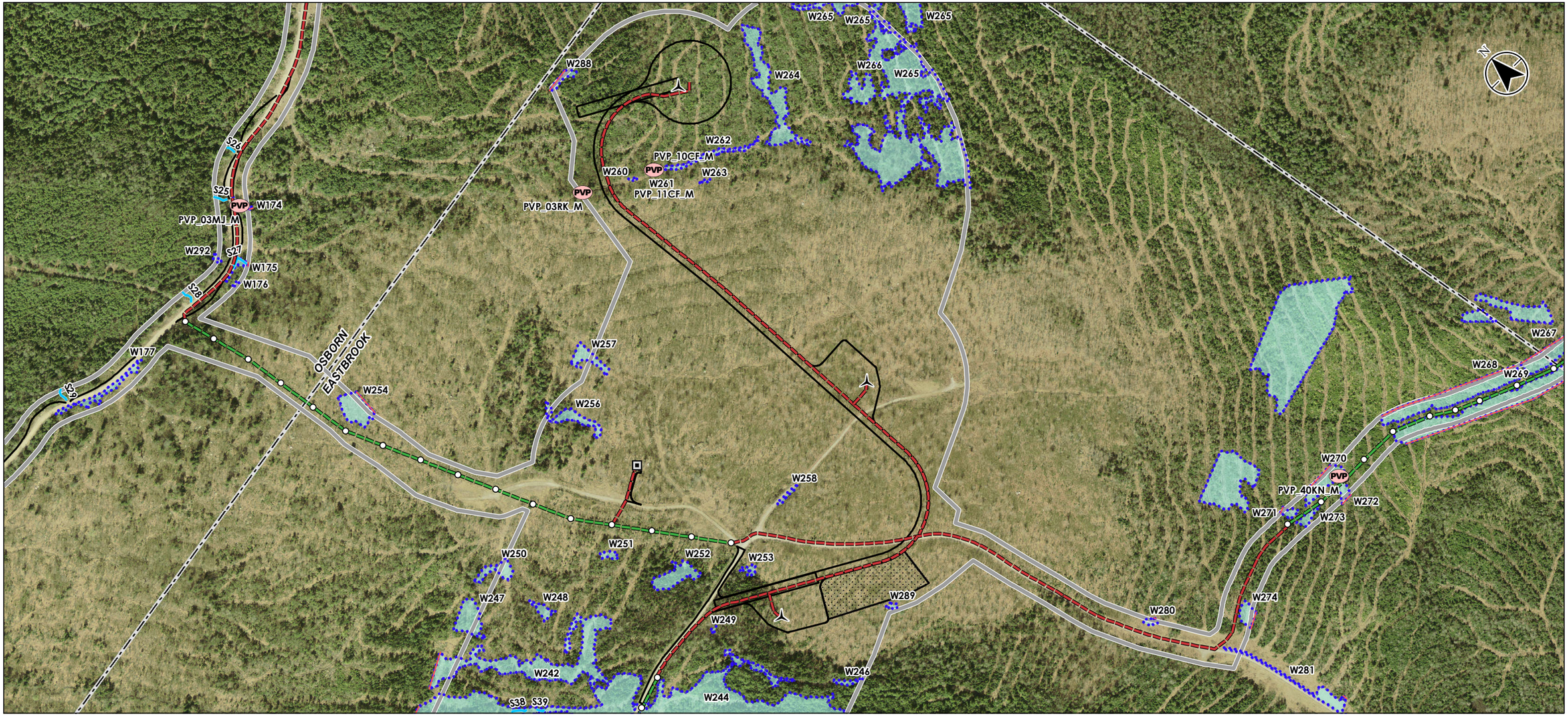

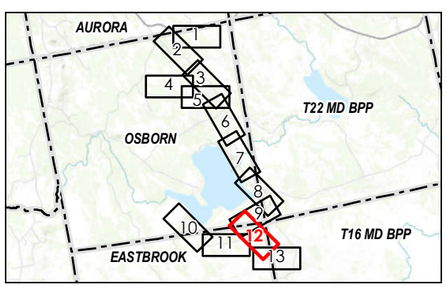

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Hancock County, Maine

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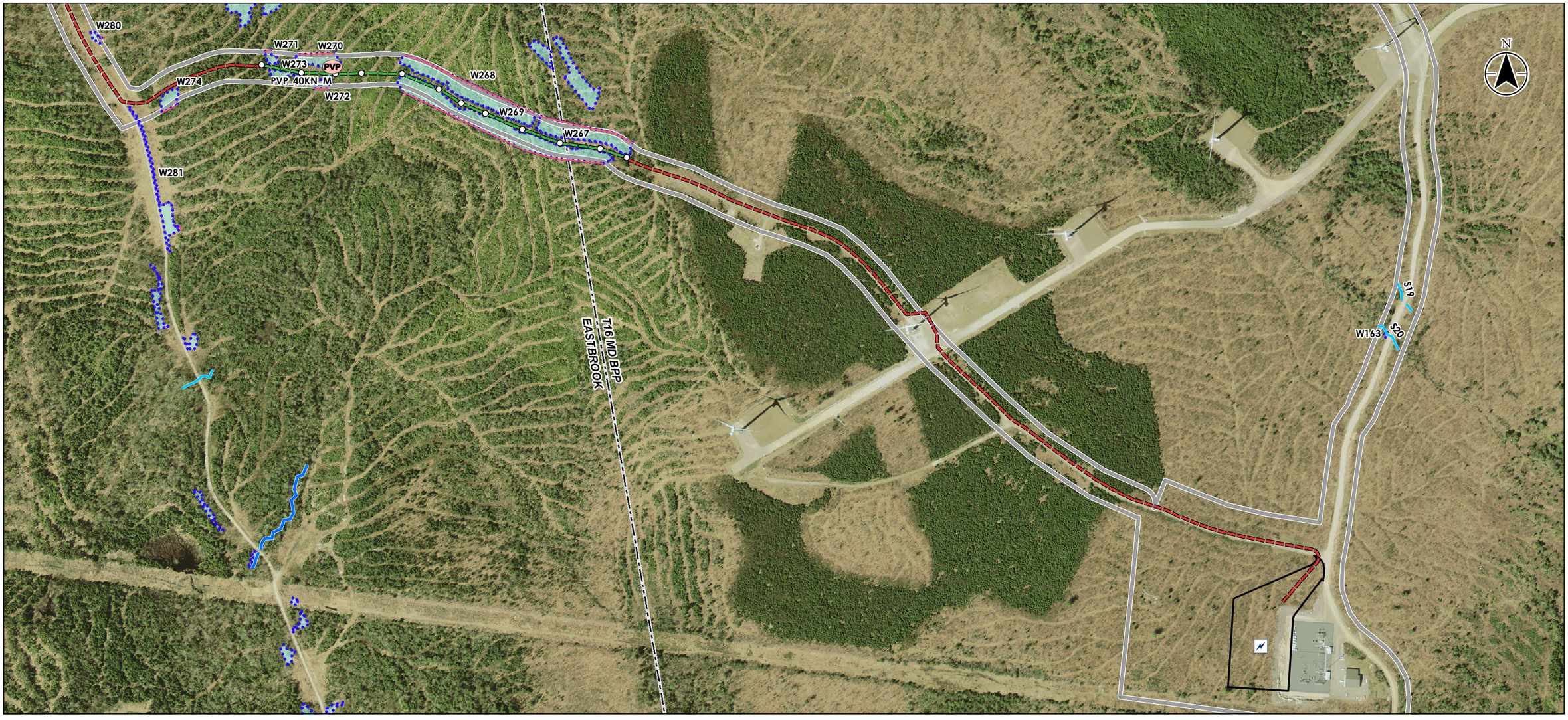
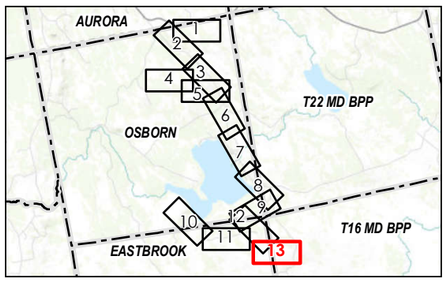
Client/Project
Weaver Wind Project
Longroad Energy Partners LLC

Figure No.
12 of 13

Title
Delineated Natural Resources





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Hancock County, Maine

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Client/Project
Weaver Wind Project
Longroad Energy Partners LLC

Figure No.
13 of 13

Title
Delineated Natural Resources

Table 1: Wetland summary table. Weaver Wind Project. Hancock County, Maine.

Wetland ID	PFO	PSS	PEM	PUB	Stream ID	P	I	E	VP/ABA ID	P-WL1	WSS	Notes
W001		X										
W002	X											
W003	D		X						VP_52KN_N			
									PVP_02RK_M			
W004	D		X						PVP_12KN_M			
W005	X								PVP_01JL_M			
									PVP_01RK_M			
									PVP_07KN_M			
									PVP_31KN_M			
									PVP_32KN_M			
W006		X							SVP_53KN_N	H		
W007	D		X									
W008	X											
W009	D	X	X									
W010	X								PVP_30KN_M			
W011	D	X							PVP_15KN_M			
W012	D	X										
W013	X											
W014	X											
W015		X										
W016	X											
W017			X									
W018	X											
W019	X											
W020	X											
W021	D		X		S01			X	PVP_33KN_M	R		
W022			X									
W023			X						PVP_34KN_M			
W024	D		X									
W025			X						PVP_35KN_M			
W026		X										
W027	D		X									
W028	X											
W029			X									
W030	X											
W031	X				S02		X			R		
W032		X										
W033			X									
W034		X										
W035		X							PVP_07JL_M			
W036		X							PVP_08JL_M			
W037			X									
W038	X											
W039	X											
W040		X										
W041	X								PVP_24KN_M			
W042			X									
W043			X									
W044	X											
W045	X				S03	X				R		
W046	D	X										
W047	X											
W048	X				S05	X				R		
W049	X				S05	X				R		
W050	X											
W051	X											
W052	D	X										
W053	X	D										
W054		X										
W055			X									
W056	D	X										
W057	X											
W058	X				S06	X				R, H		IWWH
W059	D	X			S06	X				R, H		IWWH
W060			X						SVP_63KN_N	H		
W061		D	X		S08	X				R, H, E		IWWH
					S09			X				
W062			D	X						H, E		IWWH
W063	X											
W064	X											
W065			X						PVP_22KN_M			
W066	X											
W067	X											
W068			X						PVP_23KN_M			
W069	X											
W070	X								VP_59KN_N			
									VP_60KN_N			
									VP_61KN_N			
W071			X									
W072		X										
W073	X		D									
W074	X											
W075	X											
W076	X											
W077	X											

Wetland ID	PFO	PSS	PEM	PUB	Stream ID	P	I	E	VP/ABA ID	P-WL1	WSS	Notes
W078	X											
W079	D	X										
W080		X										
W081	D	X										
W082	X											
W083	X				S10		X		VP_58KN_N	R		
W084	X											
W085	X								PVP_03CF_M			
									VP_65KN_N			
W086	X											
W087	X											
W088	X											
W089			X							H		IWWH
W090	X											
W091	X			D								IWWH
W092	X	D	D							H		IWWH
W093	X			D						H		IWWH
W094	X	D	D							H		IWWH
W095			X									
W096			X									
W097	X								VP_62KN_N			
W098		X							VP_64KN_N			
W099	X											
W100	X				S13		X			R		
					S14		X					
W101	X				S12		X			R		
					S13		X					
					S14		X					
W102	X											
W103	X											
W104		X										
W105			X						PVP_09KN_M			
W106		X										
W107	D	X										
W108	X											
W109	X	D										
W110		X			S15	X				R		
W111		X			S15	X				R		
W112		X										
W113	X											
W114	X											
W115	D		X						PVP_21KN_M			
W116	X											
W117	X				S16	X				R		
W118	X				S16	X				R		
W119	X											
W120	X											
W121	X											
W122	X									H		
W123	X											
W124	X											
W125	X											
W126			X									
W127		X		D					PVP_07CF_M			
W128		X										
W129		X							PVP_06CF_M			
W130	X											
W131	X											
W132	X								VP_57KN_N			
W133		X							PVP_20KN_M			
W134	X											
W135	X											
W136		X										
W137		X							PVP_19KN_M			
W138		X							PVP_18KN_M			
W139		X										
W140	X											
W141	X				S18	X				R		
W142		X										
W143		X	D									
W144		X										
W145	D	X										
W146	D	X										
W147	X											
W148	D	X	X						VP_51KN_M			
W149	D	X							VP_02AA_M			
W150		X							VP_03AA_M			
W151	X											
W152	X		D									
W153	X		D									
W154	X											
W155	X	D	D									
W156	X											
W157			D	X					PVP_04AA_M			
W158	X	D										

Wetland ID	PFO	PSS	PEM	PUB	Stream ID	P	I	E	VP/ABA ID	P-WL1	WSS	Notes
W159	D	X										
W160		X	D									
W161	D	X										
W162			X									
W163					S20		X			R		
W164	X				S21	X				R		
W165	D		X		S21	X				R		
W166	X				S22	X				R		
W167	X	X	X		S22	X			VP_50KN_N	R		
					S23	X			PVP_07MJ_M			
W168	X				S24		X			R		
W169		D	D						VP_03MJ_M			
W170			X						PVP_08MJ_M			
W171		D	D						PVP_04MJ_M			
									PVP_05MJ_M			
W172	X											
W173	D		X									
W174	D		X						PVP_03MJ_M			
W175	D		X		S27		X		PVP_01MJ_M	R		
W176			X									
W177		X	D									
W178		X	D									
W179	X											
W180		D	D						PVP_02MJ_M			
W181			X									
W182	D		X									
W183	D		X									
W184	X				S34		X			R		
W185	D		X		S34		X				R	
W186	D		X									
W187		X										
W188	X				S35	X					R	
W189	D	X			S35	X					R	
W190	X				S36	X					R	
W191		X										
W192		D	X									
W193		X										
W194	D	X										
W195	D	X										
W196	X								VP_55KN_N			
									VP_56KN_N			
W197	X											
W198	X											
W199	X											
W200	X											
W201	X											
W202	X											
W203	X								PVP_10JL_M			
W204	X											
W205		X										
W206		X										
W207	X											
W208	X											
W209	X											
W210		X										
W211		X										
W212			X									
W213		X										
W214			X									
W215			X						VP_01MJ_M			
W216			X									
W217			X									
W218	D	D										
W219	X											
W220		X							03CF			Man-made vernal pool identified in 2009
W221	X											
W222	X											
W223		X	D									
W224	D	X							01AA			Man-made vernal pool identified in 2009
									02CF			Man-made vernal pool identified in 2009
W225			X						02TT			Man-made PVP identified in 2009
W226	D	X										
W227	X											
W228			X									
W229	D	X	D									
W230	D	D	X						05CF			Man-made vernal pool identified in 2009
									06CF			Man-made vernal pool identified in 2009
									02AA			Natural vernal pool identified in 2009

Wetland ID	PFO	PSS	PEM	PUB	Stream ID	P	I	E	VP/ABA ID	P-WL1	WSS	Notes
									07CF			Man-made vernal pool identified in 2009
W231	D	X	X						04CF			Man-made vernal pool identified in 2009
W232	D	D	X									
W233			X									
W234	X											
W235*	X											
W237		X	D									
W238	D	D	X									
W239	D	X	X									
W240			X									
W241	D		X									
W242	D	X	X		S38		X		08CF		R	Man-made vernal pool identified in 2009
					S39		X		09CF			Man-made vernal pool identified in 2009
									01MG			Man-made vernal pool identified in 2009
W243	D	X	X									
W244	D	X	X						02DD			Man-made PVP identified in 2009
W245	D	X	X									
W246		X										
W247	X	D										
W248	D		X									
W249	X											
W250		X										
W251	X											
W252	X											
W253		X										
W254*	X											
W256		X	D									
W257		X	D									
W258			X									
W259			X						PVP_03RK_M			
W260			X						PVP_11CF_M			
W261			X						PVP_10CF_M			
W262			X									
W263			X									
W264	X											
W265	D	X	X						11CF			Man-made vernal pool identified in 2009
									02MG			Man-made vernal pool identified in 2009
W266	X											
W267	X											
W268	X											
W269	X											
W270	X								PVP_40KN_M			new, manmade roadside ditch
W271	X											
W272	X											
W273	X											
W274	X											
W275	D	X										
W276	X											
W277	X											
W278	X											
W279	X											
W280			X									
W281			X									
W282	X											
W283	X											
W284	X											
W285	X											
W286	X											
W287	X				S41		X				R	
W288	X											
W289		X										

*Wetland ID numbers W236 and W255 are skipped by intention

P-WL1 and Wetland of Special Significance (WSS) designations:

R	Located within 25 feet of a river, stream or brook
H	Wetland includes a mapped significant wildlife habitat or potential significant wildlife habitat
E	Wetland includes 20,000 square feet or more of open water or emergent marsh vegetation
	Note some wetlands include one or more of the above criteria

Table 2: Stream summary table. Weaver Wind Project. Hancock County, Maine.

		Flow Regime							
Stream ID	**Associated Wetland ID**	**P**	**I**	**E**	**Top of Bank Width (Ft.)**	**Ordinary Highwater Mark Width (Ft.)**	**Water Depth at Survey (Ft.)**	**Substrate**	**Additional Notes**
S01	W021			X	2.5	1.5	0.1	cobble, gravel, mud	
S02	W031		X		3	2	0.2	cobble, gravel, mud	
S03	W045	X			6	4	0.3	gravel, boulder	
S04	No associated wetland	X			6	4	0.3	gravel, boulder	
S05	W048, W049	X			8	4	0.3	gravel, boulder	
S06	W058, W059	X			10-25	4-8	0.4-2.5	silt, gravel, boulder	Hopper Brook
S07	No associated wetland	X			8	4	0.5	silt, cobble, boulder	
S08	W061	X			12	8	0.25	gravel, cobble, mud	Leighton Brook
S09	W061			X	4	3	0	gravel, cobble, mud	
S10	W083		X		1-6	1-3	0.1-0.5	silt, cobble, gravel, organic	
S11	No associated wetland	X			10	6	0.5	cobble, gravel	Leighton Brook
S12	W100, W101		X		2	2	0.2	gravel, cobble, boulders	
S13	W100, W101		X		2	2	0.3	gravel, cobble, boulders	
S14	W101		X		1	1	0.3	gravel, cobble, boulders	
S15	W110, W111	X			3.5	1.5	0.25	cobble, gravel	
S16	W117, W118	X			6	4	0.25	silt, detritus, boulder	
S17	No associated wetland	X			30	25	2	boulder, cobble, gravel	East Branch Union River
S18	W141	X			1	1	0.25	silt, gravel	
S19	No associated wetland		X		—	—	—	—	Not all stream characteristics available
S20	W163		X		—	—	—	—	Colson Branch. Not all stream characteristics available
S21	W164, W165	X			12	11	2.5	gravel, silt, detritus	
S22	W166, W167	X			5	4	1	gravel, silt	
S23	W167	X			6	5	0.75	gravel, silt	Garden Eden Brook
S24	W168		X		4	2	0.1	gravel	
S25	No associated wetland		X		5	5	0.5	boulder, gravel	
S26	No associated wetland		X		1	1	0.25	boulder, sand	
S27	W175		X		1	1	0.1	silt, cobble	
S28	No associated wetland		X		5	5	1	gravel, cobble	
S29	No associated wetland		X		3	3	0.25	gravel, cobble	
S30	No associated wetland	X			7	4	0.5	gravel, cobble	
S31	No associated wetland		X		3	1	0.25	silt ,detritus	
S32	No associated wetland	X			6	3	0.75	gravel, cobble	
S33	No associated wetland	X			8	3	0.25	cobble, gravel	
S34	W184, W185		X		6	2	0.5	gravel, cobble	
S35	W188, W189	X			6	5	0.5	cobble, gravel, sand	
S36	W190	X			2.5	2.5	0.25	cobble, silt	
S37	No associated wetland			X	4-6	2-3	0	gravel, cobble, boulder	
S38	W242		X		4	1.5	0.5	cobble	
S39	W242		X		1	1	0.5	cobble	
S40	No associated wetland			X	2	2	0.25	sand	
S41	W287		X		2	2	0.5	gravel, sand, cobble	

Table 3: Vernal pool summary table. 2009 vernal pools listed at the bottom of table. Weaver Wind Project. Hancock County, Maine.

PoolID	Type	Descriptor	Observation Date	Wood Frog	Spotted Salamander	Blue-spotted salamander	Fairy Shrimp	Notes
VP_01MJ_M	VP	Man-made	7/8/2014	?	0	0	No	Borrow pit. Wood frog tadpoles observed.
PVP_01MJ_M	PVP	Man-made	7/9/2014	0	0	0	No	
PVP_02MJ_M	PVP	Man-made	7/10/2014	0	0	0	No	
PVP_03MJ_M	PVP	Man-made	7/10/2014	0	0	0	No	
PVP_04MJ_M	PVP	Man-made	7/10/2014	0	0	0	No	
PVP_05MJ_M	PVP	Man-made	7/10/2014	0	0	0	No	
VP_50KN_N	VP	Natural	5/1/2015	43	53	0	No	Additional visit on 5/13/15, IFW determined not significant: permanent inlet/outlet, permanent hydroperiod
PVP_07MJ_M	PVP	Man-made	7/10/2014	0	0	0	No	
VP_03MJ_M	VP	Man-made	7/11/2014	?	0	0	No	Borrow pit. Wood frog tadpoles observed.
PVP_08MJ_M	PVP	Man-made	7/11/2014	0	0	0	No	
VP_55KN_N	VP	Natural	5/5/2015	0	15	0	No	Additional visit on 5/14/15
VP_56KN_N	VP	Natural	5/5/2015	0	7	0	No	Additional visit on 5/14/15
VP_51KN_M	VP	Man-made	5/1/2015	116	14	1	No	Impoundment adjacent to road. Outlet from pool under road. Additional visit on 5/13/15
VP_02AA_M	VP	Man-made	7/18/2014	?	0	0	No	Wood frog tadpoles observed
VP_03AA_M	VP	Man-made	7/28/2014	?	0	0	No	Wood frog tadpoles observed
PVP_04AA_M	PVP	Man-made	7/28/2014	0	0	0	No	
VP_58KN_N	VP	Natural-Modified	5/6/2015	0	14	0	No	Additional visit on 5/14/15
PVP_07KN_M	PVP	Man-made	8/7/2014	0	0	0	No	
PVP_01JL_M	PVP	Man-made	8/7/2014	0	0	0	No	
PVP_01RK_M	PVP	Man-made	8/7/2014	0	0	0	No	
PVP_02RK_M	PVP	Man-made	8/7/2014	0	0	0	No	
PVP_09KN_M	PVP	Man-made	8/13/2014	0	0	0	No	
VP_59KN_N	VP	Natural	5/6/2015	0	7	0	No	Additional visit on 5/14/15
VP_60KN_N	VP	Natural	5/6/2015	0	7	0	No	Additional visit on 5/14/15
VP_61KN_N	VP	Natural	5/6/2015	0	11	0	No	Additional visit on 5/14/15
PVP_12KN_M	PVP	Man-made	8/14/2014	0	0	0	No	
VP_52KN_N	VP	Natural-Modified	5/5/2015	0	2	0	No	Additional visit on 5/14/15
PVP_14KN_M	PVP	Man-made	8/15/2014	0	0	0	No	
VP_64KN_N	VP	Natural	5/6/2015	0	14	0	No	Additional visit on 5/14/15
VP_62KN_N	VP	Natural	5/6/2015	0	12	0	No	Additional visit on 5/13/15
PVP_03CF_M	PVP	Man-made	8/19/2014	0	0	0	No	
VP_65KN_N	VP	Natural	5/6/2015	0	17	0	No	Additional visit on 5/14/15
SVP_53KN_N	SVP	Natural	5/5/2015	104	2	0	No	Additional visit on 5/13/15
VP_57KN_N	VP	Natural-Modified	5/5/2015	0	8	0	No	Additional visit on 5/13/15
PVP_06CF_M	PVP	Man-made	8/25/2014	0	0	0	No	
PVP_07CF_M	PVP	Man-made	8/25/2014	0	0	0	No	
PVP_18KN_M	PVP	Man-made	8/25/2014	0	0	0	No	
PVP_19KN_M	PVP	Man-made	8/25/2014	0	0	0	No	
PVP_20KN_M	PVP	Man-made	8/25/2014	0	0	0	No	
PVP_21KN_M	PVP	Man-made	8/26/2014	0	0	0	No	
PVP_22KN_M	PVP	Man-made	8/27/2014	0	0	0	No	
PVP_23KN_M	PVP	Man-made	8/27/2014	0	0	0	No	
PVP_24KN_M	PVP	Man-made	8/27/2014	0	0	0	No	
PVP_07JL_M	PVP	Man-made	8/28/2014	0	0	0	No	
PVP_08JL_M	PVP	Man-made	8/28/2014	0	0	0	No	
PVP_30KN_M	PVP	Man-made	9/23/2014	0	0	0	No	
PVP_31KN_M	PVP	Man-made	9/23/2014	0	0	0	No	
PVP_32KN_M	PVP	Man-made	9/23/2014	0	0	0	No	
PVP_33KN_M	PVP	Man-made	9/25/2014	0	0	0	No	
PVP_34KN_M	PVP	Man-made	9/25/2014	0	0	0	No	
PVP_35KN_M	PVP	Man-made	9/29/2014	0	0	0	No	
PVP_10CF_M	PVP	Man-made	10/2/2014	0	0	0	No	
PVP_11CF_M	PVP	Man-made	10/2/2014	0	0	0	No	
PVP_10JL_M	PVP	Man-made	10/7/2014	0	0	0	No	
PVP_03RK_M	PVP	Man-made	10/16/2014	0	0	0	No	
SVP_63KN_N	SVP	Natural	5/6/2015	146	98	13	Yes	Additional visit on 5/14/15
PVP_40KN_M	PVP	Man-made	11/21/2014	0	0	0	No	
01AA	VP	Man-made	5/12/2009	0	6	0	No	Green frog tadpoles observed
02AA	VP	Natural	5/12/2009	2	3	0	No	
02CF	VP	Man-made	5/12/2009	0	5	0	No	
03CF	VP	Man-made	5/12/2009	3	0	0	No	
04CF	VP	Man-made	5/12/2009	1	5	0	No	Wood frog tadpoles observed
05CF	VP	Man-made	5/12/2009	7	0	0	No	
06CF	VP	Man-made	5/12/2009	7	34	0	No	
07CF	VP	Man-made	5/12/2009	8	7	0	No	
08CF	VP	Man-made	5/12/2009	30	0	0	No	
09CF	VP	Man-made	5/12/2009	24	10	0	No	
11CF	VP	Man-made	5/12/2009	1	13	0	No	
01MG	VP	Man-made	5/12/2009	0	5	0	No	
02MG	VP	Man-made	5/12/2009	7	0	0	No	
02DD	PVP	Man-made	11/19/2009	0	0	0	No	
02TT	PVP	Man-made	11/18/2009	0	0	0	No	

Exhibit 9-2

Wetland Determination Forms

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Rod Kelshaw	Investigator #2:	Jeanna Leclerc
Soil Unit:	Brayton-Colonel 0-8%slopes	NWI/WWI Classification:	Upland
Landform:	Depression	Local Relief:	Linear
Slope (%):	5	Latitude: 44.825773	Longitude: -68.233056 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:	10/15/14
County:	Hancock
State:	Maine
Wetland ID:	W005_1
Sample Point:	Upland
Community ID:	--
Section:	--
Township:	--
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:	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

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	--	--	--	--	--	--	Oi - organic/duff
0	2	2	10YR 6/2	100	--	--	--	--	Stony fine sandy loam
2	11	3	7.5YR 4/4	100	--	--	--	--	Stony fine sandy loam
11	15	4	10YR 4/6	100	--	--	--	--	fine sandy loam
15	17	5	2.5Y 5/4	80	--	NR	<20	D	M	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: None Depth:

Hydric Soil Present? ☐ Yes ☑ No

Remarks: Second horizon is an albic E-horizon.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project Wetland ID: W005_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.	*Picea rubens*	70	Y	FACU
2.	*Abies balsamea*	10	Y	FAC
3.	*Thuja occidentalis*	3	N	FACW
4.	*Acer rubrum*	2	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	85		

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

1.	*Picea rubens*	25	Y	FACU
2.	*Abies balsamea*	10	N	FAC
3.	*Thuja occidentalis*	3	N	FACW
4.	*Betula populifolia*	2	N	FAC
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		

Remarks: No vegetation observed in herb stratum.

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.	6	x 2 =	12
FAC spp.	24	x 3 =	72
FACU spp.	95	x 4 =	380
UPL spp.	0	x 5 =	0
Total	125 (A)		464 (B)

Prevalence Index = B/A = ***3.712***

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:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Rod Kelshaw	Investigator #2:	Jeanna Leclerc
Soil Unit:	Marlow Dixfield 3-15% slopes	NWI/WWI Classification:	PFO
Landform:	Depression	Local Relief:	Linear
Slope (%):	0-3	Latitude: 44.825773	Longitude: -68.233056 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:	10/15/14
County:	Hancock
State:	Maine
Wetland ID:	W005_1
Sample Point:	Wetland
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: 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

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	22	1	--	NR	--	--	--	--	Oa 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: None Depth:

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project | Wetland ID: W005_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.	*Abies balsamea*	50	Y	FAC
2.	*Acer rubrum*	20	Y	FAC
3.	*Thuja occidentalis*	3	N	FACW
4.	*Fraxinus nigra*	2	N	FACW
5.	--	--	--	--
6.	--	--	--	--
7.		--	--	
8.		--	--	
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	75		

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

1.	*Alnus incana*	15	Y	FACW
2.	*Abies balsamea*	8	N	FAC
3.	*Picea rubens*	3	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	26		

Herb Stratum (Plot size: 2 meter radius)

1.	*Osmunda claytoniana*	15	Y	FAC
2.	*Mianthemum canadense*	10	Y	FACU
3.	*Oxalis montana*	2	N	FACU
4.	*Carex trisperma*	3	N	OBL
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: 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.	20	x 2 =	40
FAC spp.	93	x 3 =	279
FACU spp.	15	x 4 =	60
UPL spp.	0	x 5 =	0
Total	131 (A)		382 (B)

Prevalence Index = B/A = ***2.916***

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:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Katelin Nickerson	Investigator #2:	Jeanna Leclerc
Soil Unit:	Brayton-Colonel association, 0-8% slopes, v. stony	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Concave
Slope (%):	0-3	Latitude: 44.825798	Longitude: -68.232824 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:	Hancock
State:	Maine
Wetland ID:	W005_2
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

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	7	2	5Y	6/1 100	-- --	--	--	--	sandy loam
7	10	3	7.5YR	3/4 100	-- --	--	--	--	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: Rock Depth: 13"

Hydric Soil Present? ☐ Yes ☑ No

Remarks: Second horizon an albic E-horizon.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project Wetland ID: W005_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.	*Picea rubens*	30	Y	FACU
2.	*Abies balsamea*	20	Y	FAC
3.	*Pinus strobus*	15	Y	FACU
4.	*Thuja occidentalis*	5	N	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	70		

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

1.	*Picea rubens*	30	Y	FACU
2.	*Abies balsamea*	10	Y	FAC
3.	*Thuja occidentalis*	10	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 2 meter radius)

1.	*Vaccinium angustifolium*	3	Y	FACU
2.	*Maianthemum canadense*	2	Y	FACU
3.	*Acer rubrum*	Y	Y	FAC
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		

Remarks:

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.	15	x 2 =	30
FAC spp.	30	x 3 =	90
FACU spp.	80	x 4 =	320
UPL spp.	0	x 5 =	0
Total	125 (A)		440 (B)

Prevalence Index = B/A = ***3.520***

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

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Katelin Nickerson	Investigator #2:	Jeanna Leclerc
Soil Unit:	Brayton-Colonel association, 0-8% slopes, v. stony	NWI/WWI Classification:	PFO
Landform:	Depression	Local Relief:	Concave
Slope (%):	0-3	Latitude: 44.825223	Longitude: -68.233072 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:	Hancock
State:	Maine
Wetland ID:	W005_2
Sample Point:	Wetland
Community ID:	--
Section:	--
Township:	--
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: 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

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)
36	0	1	-- NR	--	-- --	--	--	--	mucky peat
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--

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: Weaver Wind Project | Wetland ID: W005_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.	*Abies balsamea*	25	Y	FAC
2.	*Acer rubrum*	15	Y	FAC
3.	*Betula alleghaniensis*	15	Y	FAC
4.	*Fraxinus pennsylvanica*	5	N	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

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

1.	*Alnus incana*	50	Y	FACW
2.	*Abies balsamea*	10	N	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Herb Stratum (Plot size: 2 meter radius)

1.	*Osmunda claytoniana*	10	Y	FAC
2.	*Acer rubrum*	5	Y	FAC
3.	*Linnaea borealis*	5	Y	FAC
4.	*Carex trisperma*	5	Y	OBL
5.	*Trientalis borealis*	3	N	FAC
6	--	--	--	--
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		

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.	5	x 1 =	5
FACW spp.	55	x 2 =	110
FAC spp.	88	x 3 =	264
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	148 (A)		379 (B)

Prevalence Index = B/A = ***2.561***

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:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Katelin Nickerson	Investigator #2:	
Soil Unit:	Colton-Hermon Association, 5-15% slopes	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Linear
Slope (%):	5-10	Latitude: 44.805456	Longitude: -68.19204 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:	Hancock
State:	Maine
Wetland ID:	W047
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

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 4/6	100	--	--	--	--	sandy loam
5	8	2	10YR 5/8	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: Compaction Depth: 8"

Hydric Soil Present? ☐ Yes ☑ No

Remarks: Soils contain 10% coarse fragments.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project | Wetland ID: W047 | 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*	40	Y	FACU
2.	*Populus tremuloides*	15	N	FACU
3.	*Picea rubens*	15	N	FACU
4.	*Acer rubrum*	5	N	FAC
5.	*Abies balsamea*	5	N	FAC
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	80		

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

1.	*Thuja occidentalis*	10	Y	FACW
2.	*Picea rubens*	10	Y	FACU
3.	*Nemopanthus mucronatus*	5	N	OBL
4.	*Acer rubrum*	5	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	*Cornus canadensis*	30	Y	FAC
2.	*Pteridium aquilinum*	10	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
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		

Remarks:

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.	5	x 1 =	5
FACW spp.	10	x 2 =	20
FAC spp.	45	x 3 =	135
FACU spp.	90	x 4 =	360
UPL spp.	0	x 5 =	0
Total	150 (A)		520 (B)

Prevalence Index = B/A = ***3.467***

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:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Katelin Nickerson	Investigator #2:	
Soil Unit:	Colton-Hermon Association, 5-15% slopes	NWI/WWI Classification:	PFO
Landform:	Depression	Local Relief:	Concave
Slope (%):	0-5	Latitude: 44.805173	Longitude: -68.19211 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:	Hancock
State:	Maine
Wetland ID:	W047
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	--
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:	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

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)
38	30	1	--	NR --	--	--	--	--	peat
30	0	2	--	NR --	--	--	--	--	mucky peat
0	2	3	2.5Y	4/1 60	2.5Y	6/2 40	D	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: Depth:

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Sand fragments mixted in horizon 2.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project | Wetland ID: W047 | 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.	*Thuja occidentalis*	15	Y	FACW
3.	*Picea rubens*	5	N	FACU
4.	*Betula alleghaniensis*	5	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

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

1.	*Alnus incana*	40	Y	FACW
2.	*Thuja occidentalis*	10	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 2 meter radius)

1.	*Rubus hispidus*	40	Y	FACW
2.	*Glyceria melicaria*	20	Y	OBL
3.	*Osmunda claytoniana*	15	N	FAC
4.	*Acer rubrum*	5	N	FAC
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		

Remarks: Sphagnum sp. mat throughout.

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.	105	x 2 =	210
FAC spp.	50	x 3 =	150
FACU spp.	5	x 4 =	20
UPL spp.	0	x 5 =	0
Total	180 (A)		400 (B)

Prevalence Index = B/A = ***2.222***

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: 100% Sphagnum cover

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Jeanna Leclerc	Investigator #2:	Katelin Nickerson
Soil Unit:	Colonel-Brayton-Dixfield association, 1-8% slopes, v. stony	NWI/WWI Classification:	Upland
Landform:	Rise	Local Relief:	Convex
Slope (%):	3-8	Latitude: 44.804659	Longitude: -68.213882 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 normal circumstances present? ☑ Yes ☐ No

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

Date:	08/14/14
County:	Hancock
State:	Maine
Wetland ID:	W070
Sample Point:	**Upland**
Community ID:	--
Section:	--
Township:	--
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

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	-- NR	100	-- --	--	--	--	fibric organic
	--	--	-- --	--	-- --	--	--	--	--
	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--

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: Boulder/Bedrock Depth: 5"

Hydric Soil Present? ☐ Yes ☑ No

Remarks: Horizon 1 is very dry.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project | Wetland ID: W070 | 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.	*Pinus strobus*	20	Y	FACU
2.	*Picea rubens*	20	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

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

1.	*Picea rubens*	20	Y	FACU
2.	*Acer rubrum*	10	Y	FAC
3.	*Pinus strobus*	5	N	FACU
4.	*Thuja occidentalis*	5	N	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

Herb Stratum (Plot size: 2 meter radius)

1.	*Maianthemum canadense*	40	Y	FACU
2.	*Gaultheria procumbens*	25	Y	FACU
3.	*Vaccinium angustifolium*	20	Y	FACU
4.	--	--	--	--
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		

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.	5	x 2 =	10
FAC spp.	10	x 3 =	30
FACU spp.	150	x 4 =	600
UPL spp.	0	x 5 =	0
Total	165 (A)		640 (B)

Prevalence Index = B/A = ***3.879***

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:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Jeanna Leclerc	Investigator #2:	Katelin Nickerson
Soil Unit:	Brayton-Colonel association, 0-8% slopes, very stony	NWI/WWI Classification:	PFO
Landform:	Depression	Local Relief:	Concave
Slope (%):	0-3	Latitude: 44.802552	Longitude: -68.253659 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:	Hancock
State:	Maine
Wetland ID:	W070
Sample Point:	**Wetland**
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:	1	(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: Pockets of surface water in pit and mound microtopography.

SOILS

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	100	-- --	--	--	--	muck
0	8	2	2.5Y 5/1	40	2.5Y 7/1	40	D	M	silt loam
--	--	--	-- --	--	-- NR	20	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: Compaction Depth: 11"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project | Wetland ID: W070 | 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.	*Acer rubrum*	30	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.	*Alnus incana*	20	Y	FACW
2.	*Abies balsamea*	15	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	35		

Herb Stratum (Plot size: 2 meter radius)

1.	*Maianthemum canadense*	5	Y	FACU
2.	*Trientalis borealis*	5	Y	FAC
3.	*Osmunda claytoniana*	5	Y	FAC
4.	*Parathelypteris noveboracensis*	5	Y	FAC
5.	*Linnaea borealis*	2	N	FAC
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	22		

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: 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.	0	x 1 =	0
FACW spp.	20	x 2 =	40
FAC spp.	92	x 3 =	276
FACU spp.	20	x 4 =	80
UPL spp.	0	x 5 =	0
Total	132 (A)		396 (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

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Jeanna Leclerc	Investigator #2:	
Soil Unit:	Colton-Adams complex, 3-15% slopes	NWI/WWI Classification:	Upland
Landform:	Rise	Local Relief:	Convex
Slope (%):	3-8	Latitude: 44.804659	Longitude: -68.213882 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:	Hancock
State:	Maine
Wetland ID:	W083
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

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	1	2	7.5YR	5/2 100	-- --	--	--	--	sandy loam
1	2	3	5YR	3/3 100	-- --	--	--	--	sandy loam
2	5	4	7.5YR	3/4 100	-- --	--	--	--	sandy loam
5	11	5	10YR	4/6 100	-- --	--	--	--	sandy loam
11	12	6	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: 12"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project | Wetland ID: W083 | 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*	25	Y	FACU
2.	*Picea rubens*	15	Y	FACU
3.	*Acer rubrum*	10	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

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

1.	*Tsuga canadensis*	15	Y	FACU
2.	*Abies balsamea*	15	Y	FAC
3.	*Picea rubens*	15	Y	FACU
4.	*Acer pensylvanicum*	5	N	FACU
5.	*Betula alleghaniensis*	5	N	FAC
6.	*Viburnum nudum*	5	N	FACW
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Herb Stratum (Plot size: 2 meter radius)

1.	*Maianthemum canadense*	5	Y	FACU
2.	*Coptis trifolia*	5	Y	FACW
3.	*Acer rubrum*	5	Y	FAC
4.	*Picea rubens*	5	Y	FACU
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		

Remarks:

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.	10	x 2 =	20
FAC spp.	35	x 3 =	105
FACU spp.	85	x 4 =	340
UPL spp.	0	x 5 =	0
Total	130 (A)		465 (B)

Prevalence Index = B/A = ***3.577***

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:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Jeanna Leclerc	Investigator #2:	
Soil Unit:	Dixfield-Colonel Complex, 0-8% slope, very stony	NWI/WWI Classification:	PFO
Landform:	Depression	Local Relief:	Concave
Slope (%):	0-3	Latitude: 44.807389	Longitude: -68.244437 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:	Hancock
State:	Maine
Wetland ID:	W083
Sample Point:	**Wetland**
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:	0	(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

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	5Y 3/2	100	--	--	--	--	mucky peat
0	7	2	5Y 3/1	100	--	--	--	--	silt loam
7	11	3	Gley 1 5/10Y	100	--	--	--	--	loamy sand
11	13	4	Gley 2 6/5G	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: Rock Depth: 13 in.

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project | Wetland ID: W083 | 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*	15	N	FAC
3.	*Picea rubens*	10	N	FACU
4.	*Tsuga canadensis*	10	N	FACU
5.	*Acer rubrum*	5	N	FAC
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	80		

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

1.	*Abies balsamea*	10	Y	FAC
2.	*Picea rubens*	10	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Herb Stratum (Plot size: 2 meter radius)

1.	*Onoclea sensibilis*	20	Y	FACW
2.	*Osmunda spectabilis*	20	Y	OBL
3.	*Unknown grass*	20	Y	NL
4.	*Osmunda claytoniana*	10	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		

Remarks:

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.	20	x 1 =	20
FACW spp.	20	x 2 =	40
FAC spp.	80	x 3 =	240
FACU spp.	30	x 4 =	120
UPL spp.	0	x 5 =	0
Total	150 (A)		420 (B)

Prevalence Index = B/A = ***2.800***

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:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Katelin Nickerson	Investigator #2:	
Soil Unit:	Dixfield-Turnbridge-Colonel complex, 3-15% slopes, v. stony	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Concave
Slope (%):	0-5	Latitude: 44.801654	Longitude: -68.21951 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:	08/19/14
County:	Hancock
State:	Maine
Wetland ID:	W097
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

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	10YR 3/1	100	--	--	--	--	silt loam
1	1.5	2	10YR 5/1	100	--	--	--	--	silt loam
1.5	16.5	3	10YR 5/6	100	--	--	--	--	silt loam
16.5	21.5	4	10YR 6/2	90	5YR 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: Second horizon is an albic E-horizon.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project Wetland ID: W097 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*	55	Y	FACU
2.	*Tsuga canadensis*	30	Y	FACU
3.	*Acer saccharum*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	90		

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

1.	*Picea rubens*	15	Y	FACU
2.	*Abies balsamea*	5	Y	FAC
3.	*Tsuga canadensis*	5	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	25		

Herb Stratum (Plot size: 2 meter radius)

1.	*Coptis trifolia*	30	Y	FACW
2.	*Picea rubens*	10	Y	FACU
3.	*Tsuga canadensis*	5	N	FACU
4.	*Trientalis borealis*	2	N	FAC
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	47		

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.	30	x 2 =	60
FAC spp.	7	x 3 =	21
FACU spp.	125	x 4 =	500
UPL spp.	0	x 5 =	0
Total	162 (A)		581 (B)

Prevalence Index = B/A = ***3.586***

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 FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Katelin Nickerson	Investigator #2:	
Soil Unit:	Dixfield-Turnbridge-Colonel complex, 3-15% slope, v. stony	NWI/WWI Classification:	PFO
Landform:	Depression	Local Relief:	Concave
Slope (%):	0-5	Latitude: 44.801501	Longitude: -68.219627 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:	08/19/14
County:	Hancock
State:	Maine
Wetland ID:	W097
Sample Point:	Wetland
Community ID:	--
Section:	--
Township:	--
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:	NR	(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: Pockets of surface water around boulders

SOILS

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	--	--	--	--	peat
0	4	2	2.5Y	5/1	85	10YR 4/4	15	C	M	coarse 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: 7"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project Wetland ID: W097 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*	20	Y	FAC
2.	*Betula alleghaniensis*	20	Y	FAC
3.	*Fraxinus pennsylvanica*	10	N	FACW
4.	*Picea rubens*	5	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	55		

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

1.	*Picea rubens*	10	Y	FACU
2.	*Betula alleghaniensis*	10	Y	FAC
3.	*Tsuga canadensis*	5	Y	FACU
4.	*Fraxinus pennsylvanica*	5	Y	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer rubrum*	5	Y	FAC
2.	*Picea rubens*	5	Y	FACU
3.	*Aralia nudicaulis*	5	Y	FACU
4.	*Ribes lacustre*	2	N	FACW
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	17		

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: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***55.6%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	17	x 2 =	34
FAC spp.	60	x 3 =	180
FACU spp.	25	x 4 =	100
UPL spp.	0	x 5 =	0
Total	102 (A)		314 (B)

Prevalence Index = B/A = ***3.078***

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: Tsuga canadensis and Picea rubens shallow rooting and growing on boulders assigned FAC rating for tree stratum.

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Jeanna Leclerc	Investigator #2:	Katelin Nickerson
Soil Unit:	Colton-Adams complex, 3-15% slopes	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Convex
Slope (%):	3-9	Latitude: 44.804659	Longitude: -68.213882 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:	Hancock
State:	Maine
Wetland ID:	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

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	7.5YR	2.5/1	100	--	--	--	--	--	loam
12	18	2	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: 18"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project | Wetland ID: 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.	*Tsuga canadensis*	50	Y	FACU
2.	*Betula alleghaniensis*	10	N	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

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

1.	*Fagus grandifolia*	15	Y	FACU
2.	*Acer pensylvanicum*	15	Y	FACU
3.	*Acer saccharum*	15	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

Herb Stratum (Plot size: 2 meter radius)

1.	*Dennstaedtia punctilobula*	30	Y	UPL
2.	*Aralia nudicaulis*	20	Y	FACU
3.	*Rubus idaeus*	10	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		

Remarks:

Dominance Test Worksheet

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

Total Number of Dominant Species Across All Strata: 6 (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.	125	x 4 =	500
UPL spp.	30	x 5 =	150
Total	165 (A)		680 (B)

Prevalence Index = B/A = ***4.121***

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:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Nickerson, Katelin	Investigator #2:	Jeanna Leclerc
Soil Unit:	Colton-Adams complex, 3-15% slopes	NWI/WWI Classification:	PFO
Landform:	Depression	Local Relief:	Concave
Slope (%):	0-5	Latitude: 44.804507	Longitude: -68.213764 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:	Hancock
State:	Maine
Wetland ID:	W099
Sample Point:	**Wetland**
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: 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

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	--	--	--	--	--	--	--	--	mucky peat
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

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: Weaver Wind Project | Wetland ID: 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.	*Abies balsamea*	30	Y	FAC
2.	*Acer rubrum*	15	Y	FAC
3.	*Thuja occidentalis*	5	N	FACW
4.	*Picea rubens*	5	N	FACU
5.	*Fraxinus pennsylvanica*	5	N	FACW
6.	*Ulmus americana*	5	N	FACW
7.	*Betula alleghaniensis*	5	N	FAC
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	70		

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

1.	*Nemopanthus mucronatus*	10	Y	OBL
2.	*Ulmus americana*	5	Y	FACW
3.	*Acer spicatum*	5	Y	FACU
4.	*Abies balsamea*	5	Y	FAC
5.	*Betula alleghaniensis*	5	Y	FAC
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	30		

Herb Stratum (Plot size: 2 meter radius)

1.	*Tiarella cordifolia*	15	Y	FACU
2.	*Osmundastrum cinnamomeum*	15	Y	FACW
3.	*Rubus pubescens*	10	Y	FACW
4.	*Viola sp.*	10	Y	NL
5.	*Carex disperma*	10	Y	OBL
6	*Onoclea sensibilis*	5	N	FACW
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		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 9 (A)

Total Number of Dominant Species Across All Strata: 12 (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.	50	x 2 =	100
FAC spp.	60	x 3 =	180
FACU spp.	25	x 4 =	100
UPL spp.	0	x 5 =	0
Total	155 (A)		400 (B)

Prevalence Index = B/A = ***2.581***

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:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Charles Ferris	Investigator #2:	--
Soil Unit:	Hermon-Monadnock-Dixfield Complex 3-15% slopes	NWI/WWI Classification:	Upland
Landform:	Depression	Local Relief:	Concave
Slope (%):	0-3	Latitude: 44.79005	Longitude: -68.2211733 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:	10/16/14
County:	Hancock
State:	Maine
Wetland ID:	W107
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

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 --	-- --	--	--	--	organic/duff
0	1	2	2.5Y	3/1 100	--				silt loam
1	2	3	2.5Y	7/1 100	-- --	--	--	--	silt loam
2	14	4	10YR	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: Till Depth: 14"

Hydric Soil Present? ☐ Yes ☑ No

Remarks: Third horizon is an albic E-horizon.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project | Wetland ID: W107 | 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*	20	Y	FACW
2.	*Tsuga canadensis*	15	Y	FACU
3.	*Abies balsamea*	10	Y	FAC
4.	*Pinus strobus*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

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

1.	*Tsuga canadensis*	55	Y	FACU
2.	*Abies balsamea*	30	Y	FAC
3.	*Acer pensylvanicum*	5	N	FACU
4.		--	--	--
5.		--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	90		

Herb Stratum (Plot size: 2 meter radius)

1.	*Osmundastrum cinnamomeum*	25	Y	FACW
2.	*Thuja occidentalis*	25	Y	FACU
3.	*Carex crinita*	5	N	OBL
4.	*Equisetum sylvaticum*	2	N	FACW
5.	*Solidago rugosa*	3	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: 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.	5	x 1 =	5
FACW spp.	47	x 2 =	94
FAC spp.	43	x 3 =	129
FACU spp.	105	x 4 =	420
UPL spp.	0	x 5 =	0
Total	200 (A)		648 (B)

Prevalence Index = B/A = ***3.240***

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 FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Charles Ferris	Investigator #2:	--
Soil Unit:	Hermon-Monadnock-Dixfield Complex 3-15% slopes	NWI/WWI Classification:	PFO
Landform:	Depression	Local Relief:	Concave
Slope (%):	0-3	Latitude: 44.790059	Longitude: -68.2211593 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:	10/16/14
County:	Hancock
State:	Maine
Wetland ID:	W107
Sample Point:	Wetland
Community ID:	--
Section:	--
Township:	--
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: 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

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	--	--	--	--	--	--	organic
0	5	2	2.5Y 3/1	90	NR	10	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: Till Depth: 7"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project | Wetland ID: W107 | 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.	*Populus tremuloides*	10	Y	FACU
3.	*Tsuga canadensis*	5	N	FACU
4.	*Acer rubrum*	5	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.		--	--	
8.		--	--	
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	35		

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

1.	*Thuja occidentalis*	20	Y	FACW
2.	*Abies balsamea*	15	Y	FAC
3.	*Tsuga canadensis*	10	Y	FACU
4.	*Betula populifolia*	8	N	FAC
5.	*Acer rubrum*	5	N	FAC
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	58		

Herb Stratum (Plot size: 2 meter radius)

1.	*Osmundastrum cinnamomeum*	25	Y	FACW
2.	*Thuja occidentalis*	25	Y	FACW
3.	*Carex crinita*	5	N	OBL
4.	*Solidago rugosa*	3	N	FAC
5.	*Equisetum sylvaticum*	2	N	FACW
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: 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.	72	x 2 =	144
FAC spp.	51	x 3 =	153
FACU spp.	25	x 4 =	100
UPL spp.	0	x 5 =	0
Total	153 (A)		402 (B)

Prevalence Index = B/A = ***2.627***

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:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Charles Ferris	Investigator #2:	Jeanna Leclerc
Soil Unit:	Colton-Hermon association, 5-15% slopes	NWI/WWI Classification:	Upland
Landform:	Side slope	Local Relief:	Convex
Slope (%):	5-10	Latitude: 44.791551	Longitude: -68.203982 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:	Hancock
State:	Maine
Wetland ID:	W113
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

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	2.5Y 3/1	100	--	--	--	--	sandy loam
1	2	2	10YR 6/2	100	--	--	--	--	sandy loam
2	16	3	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: 16"

Hydric Soil Present? ☐ Yes ☑ No

Remarks: 6" duff at surface. Second horizon is shallow E-horizon. Lowest horizon contains 60% coarse fragments.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project | Wetland ID: W113 | 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.	*Pinus strobus*	35	Y	FACU
2.	*Tsuga canadensis*	25	Y	FACU
3.	*Picea rubens*	15	N	FACU
4.	*Thuja occidentalis*	10	N	FACW
5.	*Betula alleghaniensis*	5	N	FAC
6.	*Betula papyrifera*	5	N	FACU
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	95		

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

1.	*Abies balsamea*	15	Y	FAC
2.	*Tsuga canadensis*	10	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	25		

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 present in the herbaceous layer.

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.	10	x 2 =	20
FAC spp.	20	x 3 =	60
FACU spp.	90	x 4 =	360
UPL spp.	0	x 5 =	0
Total	120 (A)		440 (B)

Prevalence Index = B/A = ***3.667***

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

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Charles Ferris	Investigator #2:	Jeanna Leclerc
Soil Unit:	Colton-Hermon association, 5-15% slopes	NWI/WWI Classification:	PFO
Landform:	Depression	Local Relief:	Concave
Slope (%):	0-5	Latitude:	Longitude: 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:	Hancock
State:	Maine
Wetland ID:	W113
Sample Point:	**Wetland**
Community ID:	--
Section:	--
Township:	--
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: 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

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	--	--	100	--	--	--	--	--	mucky peat
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

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: 18"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project | Wetland ID: W113 | 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*	50	Y	FACW
2.	*Pinus strobus*	15	N	FAC
3.	*Tsuga canadensis*	10	N	FAC
4.	*Betula alleghaniensis*	5	N	FAC
5.	*Picea rubens*	5	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	85		

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

1.	*Tsuga canadensis*	40	Y	FAC
2.	*Thuja occidentalis*	5	N	FACW
3.	*Betula alleghaniensis*	5	N	FAC
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		

Remarks:

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.	55	x 2 =	110
FAC spp.	75	x 3 =	225
FACU spp.	5	x 4 =	20
UPL spp.	0	x 5 =	0
Total	135 (A)		355 (B)

Prevalence Index = B/A = ***2.630***

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:

Tsuga canadensis and Pinus strobus growing on mounds or on top of rocks and reassinged FAC rating for this plot. No vegegation present in herbacous layer.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Audie Arbo	Investigator #2:	Jeanna Leclerc
Soil Unit:	Colonel-Brayton-Dixfield association, 1-8% slope, v. stony	NWI/WWI Classification:	Upland
Landform:	Backslope	Local Relief:	Linear
Slope (%):	0-2	Latitude: NR	Longitude: NR
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:	07/18/14
County:	Hancock
State:	Maine
Wetland ID:	W148
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: Heavy rain in the previous 3 days.

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: Heavy rain for the previous 3 days.

SOILS

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	--	--	--	--	--	--	hemic organic
0	2	2	10YR 5/1.5	100	--	--	--	--	sand
2	6	3	7.5YR 3/4	100	--	--	--	--	sandy loam
6	11	4	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: Till Depth: 11 in.

Hydric Soil Present? ☐ Yes ☑ No

Remarks: Coarse fragments present in Horizon 4.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project | Wetland ID: W148 | 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.	*Pinus strobus*	35	Y	FACU
2.	*Picea rubens*	25	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

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

1.	*Picea rubens*	75	Y	FACU
2.	*Pinus strobus*	15	N	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	90		

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 herb layer under dense canopy

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.	0	x 3 =	0
FACU spp.	150	x 4 =	600
UPL spp.	0	x 5 =	0
Total	150 (A)		600 (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

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Audie Arbo	Investigator #2:	Jeanna Leclerc
Soil Unit:	Colonel-Brayton-Dixfield association, 1-8% slope, v. stony	NWI/WWI Classification:	PEM
Landform:	Backslope	Local Relief:	Linear
Slope (%):	1-8%	Latitude: 44.747038	Longitude: -68.17557 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:	07/18/14
County:	Hancock
State:	Maine
Wetland ID:	W148
Sample Point:	**Wetland**
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:	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: Heavy rains for previous 3 days. 6 inches of standing water.

SOILS

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	2	1	--	NR --	--	--	--	--	peat
2	0	2	--	NR --	--	--	--	--	peaty muck
0	2	3	5Y	2.5/1 100	--	--	--	--	mucky loam
2	9	4	2.5Y	6/1 100	--	--	--	--	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: Basal Till Depth: 9 in.

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project | Wetland ID: W148 | 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*	5	Y	FAC
2.	*Spiraea tomentosa*	5	Y	FACW
3.	*Spiraea alba*	2	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	12		

Herb Stratum (Plot size: 2 meter radius)

1.	*Scirpus cyperinus*	75	Y	OBL
2.	*Carex echinata*	5	N	OBL
3.	*Carex stipata*	5	N	OBL
4.	*Hypericum fraseri*	5	N	OBL
5.	*Carex trisperma*	5	N	OBL
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		

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.	95	x 1 =	95
FACW spp.	7	x 2 =	14
FAC spp.	5	x 3 =	15
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	107 (A)		124 (B)

Prevalence Index = B/A = ***1.159***

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:

Standing dead trees, approximately 2% cover.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Michael Johnson	Investigator #2:	Jeanna Leclerc
Soil Unit:	Brayton-Peacham Association, 0-3% slope, ex. stony	NWI/WWI Classification:	Upland
Landform:	Footslope	Local Relief:	Concave
Slope (%):	0-3%	Latitude: 44.747928	Longitude: -68.182788 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:	07/11/14
County:	Aroostook
State:	Maine
Wetland ID:	W168
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

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 2.5/2	100	--	--	--	--	sandy loam
2	12	2	2.5YR 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: 12 in.

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project | Wetland ID: W168 | 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.	*Pinus strobus*	30	Y	FACU
3.	*Abies balsamea*	10	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	90		

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

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

Herb Stratum (Plot size: 2 meter radius)

1.	*Abies balsamea*	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		

Remarks: Herb stratum cover was less than 5 percent and was not included in the dominance calculation.

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.	11	x 3 =	33
FACU spp.	85	x 4 =	340
UPL spp.	0	x 5 =	0
Total	96 (A)		373 (B)

Prevalence Index = B/A = ***3.885***

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:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Michael Johnson	Investigator #2:	Jeanna Leclerc
Soil Unit:	Brayton-Peacham Association, 0-3% slopes, ex. stony	NWI/WWI Classification:	PFO
Landform:	Footslope	Local Relief:	Concave
Slope (%):	0-3%	Latitude: 44.748051	Longitude: -68.18284 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:	Hancock
State:	Maine
Wetland ID:	W168
Sample Point:	**Wetland**
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: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

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)
18	0	1	10YR 2/1	100	--	--	--	--	peaty muck
0	2	2	10YR 5/1	95	--	--	--	--	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: Weaver Wind Project | Wetland ID: W168 | 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.	*Abies balsamea*	20	Y	FAC
3.	*Acer rubrum*	10	N	FAC
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.	*Abies balsamea*	10	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	10		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer rubrum*	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		

Remarks: Herb stratum cover was less than 5 percent so was not included in the dominance calculation.

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.	30	x 2 =	60
FAC spp.	51	x 3 =	153
FACU spp.	10	x 4 =	40
UPL spp.	0	x 5 =	0
Total	91 (A)		253 (B)

Prevalence Index = B/A = ***2.780***

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:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Michael Johnson	Investigator #2:	Jeanna Leclerc
Soil Unit:	Brayton-Colonel association, gently sloping, v. stony	NWI/WWI Classification:	Upland
Landform:	Talf	Local Relief:	Linear
Slope (%):	0-8%	Latitude: 44.738997	Longitude: 68.217325 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:	Hancock
State:	Maine
Wetland ID:	W185
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

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 2/2	100	--	--	--	--	sandy loam
4	8	2	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: 8 in.

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project | Wetland ID: W185 | 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*	60	Y	FACU
2.	*Abies balsamea*	20	Y	FAC
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.	*Tsuga canadensis*	5	Y	FACU
2.	*Acer pensylvanicum*	5	Y	FACU
3.	*Abies balsamea*	5	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	15		

Herb Stratum (Plot size: 2 meter radius)

1.	*Acer rubrum*	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		

Remarks: Herb stratum had less than 5% cover and was not included in the dominance calculation.

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.	36	x 3 =	108
FACU spp.	70	x 4 =	280
UPL spp.	0	x 5 =	0
Total	106 (A)		388 (B)

Prevalence Index = B/A = ***3.660***

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:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First wind		
Investigator #1:	Michael Johnson	Investigator #2:	Jeanna Leclerc
Soil Unit:	Brayton-Colonel Association, gently sloping, v. stony	NWI/WWI Classification:	PFO
Landform:	Talf	Local Relief:	Linear
Slope (%):	0-8%	Latitude: 44.738926	Longitude: 68.217475 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:	Hancock
State:	Maine
Wetland ID:	W185
Sample Point:	**Wetland**
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:	1	(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: Surface water localized to topographic pits.

SOILS

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 3/2	100	--	--	--	--	sandy loam
2	12	2	10YR 6/1	95	10YR 4/6	5	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: 12 in.

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project | Wetland ID: W185 | 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.	*Thuja occidentalis*	20	Y	FACW
3.	*Acer rubrum*	10	N	FAC
4.	*Betula alleghaniensis*	10	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	70		

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

1.	*Abies balsamea*	20	Y	FAC
2.	*Betula alleghaniensis*	10	Y	FAC
3.	*Tsuga canadensis*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	35		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex lacustris*	30	Y	OBL
2.	*Rubus pubescens*	20	Y	FACW
3.	*Cornus canadensis*	10	N	FAC
4.	*Onoclea sensibilis*	5	N	FACW
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		

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.	30	x 1 =	30
FACW spp.	45	x 2 =	90
FAC spp.	90	x 3 =	270
FACU spp.	5	x 4 =	20
UPL spp.	0	x 5 =	0
Total	170 (A)		410 (B)

Prevalence Index = B/A = ***2.412***

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:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Charles Ferris	Investigator #2:	Jeanna Leclerc
Soil Unit:	Marlow-Dixfield association	NWI/WWI Classification:	Upland
Landform:	Depression	Local Relief:	Concave
Slope (%):	0-3	Latitude: 44.73894	Longitude: -68.190897 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:	10/16/14
County:	Hancock
State:	Maine
Wetland ID:	W194
Sample Point:	Upland
Community ID:	--
Section:	--
Township:	--
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: Plot taken adjacent to old skidder trail.

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? ☐ ☑ No

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

Remarks:

SOILS

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 C		Matrix %	Mottles Color (Moist)		Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
1	0	1	--	NR	100	--	--	--	--	--	duff/organic
0	1	2	10YR	5/3	100	--	--	--	--	--	silt loam
1	16	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: None Depth:

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Northeast and Northcentral Region

Project/Site: Weaver Wind Project | Wetland ID: W194 | 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 saccharum*	20	Y	FACU
3.	*Fraxinus nigra*	5	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

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

1.	*Fagus grandifolia*	45	Y	FACU
2.	*Betula alleghaniensis*	35	Y	FAC
3.	*Acer pensylvanicum*	5	N	FACU
4.	*Acer saccharum*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	90		

Herb Stratum (Plot size: 2 meter radius)

1.	*Dennstaedtia punctilobula*	2	N	UPL
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: 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.	5	x 2 =	10
FAC spp.	70	x 3 =	210
FACU spp.	75	x 4 =	300
UPL spp.	2	x 5 =	10
Total	152 (A)		530 (B)

Prevalence Index = B/A = ***3.487***

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: The herb stratum includes less than 5 percent cover and was not inlcuded in the dominance calculation.

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Charles Ferris	Investigator #2:	Jeanna Leclerc
Soil Unit:	Marlow-Dixfield association	NWI/WWI Classification:	PSS
Landform:	Depression	Local Relief:	Concave
Slope (%):	0-3	Latitude: 44.738969	Longitude: -68.190783 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:	10/16/14
County:	Hancock
State:	Maine
Wetland ID:	W194
Sample Point:	Wetland
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: Plot taken in old skidder trail. Wetland has been impacted by timber harvesting 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: 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

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 C		%	Mottles Color (Moist)		%	Type	Location	Texture (e.g. clay, sand, loam)
0	14	1	2.5Y	3/2	85	5Y	5/6	15	C	M	silt loam with 5% CF
14	18	2	2.5Y	5/2	95	5Y	5/6	5	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: None Depth:

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project | Wetland ID: W194 | 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*	25	Y	FAC
2.	*Rubus idaeus*	10	N	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	35		

Herb Stratum (Plot size: 2 meter radius)

1.	*Scirpus cyperinus*	30	Y	OBL
2.	*Rubus hispidus*	20	Y	FACU
3.	*Solidago canadensis*	5	N	FACU
4.	*Onoclea sensibilis*	2	N	FACW
5.	*Parathelypteris noveboracensis*	2	N	FAC
6	--	--	--	--
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: 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.	30	x 1 =	30
FACW spp.	2	x 2 =	4
FAC spp.	27	x 3 =	81
FACU spp.	35	x 4 =	140
UPL spp.	0	x 5 =	0
Total	94 (A)		255 (B)

Prevalence Index = B/A = ***2.713***

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 FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Katelin Nickerson	Investigator #2:	Jeanna Leclerc
Soil Unit:	Marlow-Dixfield association, strongly sloping, v. stony	NWI/WWI Classification:	Upland
Landform:	Talf	Local Relief:	Linear
Slope (%):	3-6%	Latitude: 44.730333	Longitude: -68.216006 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:	Hancock
State:	Maine
Wetland ID:	W218
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

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	--	--	--	--	--	--	fibirc organic
0	2	2	10YR 3/1	100	--	--	--	--	loam
2	11	3	10YR 4/2	98	--	--	--	--	loam
11	16	4	10YR 4/3	90	10YR 5/6	10	C	M	loam
--	--	--	--	--	--	--	--	--	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: 18 in.

Hydric Soil Present? ☐ Yes ☑ No

Remarks: Coarse fragments throughout the mineral soil.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project | Wetland ID: 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.	*Abies balsamea*	20	Y	FAC
2.	*Betula alleghaniensis*	20	Y	FAC
3.	*Betula populifolia*	10	N	FAC
4.	*Betula papyrifera*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	55		

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

1.	*Betula alleghaniensis*	15	Y	FAC
2.	*Abies balsamea*	10	Y	FAC
3.	*Acer pensylvanicum*	5	N	FACU
4.	*Tsuga canadensis*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	35		

Herb Stratum (Plot size: 2 meter radius)

1.	*Maianthemum canadense*	20	Y	FACU
2.	*Aralia nudicaulis*	15	Y	FACU
3.	*Abies balsamea*	5	N	FAC
4.	*Rubus pubescens*	5	N	FACW
5.	*Acer rubrum*	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		

Remarks:

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.	85	x 3 =	255
FACU spp.	50	x 4 =	200
UPL spp.	0	x 5 =	0
Total	140 (A)		465 (B)

Prevalence Index = B/A = ***3.321***

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:

No hydric soils or wetland hydrology indicators.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Weaver Wind Project	Stantec Project #:	195600884
Applicant:	First Wind		
Investigator #1:	Jeanna Leclerc	Investigator #2:	Katelin Nickerson
Soil Unit:	Marlow-Dixfield association, strongly sloping, very stony	NWI/WWI Classification:	PSS
Landform:	Terrace	Local Relief:	Concave
Slope (%):	0-3	Latitude: 44.730327	Longitude: -68.216287 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:	Hancock
State:	Maine
Wetland ID:	W218
Sample Point:	**Wetland**
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: 12	(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

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 Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
2	0	1	--	NR	--	--	--	--	--	mucky peat
0	3	2	2.5Y	4/1	98	--	--	2	C	M	sandy loam
3	16	3	5Y	5/2	90	7.5YR	5/6	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: 16 in.

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Concentrations in Horizon 2 were faint, unable to determine color.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Weaver Wind Project | Wetland ID: 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*	10	Y	FAC
2.	*Acer rubrum*	10	Y	FAC
3.	*Abies balsamea*	5	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	25		

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

1.	*Fraxinus pennsylvanica*	30	Y	FACW
2.	*Betula alleghaniensis*	20	Y	FAC
3.	*Acer rubrum*	5	N	FAC
4.	*Acer spicatum*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Herb Stratum (Plot size: 2 meter radius)

1.	*Carex crinita*	30	Y	OBL
2.	*Onoclea sensibilis*	25	Y	FACW
3.	*Parathelypteris noveboracensis*	25	Y	FAC
4.	*Aralia nudicaulis*	15	N	FACU
5.	*Rubus pubescens*	15	N	FACW
6	*Equisetum sylvaticum*	5	N	FACW
7.	*Betula alleghaniensis*	5	N	FAC
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		

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.	30	x 1 =	30
FACW spp.	75	x 2 =	150
FAC spp.	80	x 3 =	240
FACU spp.	20	x 4 =	80
UPL spp.	0	x 5 =	0
Total	205 (A)		500 (B)

Prevalence Index = B/A = ***2.439***

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:

Exhibit 9-3

Vernal Pool Determination Documentation

Stantec Consulting Services Inc.
30 Park Drive, Topsham ME 04086-1737

May 29, 2015

Attention: Jason Czapiga and Beth Swartz
Maine Department of Inland Fisheries and Wildlife
650 State Street
Bangor, ME 04401

Reference: Vernal Pool Spring 2015 Surveys: Weaver Wind Project, Hancock County, Maine

Dear Jason and Beth,

As you area aware, Weaver Wind LLC, a subsidiary of SunEdison, submitted a Site Location of Development and Natural Resources Protection Act application to the Maine Department of Environmental Protection (DEP) for the proposed Weaver Wind Project (Project) in Hancock County, Maine. On March 3, 2015 Stantec submitted Maine State Vernal Pool Assessment Forms for 20 Potential Significant Vernal Pools (PSVPs) and 4 Vernal Pools (VPs) associated with the project. This submission is to update IFW with the results of that field work.

During the seasonally appropriate spring amphibian breeding season between May 1, and May 26, 2015, Stantec conducted surveys verify the presence of amphibian egg masses and document the productivity of the 20 Potential Significant Vernal Pools (PSVPs) and two vernal pools located outside of the amphibian breeding season that were originally identified during summer 2014 because egg masses were present.

Regarding VP_16KN_N, commented on in IFW's May 26, 2015 comments on the Weaver project, it is a permanent body of water, Hazlam Pond. On May 6, 2015 two streams were observed flowing into the pond from the south and fish were observed in the pond. Fish and two tributaries were not observed during the initial visit on August 20, 2014, and the area was misidentified in 2014 as a vernal pool. There is a form included in this submission to address this and clarify the field conditions.

Included with this letter are materials to assist in your review of vernal pools associated with the Project.

The following materials are enclosed for the identified vernal pools and PVPs associated with the Project:

1. Maine State Vernal Pool Assessment Forms for 2 Significant Vernal Pools and 13 vernal pools.

2. A spreadsheet providing the landowner information for each vernal pool and included with this submission.

Reference: Vernal Pool Data Forms: Weaver Wind Project, Hancock County, Maine

3. Shape files containing vernal pool center points, and center points and boundaries for vernal pools (on CD). The coordinate system for the shape files is: NAD 1983 Maine State Plane East US Survey Feet.

4. A CD containing electronic copies of the above-listed information.

5. A summary table of the results of the 2015 surveys.

Feel free to contact me if you have any questions about the information provided.

Regards,

STANTEC CONSULTING SERVICES INC

Brooke Barnes
Senior Associate, Environmental Services
Phone: (207) 406-5461
Fax: (207) 729-2715
brooke.barnes@stantec.com

c. Jim Cassida, SunEdision

Reference: Vernal Pool Data Forms: Weaver Wind Project, Hancock County, Maine

Summary Table of Spring 2015 Vernal Pool Survey

2014 PSVP/VP ID	2015 Stantec Vernal Pool ID	New Designation
VP_06KN_N	VP_06KN_N	Vernal pool
PSVP_06MJ_N	VP_50KN_N	Vernal pool
PSVP_01KN_N	VP_55KN_N	Vernal pool
PSVP_02KN_N	VP_56KN_N	Vernal pool
PSVP_01AA_N	VP_51KN_M	Vernal pool
PSVP_13KN_N	VP_52KN_N	Vernal pool
PSVP_11KN_N	VP_61KN_N	Vernal pool
PSVP_03JL_N	VP_59KN_N	Vernal pool
PSVP_04JL_N	VP_60KN_N	Vernal pool
PSVP_01CF_N	VP_64KN_N	Vernal pool
PSVP_02CF_N	VP_62KN_N	Vernal pool
PSVP_04CF_N	VP_65KN_N	Vernal pool
PSVP_17KN_N	SVP_53KN_N	Significant vernal pool
PSVP_05CF_N	VP_57KN_N	Vernal pool
PSVP_37KN_N	SVP_63KN_N	Significant vernal pool
VP_16KN_N	--	Hazlam Pond
PSVP_10KN_N	--	Not a pool
PSVP_15KN_N	--	Not a pool
PSVP_28KN_N	--	Not a pool
PSVP_29KN_N	--	Not a pool
PSVP_36KN_N	--	Not a pool
PSVP_12CF_N	--	Not a pool

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
COMMISSIONER

August 3, 2015

Karol Worden
Stantec Consulting
20 Park Drive
Topsham, ME 04086

Re: Vernal Pool Significance Determination, Pool ID #s 2588, 2590, 2595–Osborn

Dear Karol Worden,

Vernal pools are temporary to semi-permanent wetlands occurring in shallow depressions that typically fill during the spring and dry during the summer or in drought years. They provide important breeding and foraging habitat for a wide variety of specialized wildlife species including several rare, threatened, and endangered species.

Based on your re survey of the vernal pools listed above, it has been determined that the vernal pools identified above on the property of Tree Top Manufacturing, Inc. are NOT SIGNIFICANT because either: 1. the features do not meet the definition of a vernal pool under the Significant Wildlife Habitat rules, 06-096 CMR 335(9) or 2. the vernal pools do not meet the biological standards for exceptional wildlife use of the Significant Wildlife Habitat rules, 06-096 CMR 335(9)(B). Therefore, activities within 250 feet of the pools are not regulated under the Natural Resources Protection Act (NRPA) unless there are other protected natural resources nearby such as streams or freshwater wetlands. I have attached a copy of the database printout that verifies the State's findings with respect to your surveys.

I want to also advise you that the pool areas on the property can be considered freshwater wetlands and therefore direct pool alterations may require permitting under the NRPA.

The Department will notify the landowner of the pool status under separate cover. If you have any questions or need further clarification, please contact me at (207) 446-1611 or email at: mike.mullen@maine.gov

Sincerely,

Michael K. Mullen
Division of Land Resource Regulation
Bureau of Land & Water Quality

cc. town file

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web site: www.maine.gov/dep

IFW Recommendations for Significant Vernal Pool Determinations

The following is a list of pools and IFW's recommendations for whether or not they qualify as Significant Vernal Pools, one of Maine's Significant Wildlife Habitats.

Data current as of: Friday, July 31, 2015

IFW's Pool ID: 2588 Twp: Osborn
UTM Coordinates of Pool Center: 560011 E, 4954626 N
Observer's ID: PSVP_01KN_N
ProjectType: Weaver Wind

Landowner:	Tree Top Manufacturing, Inc.	Contact:	Karol Worden - Stantec Consulting
	382 Cave Hill Road		20 Park Drive
	Waltham, ME 04605		Topsham, ME 04086
			(207) 729-1199 karol.worden@stantec.co

Survey Date: 7/14/2014
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: although surveyed well outside the recommended timing window for indicator species, the pool's small size likely precludes it ever meeting the criteria for SVP (photo suggests pool size is limited by surrounding topography/boulders).

IFW's Pool ID: 2588 Twp: Osborn
UTM Coordinates of Pool Center: 560011 E, 4954626 N
Observer's ID: VP_55KN_N (former PSVP_01KN_N)
ProjectType: Weaver Wind

Landowner:	Tree Top Manufacturing, Inc.	Contact:	Karol Worden - Stantec Consulting
	382 Cave Hill Road		20 Park Drive
	Waltham, ME 04605		Topsham, ME 04086
			(207) 729-1199 karol.worden@stantec.co

Survey Date: 5/5/2015 Additional Survey Dates: 05/13/2015, 05/26/2015
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Resurveyed - status remains as not significant vernal pool

---

IFW's Pool ID: 2590 Twp: Osborn
UTM Coordinates of Pool Center: 560032 E, 4954604 N
Observer's ID: PSVP_02KN_N
ProjectType: Weaver Wind

Landowner:	Tree Top Manufacturing, Inc.	Contact:	Karol Worden - Stantec Consulting
	382 Cave Hill Road		20 Park Drive
	Waltham, ME 04605		Topsham, ME 04086
			(207) 729-1199 karol.worden@stantec.co

Survey Date: 7/14/2014
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Although surveyed well outside the recommended timing window for indicator species, pool size is small enough to preclude likely being able to meet criteria for SVP; photo suggests pool size is limited by surrounding topography.

IFW's Pool ID: 2590 Twp: Osborn
UTM Coordinates of Pool Center: 560032 E, 4954604 N
Observer's ID: VP_56KN_N (former PSVP 02KN_N_)
ProjectType: Weaver Wind

Landowner:	Tree Top Manufacturing, Inc.	Contact:	Karol Worden - Stantec Consulting
	382 Cave Hill Road		20 Park Drive
	Waltham, ME 04605		Topsham, ME 04086
			(207) 729-1199 karol.worden@stantec.co

Survey Date: 5/5/2015 Additional Survey Dates: 05/14/2015
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Resurveyed - status remains as not significant vernal pool

IFW Recommendations for Significant Vernal Pool Determinations

The following is a list of pools and IFW's recommendations for whether or not they qualify as Significant Vernal Pools, one of Maine's Significant Wildlife Habitats.

Data current as of: Friday, July 31, 2015

IFW's Pool ID: 2595 Twp: Osborn
UTM Coordinates of Pool Center: 564690 E, 4955223 N
Observer's ID: VP_50KN_N (former PSVP_06MJ_N_
ProjectType: Weaver Wind

Landowner:	Tree Top Manufacturing, Inc.	Contact:	Karol Worden - Stantec Consulting
	382 Cave Hill Road		20 Park Drive
	Waltham, ME 04605		Topsham, ME 04086
			(207) 729-1199 karol.worden@stantec.co

Survey Date: 5/1/2015 Additional Survey Dates: 05/13/2015

IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the vernal pool definition

IFW Comments: Resurveyed - status updated from potential vernal pool to not significant vernal pool; permanent inlet/outlet connected to stream; pool hydroperiod is likely permanent

IFW's Pool ID: 2595 Twp: Osborn
UTM Coordinates of Pool Center: 564690 E, 4955223 N
Observer's ID: PSVP_06MJ_N
ProjectType: Weaver Wind

Landowner:	Tree Top Manufacturing, Inc.	Contact:	Karol Worden - Stantec Consulting
	382 Cave Hill Road		20 Park Drive
	Waltham, ME 04605		Topsham, ME 04086
			(207) 729-1199 karol.worden@stantec.co

Survey Date: 7/10/2014

IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the vernal pool definition

IFW Comments: Pool surveyed outside the recommended timing window for indicator species

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
COMMISSIONER

August 3, 2015

Karol Worden
Stantec Consulting
20 Park Drive
Topsham, ME 04086

Re: Vernal Pool Significance Determination, Pool ID # 2586–T22 MD BPP

Dear Karol Worden,

Vernal pools are temporary to semi-permanent wetlands occurring in shallow depressions that typically fill during the spring and dry during the summer or in drought years. They provide important breeding and foraging habitat for a wide variety of specialized wildlife species including several rare, threatened, and endangered species.

Based on your re survey of the vernal pool listed above, it has been determined that the vernal pool identified above on the property of URSA Major, LLC is NOT SIGNIFICANT because either: 1. the feature does not meet the definition of a vernal pool under the Significant Wildlife Habitat rules, 06-096 CMR 335(9) or 2. the vernal pool does not meet the biological standards for exceptional wildlife use of the Significant Wildlife Habitat rules, 06-096 CMR 335(9)(B). Therefore, activities within 250 feet of the pool are not regulated under the Natural Resources Protection Act (NRPA) unless there are other protected natural resources nearby such as streams or freshwater wetlands. I have attached a copy of the database printout that verifies the State's findings with respect to your survey.

I want to also advise you that the pool area on the property can be considered a freshwater wetland and therefore direct pool alterations may require permitting under the NRPA.

The Department will notify the landowner of the pool status under separate cover. If you have any questions or need further clarification, please contact me at (207) 446-1611 or email at: mike.mullen@maine.gov

Sincerely,

Michael K. Mullen
Division of Land Resource Regulation
Bureau of Land & Water Quality

cc. town file

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PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
COMMISSIONER

August 3, 2015

Karol Worden
Stantec Consulting
20 Park Drive
Topsham, ME 04086

Re: Vernal Pool Significance Determination, Pool ID #s 2601, 2605–Osborn

Dear Karol Worden,

Vernal pools are temporary to semi-permanent wetlands occurring in shallow depressions that typically fill during the spring and dry during the summer or in drought years. They provide important breeding and foraging habitat for a wide variety of specialized wildlife species including several rare, threatened, and endangered species.

Based on your re survey of the vernal pools listed above, it has been determined that the vernal pools identified above on the property of URSA Major, LLC are SIGNIFICANT. I have attached a copy of the database printout that verifies the State's findings with respect to our surveys.

As a significant vernal pool, all areas on the URSA Major, LLC property within 250 feet of the vernal pool depressions, known as the "critical terrestrial habitat", will be subject to the requirements of the Natural Resources Protection Act, 38 M.R.S.A. §§480-A to 480-FF, and the Significant Wildlife Habitat rules, 06-096 CMR 335.

The Department will ensure that the vernal pools' location and status is entered and mapped in the State's vernal pool database. Note that if the pool depression (only) crosses two or more property boundaries the abutter(s) are similarly subject to the requirements of the Natural Resources Protection Act and the Significant Wildlife Habitat rules.

The Department will notify the landowner of the pool status under separate cover. If you have any questions or need further clarification, please contact me at (207) 446-1611 or email at: mike.mullen@maine.gov

Sincerely,

Michael K. Mullen
Division of Land Resource Regulation
Bureau of Land & Water Quality

cc. town file

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GOVERNOR

PATRICIA W. AHO
COMMISSIONER

August 3, 2015

Karol Worden
Stantec Consulting
20 Park Drive
Topsham, ME 04086

Re: Vernal Pool Significance Determination, Pool ID #s 2587, 2589, 2591, 2592, 2593, 2594, 2596, 2597, 2598, 2599, 2600, 2602, 2603, 2604, 2608, 2609–Osborn

Dear Karol Worden,

Vernal pools are temporary to semi-permanent wetlands occurring in shallow depressions that typically fill during the spring and dry during the summer or in drought years. They provide important breeding and foraging habitat for a wide variety of specialized wildlife species including several rare, threatened, and endangered species.

Based on your re survey of the vernal pools listed above, it has been determined that the vernal pools identified above on the property of URSA Major, LLC are NOT SIGNIFICANT because either: 1. the features do not meet the definition of a vernal pool under the Significant Wildlife Habitat rules, 06-096 CMR 335(9) or 2. the vernal pools do not meet the biological standards for exceptional wildlife use of the Significant Wildlife Habitat rules, 06-096 CMR 335(9)(B). Therefore, activities within 250 feet of the pools are not regulated under the Natural Resources Protection Act (NRPA) unless there are other protected natural resources nearby such as streams or freshwater wetlands. I have attached a copy of the database printout that verifies the State's findings with respect to your surveys.

I want to also advise you that the pool areas on the property can be considered freshwater wetlands and therefore direct pool alterations may require permitting under the NRPA.

The Department will notify the landowner of the pool status under separate cover. If you have any questions or need further clarification, please contact me at (207) 446-1611 or email at: mike.mullen@maine.gov

Sincerely,

Michael K. Mullen
Division of Land Resource Regulation
Bureau of Land & Water Quality

cc. town file

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04679-2094
(207) 764-0477 FAX: (207) 760-3143

web site: www.maine.gov/dep

IFW Recommendations for Significant Vernal Pool Determinations

The following is a list of pools and IFW's recommendations for whether or not they qualify as Significant Vernal Pools, one of Maine's Significant Wildlife Habitats.

Data current as of: Friday, July 31, 2015

IFW's Pool ID: 2586 Twp: T22 MD BPP
UTM Coordinates of Pool Center: 565258 E, 4955217 N
Observer's ID: VP_51KN_M (former PSVP_01AA_N)
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 5/1/2015 Additional Survey Dates: 05/14/2015
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the vernal pool definition
IFW Comments: Resurveyed - status updated from potential vernal pool to not significant vernal pool; pool impounded by road.

IFW's Pool ID: 2586 Twp: T22 MD BPP
UTM Coordinates of Pool Center: 565258 E, 4955217 N
Observer's ID: PSVP_01AA_N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 7/18/2014
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the vernal pool definition
IFW Comments: surveyed outside recommended timing window for indicator species.

IFW's Pool ID: 2587 Twp: Osborn
UTM Coordinates of Pool Center: 562120 E, 4961573 N
Observer's ID: PSVP_01CF_N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 8/19/2014
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: pool surveyed well outside the recommended timing window for indicator species.

IFW's Pool ID: 2587 Twp: Osborn
UTM Coordinates of Pool Center: 562120 E, 4961573 N
Observer's ID: VP_64KN_N (former PSVP_01CF_N)
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 5/6/2015 Additional Survey Dates: 05/13/2015, 05/26/2015
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Resurveyed - status updated from potential vernal pool to not significant vernal pool

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IFW's Pool ID: 2589 Twp: Osborn
UTM Coordinates of Pool Center: 561716 E, 4961201 N
Observer's ID: PSVP_02CF_N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 8/19/2014
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Pool surveyed well outside recommended timing window; photo suggests pool could be larger during spring high water (forested swamp, moss hummocks, pockets, etc).

IFW Recommendations for Significant Vernal Pool Determinations

The following is a list of pools and IFW's recommendations for whether or not they qualify as Significant Vernal Pools, one of Maine's Significant Wildlife Habitats.

Data current as of: Friday, July 31, 2015

IFW's Pool ID: 2589 Twp: Osborn
UTM Coordinates of Pool Center: 561716 E, 4961201 N
Observer's ID: VP_62KN_N (formerly PSV_02_CF_N)
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 5/6/2015 Additional Survey Dates: 05/13/2015, 05/26/2015
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Resurveyed - status updated from potential vernal pool to not significant vernal pool

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IFW's Pool ID: 2591 Twp: Osborn
UTM Coordinates of Pool Center: 559259 E, 4961565 N
Observer's ID: PSVP_03JL_N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 8/14/2014
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: although pool surveyed well outside recommended timing window for indicator species, photo suggests surrounding habitat not likely to support pool large enough to support SVP

IFW's Pool ID: 2591 Twp: Osborn
UTM Coordinates of Pool Center: 559259 E, 4961565 N
Observer's ID: VP_59KN_N (former PSVP_03JL_N)
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 5/6/2015 Additional Survey Dates: 05/14/2015
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Resurveyed - status remains as not significant vernal pool

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IFW's Pool ID: 2592 Twp: Osborn
UTM Coordinates of Pool Center: 560496 E, 4962225 N
Observer's ID: PSVP_04CF_N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 8/19/2014
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: pool surveyed well outside recommended timing window for all indicator species.

IFW's Pool ID: 2592 Twp: Osborn
UTM Coordinates of Pool Center: 560496 E, 4962225 N
Observer's ID: VP_65KN_N (former PSVP_04CF_N)
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 5/6/2015 Additional Survey Dates: 05/14/2015, 05/26/2015
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Resurveyed - status updated from potential vernal pool to not significant vernal pool

IFW Recommendations for Significant Vernal Pool Determinations

The following is a list of pools and IFW's recommendations for whether or not they qualify as Significant Vernal Pools, one of Maine's Significant Wildlife Habitats.

Data current as of: Friday, July 31, 2015

IFW's Pool ID: 2593 Twp: Osborn
Observer's ID: VP_60KN_N (former PSVP04JL_N)
UTM Coordinates of Pool Center: 559098 E, 4961295 N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 5/6/2015 Additional Survey Dates: 05/14/2015
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Resurveyed - status updated from potential vernal pool to not significant vernal pool

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IFW's Pool ID: 2593 Twp: Osborn
Observer's ID: PSVP_04JL_N
UTM Coordinates of Pool Center: 559098 E, 4961295 N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 8/14/2014
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Pool surveyed outside recommended timing window for indicator species.

IFW's Pool ID: 2594 Twp: Osborn
Observer's ID: VP_57KN_N (former PSVP_05CF_N)
UTM Coordinates of Pool Center: 563417 E, 4957794 N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 5/5/2015 Additional Survey Dates: 05/13/2015
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Resurveyed - status updated from potential vernal pool to not significant vernal pool

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IFW's Pool ID: 2594 Twp: Osborn
Observer's ID: PSVP_05CF_N
UTM Coordinates of Pool Center: 563417 E, 4957794 N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 8/25/2014
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: pool surveyed well outside the recommended timing window for indicator species.

IFW's Pool ID: 2596 Twp: Osborn
Observer's ID: PSVP_10KN_N
UTM Coordinates of Pool Center: 559433 E, 4961482 N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 5/6/2014 Additional Survey Dates: 05/14/2015
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Resurveyed - status remains as not significant vernal pool

IFW Recommendations for Significant Vernal Pool Determinations

The following is a list of pools and IFW's recommendations for whether or not they qualify as Significant Vernal Pools, one of Maine's Significant Wildlife Habitats.

Data current as of: Friday, July 31, 2015

IFW's Pool ID: 2596 Twp: Osborn
Observer's ID: PSVP_10KN_N
UTM Coordinates of Pool Center: 559433 E, 4961482 N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 8/14/2014
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Although pool was surveyed well outside the recommended timing window for indicator species, pool size is likely too small to ever support criteria for SVP; photo suggests pool size is limited by surrounding topography/boulders.

IFW's Pool ID: 2597 Twp: Osborn
Observer's ID: PSVP_11KN_N
UTM Coordinates of Pool Center: 559098 E, 4961274 N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 8/14/2014
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Pool surveyed well outside recommended timing window for indicator species.

IFW's Pool ID: 2597 Twp: Osborn
Observer's ID: VP_61KN_N (former PSVP_11KN_N)
UTM Coordinates of Pool Center: 559098 E, 4961274 N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 5/6/2015 Additional Survey Dates: 05/14/2015
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Resurveyed - status updated from potential vernal pool to not significant vernal pool

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IFW's Pool ID: 2598 Twp: Osborn
Observer's ID: PSVP_12CF_N
UTM Coordinates of Pool Center: 560828 E, 4964289 N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 10/15/2014
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the vernal pool definition
IFW Comments: Pool surveyed well outside the recommended timing window for indicator species.

IFW's Pool ID: 2598 Twp: Osborn
Observer's ID: PSVP_12CF_N
UTM Coordinates of Pool Center: 560828 E, 4964289 N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 5/5/2015 Additional Survey Dates: 05/14/2015
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the vernal pool definition
IFW Comments: Resurveyed - status updated from potential vernal pool to not significant vernal pool; unnatural origin - impounded by road

IFW Recommendations for Significant Vernal Pool Determinations

The following is a list of pools and IFW's recommendations for whether or not they qualify as Significant Vernal Pools, one of Maine's Significant Wildlife Habitats.

Data current as of: Friday, July 31, 2015

IFW's Pool ID: 2599 Twp: Osborn
UTM Coordinates of Pool Center: 560457 E, 4963902 N
Observer's ID: PSVP_13KN_N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 8/14/2014
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Pool surveyed well outside the recommended timing window for indicator species; although pool size is small, photo suggest pool could be larger during spring high water.

IFW's Pool ID: 2599 Twp: Osborn
UTM Coordinates of Pool Center: 560457 E, 4963902 N
Observer's ID: VP_52KN_N (former PSVP_13KN_N)
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 5/5/2015 Additional Survey Dates: 05/14/2015
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Resurveyed - status updated from potential vernal pool to not significant vernal pool

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IFW's Pool ID: 2600 Twp: Osborn
UTM Coordinates of Pool Center: 561731 E, 4963972 N
Observer's ID: PSVP_15KN_N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 8/15/2014
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Although pool was surveyed well outside the recommended timing window for indicator species, its small size and surrounding topography/habitat (as seen in photo) suggest pool is likely limited in size and ability to meet criteria for SVP.

IFW's Pool ID: 2600 Twp: Osborn
UTM Coordinates of Pool Center: 561731 E, 4963972 N
Observer's ID: PSVP_15KN_N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 5/5/2015 Additional Survey Dates: 05/14/2015
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Resurveyed - status remains as not significant vernal pool

IFW Recommendations for Significant Vernal Pool Determinations

The following is a list of pools and IFW's recommendations for whether or not they qualify as Significant Vernal Pools, one of Maine's Significant Wildlife Habitats.

Data current as of: Friday, July 31, 2015

IFW's Pool ID: 2601 Twp: Osborn
Observer's ID: PSVP_17KN_N
UTM Coordinates of Pool Center: 560717 E, 4964222 N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 8/22/2014
IFW's Recommendation: GREEN: SIGNIFICANT
IFW Comments: pool surveyed well outside recommended survey window for indicator species.

IFW's Pool ID: 2601 Twp: Osborn
Observer's ID: SVP_53KN_N (former PSVP17KN_N)
UTM Coordinates of Pool Center: 560717 E, 4964222 N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 5/5/2015 Additional Survey Dates: 05/14/2015
IFW's Recommendation: GREEN: SIGNIFICANT
IFW Comments: Resurveyed - status updated from potential vernal pool to significant vernal pool; exceeds WF egg mass criteria.

IFW's Pool ID: 2602 Twp: Osborn
Observer's ID: PSVP_28KN_N
UTM Coordinates of Pool Center: 561365 E, 4963955 N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 5/5/2015 Additional Survey Dates: 05/14/2015
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Resurveyed - status updated from potential vernal pool to not significant vernal pool

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IFW's Pool ID: 2602 Twp: Osborn
Observer's ID: PSVP_28KN_N
UTM Coordinates of Pool Center: 561365 E, 4963955 N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 9/22/2014
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Pool surveyed well outside the recommended timing window for indicator species

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IFW's Pool ID: 2603 Twp: Osborn
Observer's ID: PSVP_29KN_N
UTM Coordinates of Pool Center: 561428 E, 4963911 N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 9/22/2014
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Pool surveyed well outside the recommended timing window for indicator species

IFW Recommendations for Significant Vernal Pool Determinations

The following is a list of pools and IFW's recommendations for whether or not they qualify as Significant Vernal Pools, one of Maine's Significant Wildlife Habitats.

Data current as of: Friday, July 31, 2015

IFW's Pool ID: 2603 Twp: Osborn
Observer's ID: PSVP_29KN_N
UTM Coordinates of Pool Center: 561428 E, 4963911 N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Observer: Katelin Nickerson - Stantec Consulting
30 Park Drive
Topsham, ME 04086
(207) 729-1199 katelin.nickerson@stante

Survey Date: 5/5/2015 Additional Survey Dates: 05/14/2015
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Resurveyed - status updated from potential vernal pool to not significant vernal pool

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IFW's Pool ID: 2604 Twp: Osborn
Observer's ID: PSVP_36KN_N
UTM Coordinates of Pool Center: 562516 E, 4963483 N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 10/1/2014
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Pool surveyed well outside the recommended timing window for indicator species

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IFW's Pool ID: 2604 Twp: Osborn
Observer's ID: PSVP_36KN_N
UTM Coordinates of Pool Center: 562516 E, 4963483 N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 5/5/2015 Additional Survey Dates: 05/14/2015
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Resurveyed - status updated from potential vernal pool to not significant vernal pool

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IFW's Pool ID: 2605 Twp: Osborn
Observer's ID: SVP_63KN_N (former PSVP_37KN_N)
UTM Coordinates of Pool Center: 562364 E, 4961073 N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 5/6/2015 Additional Survey Dates: 05/14/2015
IFW's Recommendation: GREEN: SIGNIFICANT
IFW Comments: Resurveyed - status updated from potential vernal pool to significant vernal pool; exceeds WF, SS, BSS egg mass criteria; fairy shrimp present.

IFW's Pool ID: 2605 Twp: Osborn
Observer's ID: PSVP_37KN_N
UTM Coordinates of Pool Center: 562364 E, 4961073 N
ProjectType: Weaver Wind

Landowner: URSA Major, LLC
C/O AFM, 40 Champion Lane
Milford, ME 04461

Contact: Karol Worden - Stantec Consulting
20 Park Drive
Topsham, ME 04086
(207) 729-1199 karol.worden@stantec.co

Survey Date: 10/22/2014
IFW's Recommendation: GREEN: SIGNIFICANT
IFW Comments: Pool surveyed well outside the recommended timing window for indicator species.

IFW Recommendations for Significant Vernal Pool Determinations

The following is a list of pools and IFW's recommendations for whether or not they qualify as Significant Vernal Pools, one of Maine's Significant Wildlife Habitats.

Data current as of: Friday, July 31, 2015

IFW's Pool ID: 2608 Twp: Osborn
UTM Coordinates of Pool Center: 560948 E, 4962888 N
Observer's ID: VP_16KN_N - no longer a VP
ProjectType: Weaver Wind

Landowner:	URSA Major, LLC	Contact:	Karol Worden - Stantec Consulting
	C/O AFM, 40 Champion Lane		20 Park Drive
	Milford, ME 04461		Topsham, ME 04086
			(207) 729-1199 karol.worden@stantec.co

Survey Date: 5/6/2015
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the vernal pool definition
IFW Comments: Resurveyed - status updated from potential vernal pool to not significant vernal pool; permanent pond - not a vernal pool

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IFW's Pool ID: 2608 Twp: Osborn
UTM Coordinates of Pool Center: 560948 E, 4962888 N
Observer's ID: VP_16KN_N
ProjectType: Weaver Wind

Landowner:	URSA Major, LLC	Contact:	Karol Worden - Stantec Consulting
	C/O AFM, 40 Champion Lane		20 Park Drive
	Milford, ME 04461		Topsham, ME 04086
			(207) 729-1199 karol.worden@stantec.co

Survey Date: 8/20/2014
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the vernal pool definition
IFW Comments: Only 15% of pool surveyed and pool surveyed well outside recommended timing window for indicator species; insufficient evidence to support viable population of fish.

IFW's Pool ID: 2609 Twp: Osborn
UTM Coordinates of Pool Center: 559893 E, 4961732 N
Observer's ID: VP_06KN_N
ProjectType: Weaver Wind

Landowner:	URSA Major, LLC	Contact:	Karol Worden - Stantec Consulting
	C/O AFM, 40 Champion Lane		20 Park Drive
	Milford, ME 04461		Topsham, ME 04086
			(207) 729-1199 karol.worden@stantec.co

Survey Date: 5/6/2015 Additional Survey Dates: 05/14/2015
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Resurveyed - status remains as not significant vernal pool

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IFW's Pool ID: 2609 Twp: Osborn
UTM Coordinates of Pool Center: 559893 E, 4961732 N
Observer's ID: VP_06KN_N
ProjectType: Weaver Wind

Landowner:	URSA Major, LLC	Contact:	Karol Worden - Stantec Consulting
	C/O AFM, 40 Champion Lane		20 Park Drive
	Milford, ME 04461		Topsham, ME 04086
			(207) 729-1199 karol.worden@stantec.co

Survey Date: 8/6/2014
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Although pool was surveyed well outside of recommended timing window, photo suggests pool size restricted to foot print around boulder and will likely never be large enough to support criteria for SVP.

Exhibit 9-4

Wildlife Habitat Report

Wildlife Habitat Report

Hancock Wind Project
T22 MD and T16 MD, Hancock County, Maine

Prepared for:

Hancock Wind, LLC

Prepared by:

Stantec Consulting Services, Inc.

30 Park Drive
Topsham, ME 04086

December 2012

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1.0 Introduction

Hancock Wind, LLC, has proposed construction of the Hancock Wind Project (project or Hancock), a utility-scale wind energy facility to be located in T22 MD and T16 MD, Hancock County, Maine. The project will include up to 18 turbines, associated access roads, up to two permanent 105-meter meteorological towers, a 34.5-kilovolt electrical collector system that will connect to an existing electrical substation, and an Operations and Maintenance (O&M) building to be located in Aurora, Maine.

The proposed turbines will be one of two types: Vestas V112 or Siemens 3.0-113 machines, each with a 3.0-megawatt (MW) rated power. The Vestas turbines would be on a 94-meter tower and have 112-meter rotor diameter, for a total height with the blade fully extended of 150 meters (492 feet). The Siemens turbines would be on a 99.5-meter tower and have a 113-meter rotor diameter, for a total height of 156 meters (512 feet).

The project is anticipated to affect wildlife species in various ways. Temporary and permanent changes as a result of the proposed project have the potential to impact wildlife habitat. Impacts to habitats will consist of clearing land for turbines, associated roads and collector lines, as well as the proposed O&M building. The majority of the project area has been actively harvested for timber products and includes several unimproved logging roads.

The potential for avian and bat mortality through direct collisions with the turbines is one of the primary wildlife impacts expected from this project. In addition, direct and indirect impacts to wildlife such as injury, mortality, or displacement are possible during clearing, construction, and operation of wind turbines, access roads, and electric lines and poles. Once constructed, the turbines and associated facilities are anticipated to pose little threat to terrestrial wildlife.

Prior to permitting activities for the project, Stantec Consulting (Stantec) conducted a variety of wildlife surveys in the vicinity of the project area. These pre-construction surveys provided data to help assess the project's potential to impact birds and bats, rare, threatened and endangered (RTE) plants and animals, breeding amphibians, and wetlands.

On September 4, 2012, representatives from Hancock Wind met with representatives from the Maine Department of Inland Fisheries and Wildlife (MDIFW). The purpose of the meeting was to determine if additional field surveys were needed at the project given that pre-construction bird and bat surveys recently had been conducted at the adjacent Bull Hill Wind Project (Bull Hill) in Eastbrook and T16 MD, located within approximately 0.7 miles southwest of the project. During the meeting, MDIFW agreed that pre-construction radar migration and acoustic bat surveys were not necessary at the project, as data collected at Bull Hill were sufficient. Shortly after the September 4 meeting, MDIFW recommended conducting fall raptor migration surveys at the project.

The scope and methodology for surveys conducted at Bull Hill were confirmed through development of a natural resources work plan developed in consultation with MDIFW and USFWS. Stantec met with MDIFW and U.S. Fish and Wildlife Service (USFWS) biologists on July 30, 2009, to discuss the work scope and methods for conducting project surveys, and met again on February 11, 2010, to discuss the results of fall 2009 surveys and appropriate effort for spring 2010 surveys. Additional discussions were conducted with MDIFW and USFWS in February 2012 and September 2012, and a 2012 raptor migration report submitted to MDIFW in December 2012.

Field surveys relevant to the project were conducted between September 2009 and October 2012, and included the following:

- nocturnal radar migration surveys, conducted pre-construction for Bull Hill in fall 2009, spring 2010, and spring 2011;
- acoustic bat surveys, conducted pre-construction for Bull Hill in fall 2009 and spring 2010;
- diurnal raptor surveys, conducted pre-construction for Bull Hill in fall 2009 and spring 2010, as well as surveys conducted within the Hancock project area in fall 2012;
- aerial nest surveys, conducted in spring 2010, spring 2011, and spring 2012; and

- other site-specific surveys included wetland delineations and RTE species surveys conducted in the fall of 2012 (September-December), November 2011, and April and May 2010. Vernal pool surveys within those wetlands delineated in 2010 were completed in April and May 2010. For a complete description of these surveys, refer to Exhibit 7A.

In addition to field surveys, publicly-available information about the existing natural communities in the project area was reviewed. Information used to characterize the existing wildlife communities and their habitats included consultation with state agencies and review of available wildlife habitat databases and published natural resource classification systems. Information gained from this review was confirmed during field surveys between 2010 and 2012.

Available databases of ecological resources and classification systems also were reviewed during this characterization and assessment, including Database of Essential Habitats and Sensitive Natural Areas, as categorized by the MDIFW (http://megisims.state.me.us); Land Use Planning Commission Land Use Maps (http://www.state.me.us/doc/lupc); and Natural Landscapes of Maine – the Maine Natural Areas Program natural community classification system (Gawler and Cutko 2004).

The following sections describe the dominant cover types found in the project area, the wildlife species that are likely to occur within the project area or were documented during field surveys, and the potential for adverse impacts to wildlife and measures to minimize these impacts. Similar discussion for wetland resources and unusual natural areas can be found in application Exhibits 7A and 9A, respectively.

2.0 Ecological Setting of the Project Area

The project area is located in T22 MD and T16 MD, Hancock County. The project is within approximately 0.7 miles north and east of Bull Hill, a currently operational wind project. The project area consists of a series of coastal low-elevation hills, which range in elevation from approximately 250 to 540 feet above sea level. Ridgelines have gently sloping sides with large glacial erratics and boulder-strewn outcrops. There is access to each of the proposed turbine strings, primarily along existing logging roads.

The project is located in the Eastern Lowlands biophysical region.[1] The region is characterized by gently rolling topography with elevations generally below 550 feet. The project area is primarily dominated by a regenerating Beech-Birch-Maple forest. The project area has been managed for timber production and harvesting generally has occurred within the last 10 and 20 years. Wetlands on the ridges are located primarily in low lying areas between the hills and on small terraces along the side slopes. With more moderate topography along the roads, wetlands are generally larger and more complex than on the ridgelines and many of these wetlands contain jurisdictional streams.

3.0 Existing Vegetation Types and Wildlife Habitat

The dominant land cover types dictate the wildlife communities in the project area. Climate conditions, geology, and past land use (i.e., forest harvesting) are the most significant factors affecting the type and structure of the available habitats. Field surveys conducted between 2010 and 2012 indicate that the project area and surrounding landscape is characterized primarily by regenerating upland hardwood forests with pockets of forested, scrub-shrub, and emergent wetlands.

The project layout was designed to utilize existing roadways where possible and to avoid impacts to wetlands and streams. As a result, the proposed turbines are primarily sited in previously disturbed upland forest areas. The following are descriptions of the natural communities that occur in the project area:

[1] McMahon, Janet. 1998 (July). An Ecological Reserves System Inventory. Augusta, ME. ME State Planning Office. 122 pp.

3.1. Upland Forests

Areas of second-growth northern hardwood forests are present on Spectacle Pond Ridge and Schoppe Ridge. Dominant canopy species include American beech (*Fagus grandifolia*), yellow birch (*Betula alleghaniensis*) and sugar maple (*Acer saccharum*) trees. Balsam fir (*Abies balsamea*), red spruce (*Picea rubens*), and striped maple (*Acer pensylvanicum*) trees are scattered throughout these forests. Understory vegetation is sparse in some of these communities but includes evergreen wood fern (*Dryopteris intermedia*), hay-scented fern (*Dennstaedtia punctilobula*), bracken fern (*Pteridium aquilinum*), striped maple, wild sarsaparilla (*Aralia nudicaulis*), Blue Ridge sedge (*Carex lucorum*), and Indian cucumber root (*Medeola virginiana*).

Second growth mixed forests occur throughout the upland areas of Schoppe Ridge. These areas are dominated by balsam fir, red spruce, yellow birch, eastern white pine (*Pinus strobus*), and paper birch (*Betula papyrifera*) trees. Selective timber harvests have occurred throughout these forests as evidenced by decaying stumps and residual trees with larger diameters (e.g., 16 to 18 inches in diameter at breast height) that are scattered within the forest. The understory vegetation is typically sparse and very low in diversity. Hay-scented fern is the most common herbaceous understory plant within this community.

Early successional forests located on Schoppe Ridge are dominated by yellow birch, big-toothed aspen (*Populus grandidentata*), red maple (*Acer rubrum*), balsam fir, sugar maple, paper birch, and gray birch (*Betula populifolia*) saplings and small trees. Understory plants are sparse and very low in diversity. Occasional understory plants include hay-scented fern, bracken fern, sheep laurel (*Kalmia angustifolia*), black huckleberry (*Gaylussacia baccata*), withe-rod (*Viburnum nudum*), and dwarf dogwood (*Cornus canadensis*). Timber harvests have occurred approximately 10 to 15 years ago within these early successional areas.

Spruce-fir forests also are scattered on Schoppe Ridge. These forests have very low species diversity, including a very sparse understory. Red spruce and balsam fir trees, saplings, and shrubs dominate these areas. Mosses, including brook moss (*Dicranum scoparium*) and three-lobed bazzania (*Bazzania trilobata*), dominate the herbaceous stratum. Past timber harvests have occurred throughout these areas as evidenced by decaying cut stumps.

Managed plantations are present on Spectacle Pond Ride and Schoppe Ridge. The west end of Spectacle Pond Ridge includes a regenerating red pine (*Pinus resinosa*) plantation that has recently been harvested for timber. Red spruce plantations located along Schoppe Ridge are even-aged stands that have very low species diversity. Saplings of red maple, eastern white pine, big-toothed aspen, and yellow birch are common within these forest stands. Common understory plants include bracken fern, velvet-leaf blueberry (*Vaccinium myrtilloides*), dwarf dogwood, and hay-scented fern.

The forest communities on the ridgeline east of Bull Hill have been recently harvested for timber through selective and strip cutting harvesting methods. Narrow bands of residual trees are interspersed amongst networks of skidder trails throughout the ridgeline. The forests are predominantly mixed forests dominated by residual red spruce, balsam fir, eastern white pine, red maple, and yellow birch trees. Understory species are typically sparse and commonly include regenerating canopy species, bracken fern, sheep laurel, and black huckleberry.

3.2. Wetlands

The majority of wetlands identified within the project area were characterized as forested wetlands. Northern white cedar (*Thuja occidentalis*), balsam fir, red maple, red spruce, and tamarack (*Larix laricina*) dominate the canopy of these wetlands. The shrub layer includes gray birch, white meadowsweet (*Spiraea alba* var. *latifolia*), and winterberry (*Ilex verticillata*). Cinnamon fern (*Osmunda cinamomea*) is common in the herbaceous layer. The soils in these wetlands are generally shallow and commonly consist of organic accumulation over depleted loamy sand and areas of organic material over glacial till or bedrock. The characteristics indicating wetland hydrology in these resources included saturated soil, standing water in pits and wetland drainage patterns.

Scrub-shrub wetlands make up a small portion of the wetlands within the project area. These wetlands include naturally-occurring communities such as those associated with streams and floodplains, and wetlands that have been altered by forest management activities and that are in an early- to mid-stage of succession. The dominant plants observed include speckled alder (*Alnus incana* ssp. *rugosa*), winterberry, white meadowsweet, yellow birch, withe-rod, balsam fir and gray birch in the shrub layer. Crested wood fern (*Dryopteris cristata*), cinnamon fern, leatherleaf (*Chamaedaphne calyculata*), Canada reed grass (*Calamagrostis canadensis*), royal fern (*Osmunda regalis*) are common in the herbaceous layer. The soils in these wetlands are generally shallow and commonly consist of organic accumulation over depleted loamy sand and areas of organic material over glacial till or bedrock. The characteristics indicating wetland hydrology in these resources include saturated soil, standing water in pits and wetland drainage patterns.

Wet meadow communities in the project area consist of early successional wetlands, some of which have recently been altered by timber harvesting. These wetlands are dominated by herbaceous vegetation such as Canada reed grass, cinnamon fern, common wool-grass (*Scirpus cyperinus*), and path rush (*Juncus tennuis*), but they are not typically characterized by long periods of inundations as would be common in marsh habitats. Similar to the other wetland communities within the project area, the soils in these wetlands are generally shallow and consist of organic accumulation over a mineral horizon or over bedrock/till. The indicators of hydrology include water marks, soil saturation to the surface, and standing water in pits.

4.0 Wildlife Communities

Following are brief descriptions of the predominant wildlife species known or suspected to occur in the project area. The information presented here was derived from extensive environmental field surveys conducted in the project area and surrounding area between 2009 and 2012.

4.1. Birds

Birds are among the most abundant and diverse wildlife communities in the region, including the project area. A variety of species are known or suspected to occur in association with the second-growth hardwood and mixed forests. Bird species that frequent these forests include black-capped chickadee (*Poecile atricapillus*), blue jay (*Cyanocitta cristata*), golden-crowned kinglet (*Regulus satrapa*), white-breasted nuthatch (*Sitta carolinensis*), hairy woodpecker (*Picoides villosus*), downy woodpecker (*Picoides pubescens*), least flycatcher (*Empidonax minimus*), ruffed grouse (*Bonasa umbellus*), winter wren (*Troglodytes hiemalis*), hermit thrush (*Catharus guttatus*), red-eyed vireo (*Vireo olivaceus*), ovenbird (*Seiurus aurocapillus*), yellow-rumped warbler (*Setophaga coronata*), black-throated blue warbler (*D. caerulescens*), and black and white warbler (*Mniotilta varia*). Raptors that inhabit upland hardwoods and mixed woods include great-horned owl (*Bubo virginianus*), barred owl (*Strix varia*), northern goshawk (*Accipiter gentilis*), broad-winged hawk (*Buteo platypterus*), and red-tailed hawk (*Buteo jamaicensis*).

Spruce-fir forests provide breeding and year-round habitat for bird species, including red-breasted nuthatch (*Sitta canadensis*), ruby-crowned kinglet (*Regulus calendula*), northern parula (*Parula americana*), magnolia warbler (*Dendroica magnolia*), bay-breasted warbler (*Dendroica castanea*), purple finch (*Carpodacus purpureus*), and evening grosbeak (*Coccothraustes vespertinus*).

Open areas dominated by early successional habitat provide suitable habitat for a number of ground and shrub dwelling birds. Common species include northern flicker (*Colaptes auratus*), eastern wood-pewee (*Contopus virens*), American robin (*Turdus migratorius*), chestnut-sided warbler (*Dendroica pensylvanica*), American redstart (*Setaphaga ruticilla*), common yellowthroat (*Geothlypis trichas*), chipping sparrow (*Spizella passerine*), song sparrow (*Melospiza melodia*), white-throated sparrow (*Zonotrichia albicolis*), dark-eyed junco (*Junco hyemalis*), rose-breasted grosbeak (*Pheucticus ludovicianus*), and common raven (*Corvus corax*). Red-tailed hawks regularly hunt from perches in this habitat.

Wetland habitats may receive use by a subset of species that specialize in these habitats. Included may be American woodcock (*Scolopax minor*), alder flycatcher (*Empidonax alnorum*), gray catbird (*Dumetella carolinensis*), and northern waterthrush (*Parkesia noveboracensis*).

Stantec conducted pre-construction radar nocturnal migration surveys in fall 2009, spring 2010 and fall and spring 2011 at Bull Hill. Passage rates were consistent with the results of other pre-construction surveys conducted at other locations in Maine and in the eastern U.S. For a complete description of these surveys, refer to Exhibit 7C.

Stantec conducted pre-construction raptor migration surveys in summer and fall 2009, and winter and spring 2010 at Bull Hill, as well as raptor migration surveys within the Hancock project area in fall 2012. During all surveys, a total of 12 species of raptor were documented during raptor migration surveys and some of these species could potentially breed in either the Bull Hill or Hancock project area. Species observed during the surveys include American kestrel (*Falco sparverius*), bald eagle, broad-winged hawk, Cooper's hawk (*Accipiter cooperii*), merlin (*Falco columbarius*), northern goshawk, northern harrier (*Circus cyaneus*), osprey, peregrine falcon (*Falco peregrinus*), red-tailed hawk, sharp-shinned hawk (*Accipiter striatus*) and turkey vulture (*Cathartes aura*). One state-listed threatened species, peregrine falcon, was observed during raptor migration surveys, and two species of special concern, bald eagle and northern harrier, were observed. The use of the project area by these species is anticipated to be largely during migration. For a complete description of these surveys, refer to Exhibit 7C.[2]

Stantec also conducted pre-construction aerial surveys for bald eagle nests, heron rookeries, and osprey nests in 2010 and 2011 for Bull Hill and in 2012 for the Hancock Project. In 2010, the survey area included waterbodies in Osborn, Eastbrook, T22 MD, T16 MD, T10 SD, T9 SD, and Franklin. The shorelines of 7 lakes and ponds, as well as numerous bogs, wetlands, and flowages within an approximately 4-mile radius of the proposed Bull Hill turbine locations, were surveyed. No active bald eagle nests were located within four miles of the proposed Hancock turbines. A known bald eagle nest on an island in Molasses Pond was located, but the nest was not active. Two active osprey nests were identified along the Line 55 transmission line to the south of the Project area. A reported great blue heron rookery at the south end of Scammon Pond was not located. In 2011, the survey included waterbodies within 10 miles of the proposed Bull Hill project area. The shorelines of 31 waterbodies were surveyed. Four active bald eagle nests were identified within the 10-mile radius of proposed Hancock turbines. Of these 4 nests, 2 were found to have successfully hatched at least one eaglet at the time of the second flight. The closest active nest was nest #360B on Molasses Pond at approximately 5.8 miles from the nearest proposed Hancock turbine. No incidental observations of great blue heron or osprey were made. In 2012, aerial surveys were conducted within more than 10 miles of the current Hancock Wind Project. This included the shoreline of 36 waterbodies and watercourses. Five active bald eagle nests were observed within 10 miles of the proposed Hancock turbine locations. The closest active nest was located on Spectacle Pond (#221C), approximately 1.7 miles from the nearest proposed Hancock turbine. One great blue heron rookery was observed at Spring Brook (7-8 active nests). One osprey nest was observed near the Spring Brook heron rookery, and one was observed on Bog Brook Flowage. For a complete description of these nest surveys, refer to Exhibit 7C.

4.2. Mammals

Large mammals that are likely to occur within the project area based upon species distribution and available habitat include white-tailed deer (*Odocoileus virginianus*), moose (*Alces alces*), and black bear (*Ursus americanus*). Predatory and fur-bearer species observed or expected to occur within the project area include American marten (*Martes americana*), coyote (*Canis latrans*), red fox (*Vulpes vulpes*), bobcat (*Lynx rufus*), fisher (*Martes pennanti*), and long-tailed weasel (*Mustela frenata*). Common medium-sized mammals expected to occur in the area include raccoon (*Procyon lotor*), porcupine (*Erethizon dorsatum*), snowshoe hare (*Lepus americanus*), and striped skunk (*Mephitis mephitis*).

[2] Following the Spring 2010 Avian and Bat Survey Report (Stantec, August 2010) in Exhibit 7C is a summary table of spring raptor survey results from other projects on forested ridges in the eastern U.S.

The small mammal community likely includes masked shrew (*Sorex cinereus*), pygmy shrew (*Sorex hoyi*), northern short-tailed shrew (*Blarina brevicauda*), eastern chipmunk (*Tamias striatus*), gray squirrel (*Sciurus carolinensis*), red squirrel (*Tamiasciurus hudsonicus*), deer mouse (*Peromyscus maniculatus*), and southern red-backed vole (*Clethrionomys gapperi*). Other less common species that could occur include smoky shrew (*Sorex fumeus*), northern flying squirrel (*Glaucomys sabrinus*), and woodland jumping mouse (*Napaeozapus insignis*). Some of the more open areas along the ridge could be used by meadow voles (*Microtus pennsylvanicus*), although their overall abundance in this predominantly forested area is likely low relative to other small mammals.

Eight species of bat also could occur in the area based upon their normal geographical range. These include the little brown bat (*Myotis lucifugus*), northern long-eared myotis (*Myotis septentrionalis*), eastern small-footed bat (*Myotis lebeiii*), silver-haired bat (*Lasionycteris noctivagans*), big brown bat (*Eptesicus fuscus*), eastern red bat (*Lasiurus borealis*), hoary bat (*Lasiurus cinereus*), and tri-colored bat (*Perimyotis subflavus*).[3] Stantec conducted acoustic surveys at Bull Hill in 2009 and 2010 to characterize bat activity in the project area using detectors to record calls of migrating or foraging bats in the vicinity of the project area. Of the calls that were identified to species guild, bats of the Genus *Myotis* were the most abundant during both the fall 2009 acoustic survey and the spring 2010 acoustic survey. Other bat guilds that were documented include big brown/silver haired bat, hoary bat, and eastern red bat/tri-colored bat guilds. Detectors placed in trees and along habitat edges in both seasons recorded more *Myotis* calls than the detectors deployed higher above the ground, within the guy wire arrays of the met towers. For a complete description of these surveys, refer to Exhibit 7C.

4.3. Amphibians and Reptiles

Amphibians and reptiles observed in the project area include wood frog (*Lithobates sylvatica*), bullfrog (*Lithobates catesbeiana*), spotted salamander (*Ambystoma maculatum*), and garter snake (*Thamnophis sirtalis*). Vernal pool surveys were completed for those wetlands that were delineated in the spring of 2010, and a description of these surveys is provided in Exhibit 7A. Potential vernal pools (PVPs) located during the fall of 2011 and 2012 were identified by physical characteristics such as the presence of surface water and topographic position.

4.4. Significant Wildlife Habitat

Under the Natural Resources Protection Act (NRPA), the Maine Department of Environmental Protection (MDEP) regulates activities that would impact Significant Wildlife Habitat such as habitats of state or federally-listed threatened or endangered animal species; Inland Waterfowl and Wading Bird Habitat (IWWH); Deer Wintering Areas (DWAs); shorebird nesting, feeding, and staging areas; seabird nesting islands; or Significant Vernal Pools..

Stantec contacted the Maine Department of Inland Fisheries and Wildlife, Maine Department of Environmental Protection, and the United States Fish and Wildlife Service (USFWS) during the course of project development and requested information regarding known listed animal species or Significant Wildlife Habitat that have been documented within the vicinity of the proposed project. The responses from those agencies are included in Exhibit 9A.

The only known habitat for state or federally-listed species in the vicinity of the project area is for Atlantic salmon (*Salmo salar*) in perennial streams, described further in 4.4.1. The project area is not within designated Critical Habitat for Canada lynx (*Lynx canadensis*). Based on the results of aerial nest surveys, there is one bald eagle nest location within four miles of the proposed turbines. During three years of surveys, the closest active nest to the proposed turbine locations was nest #221C on Spectacle Pond at approximately 1.7 miles from the nearest proposed turbine location. There are no MNAP-listed critically imperiled or imperiled natural communities in the project area (See Exhibit 9A). The presence of significant vernal pools is discussed in Section 4.4.2.

[3] Formerly known as the eastern pipistrelle (*Pipistrellus subflavus*).

4.4.1.Critical Habitat for Atlantic salmon

The only known threatened or endangered species habitat in the vicinity of the Project area is for Atlantic salmon in perennial streams. The project area is located within the Union River and Narraguagus River watersheds. These rivers and associated perennial streams are within Designated Critical Habitat for the federally-listed Atlantic salmon.

The Critical Habitat for the GOM DPS of Atlantic salmon was designated in June 2009. The area identified as Critical Habitat for Atlantic salmon includes any perennial stream, river, and lake habitats that connect to the marine environment.[4] It includes physical and biological features that are essential to Atlantic salmon life cycle activities (e.g., spawning and juvenile rearing habitat, egg incubation, smolt migration). The project is located within the Graham Lake (010500212) and Narraguagus (010500209) HUC (Hydrologic Unit Code) 10 watersheds, both designated as Critical Habitat. Available U.S. Geological Survey 7.5-minute series topographic maps were reviewed and it was and determined that at least four streams potentially intersect the project area. These are Garden Eden Brook (Unit 2), Smith Brook (Unit 3), a tributary to Garden Eden Brook (Unit 1), and Mud Brook (Unit 3). However, none of these streams, and no other perennial streams within Designated Critical Habitat, are impacted by the project as designed.

The Narraguagus River (West Branch 2.5 miles) and the Union River (East Branch of the Union River runs into Spectacle Pond approximately 2 miles) are the closest designated Essential Fish Habitat (EFH) to the project area. Their tributaries, to the extent they are currently or were historically accessible for salmon migration, are also EFH, and there are many tributaries, including the Bog River and its tributaries which flow in between Unit 2 and 3 close to the project area. The Narraguagus River is also included as a Habitat Area of Particular Concern, which is a discrete subset of an EFH that provides extremely important ecological functions or are especially vulnerable to degradation. Neither of these rivers nor the EFH associated with them is impacted by the project as designed.

A total of 19 streams, 13 of which are perennial, were identified during wetland delineation surveys at the project. No perennial streams are impacted by the project. Additional information on the streams identified in the project area is presented in Exhibit 7A.

4.4.2.Significant Vernal Pools

During surveys conducted in the spring of 2010, six man-made vernal pools were identified within the project area. A total of 35 PVPs were identified during fall 2011 and fall 2012 wetland delineations. Fourteen of those PVPs were determined to be naturally occurring. Based upon the timing of this permit application submission, all of the naturally-occurring PVPs were treated as Significant Vernal Pools under the NRPA. A table detailing observed amphibian breeding activity from the 2010 vernal pool surveys is presented in Exhibit 7A.

No vernal pools are impacted by the project.

5.0 Potential Project Impacts to Habitat and Wildlife

The construction and operation of wind turbines at the project will result in some direct and indirect impacts to local wildlife communities and their habitats. In general, impacts could include habitat conversion as well as collision-related fatalities. The following discusses the potential project impacts based on the findings of on-site field surveys that could affect the natural resources and wildlife groups that are known to occur in vicinity of the project area.

[4] Endangered and Threatened Species; Designation of Critical Habitat for Atlantic Salmon (Salmo salar) Gulf of Maine Distinct Population Segment, Federal Register, vol. 74, No. 117, (Friday 19, 2009).

5.1. Habitat Conversion

The project was designed to avoid impacts to wetlands and streams and therefore, the proposed turbines and associated access roads will largely occur in previously disturbed upland hardwood and mixed forests. The overall result of project construction will be the direct loss of some forested upland areas and the conversion of some forested habitat areas to early-successional habitat.

The development of the project will require the construction of turbine structures, new roads, and an electrical collector system. Each wind turbine will be located in an opening that will be graded relatively flat and, after construction, all but approximately 0.35 acres will be allowed to revegetate to herbaceous and shrub covers. The road system needed to construct the project requires that roads have a travel surface of at least 36 feet wide on the summit for the passage of the crane needed to erect the turbines. All other roads will include a travel surface of up to 24 feet.

For local wildlife, the direct loss of habitat could occur from the conversion of vegetated habitats to permanent roads and turbine clearings. Potential indirect effects could also include disturbance effects during and following construction of the project, which could result in short-term avoidance of the area by some species and targeted use of the project area by others, possible longer-term avoidance of the area by certain species, and the conversion of some forested habitats to early successional habitats. The potential impact to wildlife communities due to habitat conversion is not expected to adversely affect those populations since local wildlife populations have already adapted to the occasional rapid changes in the distribution of habitats along the ridge from harvesting activities.

5.2. Collision Risk

It is known that birds and bats collide with tall structures such as buildings, communications towers, and wind turbines. Because wind turbines are large, have moving parts, and extend above the surrounding landscape, the potential exists for wildlife collisions to occur. However, at existing wind projects in the U.S. where mortality studies have been conducted, collision risk is generally considered low relative to other sources of bird mortality and to other energy sources (i.e., fossil fuels and nuclear power). Table 1 provides a summary of estimates of known sources of bird mortality.

Table 1. Summary of Nation-Wide Bird Mortality Estimates

Structure/Cause	**Total Bird Fatalities**	**Reference**
Building and Windows	98 - 980 million	Klem 1991
Power Lines	10,000 - 174 million	Erickson *et al.* 2001
Housecats	100 million	Coleman and Temple 1993
Vehicles	60 - 80 million	Erickson *et al.* 2001
Agricultural Pesticides	67 million	Pimentel and Acquay 1992
Communication Towers	4 - 50 million	Erickson *et al.* 2001
Wind Generation Facilities	10,000 - 40,000	Erickson *et al.* 2001

5.2.1. Measurement of Avian Mortality and Comparability

The original concern that wind farm-induced fatalities could pose biologically significant impacts to bird populations arose from a few facilities, mainly Altamont Pass and Solano County Wind Resource Areas in California [Altamont Pass; Orloff and Flannery 1992, Hunt 2002]). Post-construction monitoring plans are typically developed in consultation with state and federal agencies. Such plans detail field methodology in terms of timing, proportion of turbines to search, size of search areas, and search interval. Plans also specify how fatality estimates are calculated statistically, and how correction factors (i.e., results of searcher efficiency trials in which the observer is tested to help assess what percent of carcasses the observer actually finds, and results of carcass persistence trials, which assess how long carcasses persist on the ground before being scavenged and are available to be discovered), are incorporated. Scavenger

removal trials help inform the appropriate search interval (i.e. daily versus weekly). It is important to acknowledge that fatality estimates, which are generally expressed as fatalities per turbine or fatalities per megawatt, are evolving, and fatality estimates between sites must be compared with caution because of differences in methodology or estimators. Also, these studies and statistical analyses have not been designed to recover every bird and bat that may be involved in a collision event at a project over the course of a year; rather they are designed to sample peak periods of collision risk at a representative sample of turbines at a project to estimate the level of take over the course of a study period. In this respect, these estimates are indices of the level of impact that each project is causing. These indices can best be compared with similar field methodology used at sites with similar physical and landscape characteristics (i.e., forested ridgeline, agricultural field).

Bird and bat fatality study protocols at existing wind farms in Maine (Mars Hill, Stetson, Kibby, and Rollins) and New Hampshire (Lempster) have been developed in consultation with the respective state and federal agencies. Other states such as New York and Pennsylvania have developed guidelines for post-construction monitoring methods for which study work plans can be developed in a uniform fashion. While study protocols have been tailored to address individual project study objectives, the afore mentioned studies in Maine and New Hampshire have all included the following key elements for these types of studies: searches under turbines (either a subset or all turbines), searcher efficiency trials, carcass persistence trials, and statistical analysis to estimate total mortality during a study period.

These studies have generally been conducted from mid-April to mid-October (sometimes with a break in June), to cover spring migration, the summer breeding period, the late-summer bat activity period, and the fall migration period. The majority of studies in Maine and New Hampshire have used a weekly search interval where individual turbines are searched every 7 days. The advantage to a weekly search interval versus a daily search interval is the feasibility of including all or half of turbines (depending on the size of the project) in searches. The appropriate search interval (weekly or daily) would be dependent on survey objectives as well as scavenger activity at a project. Weekly searches are adequate if the objective is to determine estimates, or indices, of take for comparison with most other available studies and a reasonable number of carcass persistence trial carcasses remain between search intervals.

Turbine searches at these forested ridgeline projects in Maine and New Hampshire involved searching the areas leveled for turbine lay-down (typical plot diameter of 75 meters) with linear transects established 3 to 5 meters apart. For those wind projects in landscape settings where searching a greater area is feasible, such as agricultural landscapes in New York, search areas are typically as large as 120 meters by 120 meters (the length of the typical height of the maximum rotor-swept height of modern turbines, squared). Some carcasses may land outside of the 75 meters average diameter turbine lay-down area at projects on forested ridgelines; however, studies have indicated that the majority of carcasses are found closer to turbine bases. For example, a study at the Maple Ridge Wind Project in New York, which included search areas of 120 meters by 130 meters, indicated that the mean distance birds and bats were found from tower bases was 39 meters and 26 meters, respectively (Jain et al. 2009). For those projects with exceptionally small search areas (Lempster, NH), search area correction factors – based on the distribution of carcasses found within search areas – may be applied to account for some of the carcasses that may have landed outside of search plots.

Vegetation cover within plots also influences the percent of carcasses that may be found by searchers. Studies may involve vegetation management to increase searcher efficiency rates, or may include visibility class mapping within plots to account for variable searcher efficiency in different vegetation cover types.

5.2.2.Review of Known Collision Risk

Birds

In 2004, raptor mortality estimates at Altamont Pass were 0.24 fatalities per turbine per year (fatalities/turbine/year), or 1,296 raptor fatalities (GAO 2005). Altamont Pass and Solano County Wind Resource Areas are located along migratory ‘bottlenecks’ or sites where birds were seasonally very

active. Studies conducted at those California facilities that experienced high fatality rates found significant contributing factors to the high mortality observed: the number, density, and physical characteristics of turbines (there over 5,000 turbines present at Altamont Pass alone); high raptor wintering density; high prey densities within the wind resource areas; and the funneling of migrants through these areas by topographical features. Additionally, the turbines are predominantly older generation turbines that are smaller, lower to the ground, and with blades that spin faster as wind speed increases. Turbines at these sites also are spaced very close together in comparison to more modern facilities with larger turbines. Finally, most turbines are placed on lattice-type towers, which could provide perch locations in close proximity to spinning blades.

Raptor mortality in the U.S., outside of California, has been documented to be very low; mortality rates found at onshore wind developments outside of Altamont Pass have documented 0 to 0.07 fatalities/turbine/year from 2000-2004 (GAO 2005). Results of roughly 30 studies at over 25 different locations throughout the U.S. (outside California) have documented approximately 50 total raptor fatalities (Appendix B Table 1). This compares with more than 100 raptor mortalities documented per year at Altamont Pass and overall estimates of thousands killed annually at that facility. Documented flight heights of raptors migrating through a project area does not correlate to collision risk, particularly since raptors frequently exhibit avoidance behavior, probably due to their propensity to migrate during clear weather conditions during daylight hours. Studies have documented high raptor collision avoidance behaviors at modern wind facilities (Whitfield and Madders 2006, Chamberlain *et al.* 2006, Tetra Tech EC, Inc. 2010). As most raptors are diurnal, raptors are able to visually, as well as acoustically detect turbines during periods of fair weather. Foraging raptors that may become distracted by prey, resident young birds that are learning to fly, or migrant raptors flying during periods of reduced visibility, may be at increased risk of collision with wind turbines.

Songbirds (e.g., warblers, vireos, thrushes, sparrows) account for up to 80 percent of known fatalities reported at wind facilities (Johnson *et al.* 2000, Erickson *et al.* 2002). Mortality of these species has included both daytime and nocturnal fatalities (Erickson *et al.* 2001), however collisions are more likely to occur in periods of low visibility during inclement weather mainly at night. Publicly available results of recent studies at 15 wind projects in the northeastern U.S. (Maine, New Hampshire, Vermont, New York) estimate fatality rates between 3.10 to 9.48 birds/turbine/year (Maple Ridge, New York; Jain *et al*. 2007) to 0.44 to 2.5 birds/turbine/year (Mars Hill, Maine; Stantec Consulting 2008) (Appendix B Table 2). Using comparable post-construction monitoring methodologies developed in consultation with USFWS and MDIFW, avian fatality monitoring in 2007 and 2008 at the Mars Hill Wind Project (Mars Hill) estimated 0.44 to 2.5 bird fatalities/turbine/year (36 total birds were found during standard searches; Stantec Consulting 2008) and 2.4 to 2.65 birds/turbine per year (41 total birds were found during standard searches; Stantec Consulting 2009), respectively; fatality monitoring in 2009 and 2010 at Stetson I/II estimated 4.03[5] (Stantec Consulting 2010) to 2.14 bird fatalities/turbine/year (Normandeau Associates 2010), respectively.

Bats

Emerging evidence suggests that migratory bats are at a greater risk of turbine collisions than birds, particularly in certain areas of the country. This concern arose mainly from a study at the 44-turbine Mountaineer Wind Energy Facility in Tucker County, West Virginia where 475 dead bats (47.5 bats/turbine/year) were documented between April 20 and November 9, 2003 (Johnson and Strickland 2004). A 2009 post-construction study at the Blue Sky Green Field project in Wisconsin documented an unprecedented, high mortality rate for the Midwest, with total estimated mortality of 40.5 bat fatalities per turbine (Gruver 2009). At a 56-turbine facility southeast of Lubbock, Texas, observers found 47 Brazilian free-tailed bats, an abundant species, from September 2006 to September 2007 (Miller 2008). At a 68-turbine facility in northwestern Oklahoma, 95 Brazilian free-tailed bats were found (Piorkowski 2006). These and similar subsequent studies have raised concerns that bat mortality associated with wind

[5] Results of the 2009 Stetson study are likely influenced by the proportion of avian carcasses found at turbine number 1 which is situated next to an at-the-time inadvertently lit operations and maintenance building.

turbine collisions could adversely impact bat populations (Williams 2003; GAO 2005; Arnett *et al*. 2008; Kunz *et al*. 2007a).

Mortality of eight bat species has been documented at wind energy facilities in the eastern U.S. (Kunz *et al*. 2007b), with most fatalities occurring during what is generally considered the fall migration period of August to November (Arnett *et al*. 2008, Cryan 2003, Cryan and Brown 2007, Johnson *et al*. 2005). Species documented under turbines in the East include little brown myotis, northern myotis, tri-colored bat, seminole, silver-haired, hoary, red, and big brown bats. Mortality estimates for bats in Maine are far lower than those documented at other projects in the East and in other regions of the U.S. Publicly available results from post-construction monitoring studies conducted between April and November at the 195-turbine Maple Ridge Wind Project in New York in 2007 and the 44-turbine Mountaineer Wind Project in West Virginia in 2003 estimated 15.54 to 18.53 bat fatalities/turbine/year (Jain *et al.* 2008) and 47.53 bat fatalities/turbine/year (Kerns and Kerlinger 2004), respectively. At Maple Ridge, 64 turbines were searched weekly, and at Mountaineer, 44 turbines were searched twice per week. In comparison, post-construction monitoring surveys at Mars Hill in 2007 and 2008 estimated 0.43 to 4.4 bat fatalities/turbine/year and 0.17 to 0.68 bats/turbine/year, respectively (27 total bats were found during standard searches in both years); monitoring at Stetson I in 2009 estimated 2.11 bat fatalities/turbine/year and monitoring at Stetson II in 2010 estimated 2.48 bat fatalities/turbine/year (19 total bats were found during standard searches in both years) (Appendix B Table 2). Note that post-construction mortality studies at these 2 projects were similar in terms of search interval and timing; 28 turbines at Mars Hill and 19/17 turbines at Stetson I/II were searched on a weekly basis between April and October[6]. At the Kibby Wind Project in Franklin County, Maine, 6 total bat carcasses were found during searches in 2011, resulting in estimated fatality rates of 0 bats/turbine/year in spring and 0.37 bats/turbine/year in fall. Searches occurred at half of the turbines (22 out of 44) 3 times every 2 weeks from May to the end of June and July to mid-October (Stantec 2011) (Appendix B Table 2). Mortality estimates at all three projects used estimator adjustment calculations derived from searcher efficiency and scavenger trail data, which has been standard protocol for post-construction monitoring in Maine.

Despite what is currently known about bat collision rates in Maine, it is important to acknowledge that little is known about the migration patterns and numbers of migratory bats in Maine and other States, and the factors contributing to levels of risk. Researchers currently have a limited understanding of the actual mechanism of bat collisions, although evidence from the timing of fatalities documented at existing wind facilities and other structures suggests that migrating bats are most at risk, whereas resident bats during the summer feeding and pup-rearing period are considered low risk (Johnson and Strickland 2004, Johnson *et al*. 2003, Whitaker and Hamilton 1998). Additionally, only certain species of bats appear to be at risk. Of the 45 species of bats that occur in the U.S., only approximately 11 species have been found during mortality searches (Arnett *et al* 2008). In most regions, including the eastern U.S., migratory tree-roosting species such as hoary, eastern red, and silver-haired bats have higher mortality rates at wind projects than cave-dwelling species (Arnett *et al* 2008). At Stetson I in 2009 and Stetson II in 2010, 60 percent (n=3) and 79 percent (n=11), respectively, of bat fatalities found by the observer during standard searches were migratory tree-roosting bats. At Mars Hill in 2007 and 2008, 68 percent (n=15) and 100 percent (n=4), respectively, of bat fatalities found by the observer during standard searches[7] were migratory tree-roosting bats

5.2.3. Summary of Collision Risk at the Hancock Wind Project

Results of post-construction mortality surveys at the project are expected to be comparable to those at Stetson I/II, and Rollins as all three occur on similar landscape features (forested ridgelines) with similar historical land use activity (i.e. harvesting) in a similar geographic region (the Northeast U.S.). The project would include 18 turbines, which is fairly small compared to most wind projects already operating in the eastern U.S., and the smallest project developed by First Wind in Maine. The project will conduct a similar post-construction mortality monitoring study similar to the studies conducted at Rollins and Stetson I/II.

[6] Except for the 2007 study at Mars Hill, which was conducted from April to September.
[7] Standard surveys at Mars Hill included dog searches.

However, unlike at Rollins and Stetson I/II, the project will curtail project turbines, resulting in potentially lower fatality rates at the project than observed at Rollins and Stetson I/II. Curtailment has been shown to be an effective strategy to reduce bat mortality; one recent study documented reductions in nightly fatality from 44 to 93 percent (Arnett *et al* 2010).

Although results of pre-construction surveys alone cannot predict level of risk at a project, when compared to other results of similar projects in the region, results may help relate the project to other projects in the region, or illustrate regional patterns in migration activity, timing, or species composition (in the case of raptors). Understanding regional patterns, particularly when concurrent post-construction mortality results are available from operational wind projects in the same region, may help inform the level of risk at a project. The results of pre-construction surveys are consistent with the results of surveys conducted at other proposed wind developments in the northeastern U.S., as summarized below and further described in the seasonal Avian and Bat Migration Survey Reports (Exhibit 7C).

Raptors

The results of raptor surveys at the project and at Bull Hill are within the range of results documented at other proposed wind projects in the region (Exhibit 7C).

Pre-construction raptor survey results do not correlate to post-construction mortality of raptors. The risk of collision of raptors at facilities aside from those facilities at migration bottlenecks or high use areas is low. Due to most raptors' day-time habits in combination with the slow moving blades of modern industrial turbines, raptors are aware of the spinning blades and rotor structures and avoid them. The turbines at the project will consist of this modern design, lacking the features believed to present a greater risk of collision. Additionally, most raptors migrate during periods of good visibility when conditions are favorable for long-distance flight. Therefore, the risk of migrant raptors colliding with the proposed turbines is anticipated to be low. Some resident raptors engage in flight behaviors that could put them at a greater risk of collision, such as aerial courtship displays. Owls primarily forage during nocturnal and crepuscular periods. Despite these behaviors, as explained above, mortality surveys at existing wind farms, outside of the California facilities that observed high fatalities due to local circumstances, have indicated low raptor mortality. One raptor fatality, a barred owl, occurred in two years of study (2007 and 2008) at Mars Hill, and was thought to have been a natural winter kill during the severe 2007-2008 winter conditions (Stantec 2008). At Stetson I, post-construction raptor surveys occurred in conjunction with the post-construction mortality surveys. A total of 79 raptors (34 in spring; 45 in fall) during 70 hours of survey were observed during both spring and fall survey seasons (Stantec 2010). During post-construction mortality surveys, two red-tailed hawks were found, however they were not turbine-related fatalities (they were electrocuted by a riser pole of the electrical collection system). Incidental observations of raptors during the mortality survey at Stetson I in 2009 included instances of raptor turbine-avoidance behaviors. Out of 47 incidental observations, 7 raptors exhibited turbine-avoidance behaviors. For these 7 observations, raptors made slight changes to their flight paths as they approached spinning turbines. No raptors observed came into contact with the turbines, and no raptor fatalities were documented under turbines despite continued use of the airspace during migration or breeding periods, post-operation (Stantec 2010). Raptor mortality data from other projects in the U.S. and from Stetson I/II indicated that this trend of low raptor mortality can also be expected at the project.

Regardless, to the extent practicable, the project has been designed to reduce potential detrimental effects to local wildlife, including raptors. For example, the electrical collector system has been designed with consideration of the Avian Power Line Interaction Committee's (APLIC) Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. This manual was developed to mitigate and avoid electrocution with overhead electrical lines. The overall goal of the collection system design is to reduce risk of avian electrocution to the extent practicable while ensuring reliability and maintenance safety of the system.

Nocturnal Migrants

Passage rates as measured by radar surveys conducted at the Bull Hill project are consistent with results documented at other proposed wind projects in Maine and in the region (Exhibit 7C). Average flight height in fall 2011 was near the low end of the range of average flight heights at other projects in Maine and in the eastern U.S.; however, it is important to note that flight heights are expected to vary year-to-year based on seasonal weather patterns, and results of pre-construction surveys have not been shown to relate to post-construction fatality results. Emerging data indicates that migration characteristics, such as flight height and passage rates, are known to differ between pre- and post-construction radar datasets at the same study location (Stantec 2010). Average flight height in particular has been shown to differ between pre-and post-construction years, indicating that the presence of the turbines on the landscape may influence the flight behavior of migrants (Stantec 2010). Nocturnal radar surveys were conducted both pre-construction (fall 2006) and post-construction (fall 2009) at Stetson I. Between the two years, the nightly range and seasonal mean of percent of targets observed below maximum turbine height (125 meters [410 feet]) was substantially lower in fall 2009 than in fall 2006. In fall 2006, the range in nightly flight heights was 219 to 506 meters (718 to 1659 feet) with an average flight height of 378 meters (1,239 feet); in fall 2009, the range in nightly flight heights was 328 to 514 meters (1,075 to 1,685 feet), with an average flight height of 420 meters (1,377 feet). In fall 2006, 13 percent of targets were below the proposed maximum turbine height; in 2009, 2 percent of targets were below the maximum turbine height. On a nightly basis during the fall 2009 surveys, flight heights were relatively higher and remained consistently high throughout the night, without a noticeable hourly peak (Stantec 2010).

The results of these and other radar studies conducted in the eastern U.S. suggest that the vast majority of nocturnal migrants fly at altitudes well above the rotor swept zone of proposed turbines. Although some migrating songbirds will be susceptible to collision at the project, there have been no known cases of population-level impacts to individual songbird species as a result of a project (Environmental Bioindicators Foundation, Inc. and Pandion Systems, Inc.), likely because results from operational projects have indicated mortality across a diverse group of songbirds, with no particular songbird species disproportionally affected.

Another example of a strategy to reduce impacts to wildlife and particularly songbirds includes minimizing lighting on the turbines[8] and on buildings within the project area to minimize disruptions in nocturnal migratory behavior, and maximizing use of the existing road network to minimize new roads in the area. Wetland areas will be avoided to the maximum extent possible to reduce impacts to species that use these habitats, including migratory waterbirds and waterfoul.

Bats

The acoustic bat surveys conducted at the Bull Hill project documented results similar to other pre-construction surveys. The results of these surveys, including variability in bat activity and generally low detection rates above canopy height, are consistent with other publicly available acoustic surveys conducted at proposed wind projects in the region (Exhibit 7C). Although bats are likely present in the project area, which is to be expected, the activity levels at Bull Hill within the range documented at other sites with acoustic bat detectors at the forest-edge, including Mars Hill, Lempster, and Stetson (Exhibit 7C).

In addition, Hancock has committed to curtail wind turbines during wind conditions when previous studies have shown that bats are active, and when existing Maine-based post-construction fatality data indicates that the potential for bat mortality is greatest.

[8] Turbine lighting on turbines is limited to a single flashing red light based on FAA lighting requirements, placed on a subset of turbine nacelles, which are well below the height at which most migrants fly. See Exhibit 30D for the project Lighting Plan. A recent study found no relationship to avian morality and turbine lighting (Kerlinger, 2010).

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Appendix A
Publicly Available Post-Construction Results

Appendix B Table 1. Comparison of bird and bat mortality at existing wind farms in the eastern U.S.

Site	Habitat type (# turbines)	Dates surveyed	Search interval	# BATS found during surveys (incidental)	Estimated BATS/turbine/ period (total)	# BIRDS found during surveys (incidental)	Estimated BIRDS/turbine /period (total)	Reference
Searsburg, Vermont	forested (11)	June 30 - Oct 18, 1997	11 total (4 per search) 2 to 6 days per month	0	n/a	0	n/a	Kerlinger, P. 2002. An Assessment of the Impacts of Green Mountain Power Corporation's Wind Power Facility on Breeding and Migrating Birds in Searsburg, Vermont. Prepared for the Vermont Department of Public Service Montpelier, Vermont. Subcontractor report for the National Renewable Energy Laboratory NREL/SR-500-28591.
Somerset County, Pennsylvania	agricultural (8)	2000 (12 months)	n/a	0	n/a	0	n/a	Kerlinger, P. 2006. Supplement to the Phase I Avian Risk Assessment and Breeding Bird Study for the Deerfield Wind Project, Bennington County, Vermont. Prepared for Deerfield Wind, LLC.
Mountaineer, West Virginia	forested ridgeline (44)	April 4 - Nov 11, 2003	2x per week	475	47.53 (2092)	69*	4.04 (178 + 33 due to substation lighting)	Kerns, J., and P. Kerlinger. 2004. A study of bird and bat collision fatalities at the Mountaineer Wind Energy Center, Tucker County, West Virginia, USA: annual report for 2003. <http://www.responsiblewind.org/docs/MountaineerFinalAvianRpt3-15-04PKJK.pdf>. (Accessed 30 September 2007).
Mountaineer, West Virginia	forested ridgeline (44)	July 31- Sept 11, 2004	22 daily, 22 weekly	398 (68)	38 (1364-1980)	15 (n/a)	n/a	Arnett, E.B., W.P. Erickson, J. Kerns, and J. Horn. 2005. Relationships between bats and wind turbines in Pennsylvania and West Virginia: an assessment of fatality search protocols, patterns of fatality, and behavioral interactions with wind turbines. Bats and Wind Energy Cooperative.
Meyersdale, Pennsylvania	forested ridgeline (20)	Aug 2 - Sept 13, 2004	10 daily, 10 weekly	262 (37)	25 (400-660)	13 (4)	n/a	Arnett, E.B., W.P. Erickson, J. Kerns, and J. Horn. 2005. Relationships between bats and wind turbines in Pennsylvania and West Virginia: an assessment of fatality search protocols, patterns of fatality, and behavioral interactions with wind turbines. Bats and Wind Energy Cooperative.
Buffalo Mtn, Tennessee	reclaimed mine on ridge (18)	April - Dec 10, 2005	18 of 18 every week, every 2 weeks, or every 2-5 days	243 (14)	63.9 (1,149)	9 (2)	1.8 (112)	Fiedler, J.K., T.H. Henry, R.D. Tankersley, and C.P. Nicholson 2007. Results of Bat and Bird Mortality Monitoring at the Expanded Buffalo Mountain Windfarm, 2005 June 28, 2007. Prepared for Tennessee Valley Authority.
Maple Ridge, New York	woodland, grassland, agricultural (120)	June 17 - Nov 15, 2006	10 every 3-days, 30 7-days, 10 daily	326 (58)	11.39-20.31 (1367-2437.2)	123 (15)	3.10-9.48 (372-1138)	Jain, A., P. Kerlinger, R. Curry, and L. Slobodnik. 2007. Annual report for the Maple Ridge wind power project post-construction bird and bat fatality study—2006. Annual report prepared for PPM Energy and Horizon Energy. Curry and Kerlinger, Cape May Point, New Jersey, USA. http://www.wind-watch.org/documents/wp-content/uploads/maple_ridge_report_2006_final.pdf Accessed 1 December 2007.
Maple Ridge, New York	woodland, grassland, agricultural (195)	April 30 - Nov 14, 2007	64 weekly	202 (81)	15.54-18.53 (3030-3614)	64 (32)	5.67-6.31 (1106-1230)	Jain, A. P. Kerlinger, R. Curry, and L. Slobodnik. 2008. Annual report for the Maple Ridge wind power project post-construction bird and bat fatality study—2007. Annual report prepared for PPM Energy and Horizon Energy. Curry and Kerlinger, Cape May Point, New Jersey, USA.
Maple Ridge, New York	woodland, grassland, agricultural (195)	April 15 - Nov 9, 2008	64 weekly	140 (76)	8.18 - 8.92 (1595-1739)	74 (23)	3.42-3.76 (667-733)	Jain, A. P. Kerlinger, R. Curry, and L. Slobodnik. 2009. Annual report for the Maple Ridge wind power project post-construction bird and bat fatality study—2007. Annual report prepared for PPM Energy and Horizon Energy. Curry and Kerlinger, Cape May Point, New Jersey, USA.
Mars Hill, Maine	forested ridgeline (28)	April 23-June 3, July 15-Sept 23, 2007	2 of 28 daily, 28 of 28 weekly, seasonal dog searches	22 (2)	0.43-4.4 (12.1-122.5)	19 (3)	0.44-2.5 (27-69)	Stantec Consulting. 2008. Spring, Summer, and Fall Post-construction Bird and Bat Mortality Study at the Mars Hill Wind Farm, Maine. Unpublished report prepared for UPC Wind Management, LLC.
Mars Hill, Maine	forested ridgeline (28)	April 19 - June 6, July 15-Oct 8, 2008	28 of 28 weekly, seasonal dog searches	5 (0)	0.17-0.68 (5-19)	17(4)	2.4-2.65 (57-74)	Stantec Consulting. 2009. Post-construction Monitoring at the Mars Hill Wind Farm, Maine – Year 2. Unpublished report prepared for First Wind Management, LLC.
Munnsville, New York	agricultural forested uplands (23)	April 15-Nov 15, 2008	12 of 23 weekly, seasonal dog searches	9 (1)	0.70-2.90 (16-67)	7 (3)	1.71-2.22 (39-51)	Stantec Consulting. 2009. Post-construction monitoring at the Munnsville Wind Farm, New York, 2008. Prepared for E.ON Climate and Renewables.
Mount Storm, West Virginia	forested ridgeline (82)	July 18 - Oct 17, 2008	18 weekly, 9 daily	182 (27)	daily: 24.21 (1985) weekly: 7.76 (636)	29 (8)	2.41-3.81 (198-312)	Young, D.P., W.P. Erickson, K. Bay, S. Normani, W. Tidhar. 2009. Mount Storm Wind Energy Facility, Phase 1: Post-construction Avian and Bat Monitoring. Prepared for: NedPower Mount Storm, LLC.
Mount Storm, West Virginia	forested ridgeline (82)	July-October 2010	25 daily	308 (73)	22.39 (1836)	36 (11)	2.77 (227)	Young, D.P., S. Nomani, W. Tidhar, and K. Bay. 2010. Mount Storm Wind Energy Facility Post-construction Avian and Bat Monitoring, July-October 2010. Prepared for NedPower Mount Storm, LLC.
Casselman, Somerset Cty, PA	forested ridge, grassland mine ridge (23)	July 27 - October 9, 2008	22 daily	32***	24.2 (557)	N/A	N/A	Arnett, E.B., M. Schirmacher, M.P. Huso, J.P. Hayes. 2010. Effectiveness of changing wind turbine cut-in speed to reduce bat fatalities at wind facilities. A final report submitted to the Bats and Wind Energy Cooperative. Bat Conservation International. Austin, Texas, USA.
Casselman, Somerset Cty, PA	forested ridge, grassland mine ridge (23)	July 26 - October 8, 2009	22 daily	39***	17.4 (400)	N/A	N/A	Arnett, E.B., M. Schirmacher, M.P. Huso, J.P. Hayes. 2010. Effectiveness of changing wind turbine cut-in speed to reduce bat fatalities at wind facilities. A final report submitted to the Bats and Wind Energy Cooperative. Bat Conservation International. Austin, Texas, USA.
Clinton, New York	agricultural, woodland (67)	April 26 to October 13, 2008	8 daily, 8 every 3-days, 7 weekly	39 (14)	daily: 5.45 (365); 3-day: 4.81 (322); weekly: 3.76 (252)	14 (9)	daily: 1.43 (956); 3-day: 3.26 (218); weekly: 2.48 (166)	Jain, A., P. Kerlinger, R. Curry, L. Slobodnik, J. Histed, and J. Meacham. 2009. Annual Report for the Noble Clinton Windpark, LLC. Postconstruction Bird and Bat Fatality Study – 2008. Prepared by Curry and Kerlinger, LLC.
Clinton, New York	agricultural, woodland (67)	April 15 to November 15, 2009	8 daily, 15 weekly	36 (6)	daily: 9.72 (651); weekly: 5.16 (3.46)	16 (8)	daily: 1.50 (101); weekly: 1.76 (118)	Jain, A., Kerlinger, P., Slobodnik, L., Curry, R., Russel, K. 2010. Annual Report for the Noble Clinton Windpark, LLC Post-Construction Bird and Bat Fatality Study - 2009. Prepared for Noble Environmental Power, LLC.
Ellenburg, New York	agricultural, woodland (54)	April 28 to Oct 13, 2008	6 daily, 6 every 3-days, 6 every 7-days	34 (25)	daily: 8.17 (441); 3-day: 6.94 (375); weekly: 4.19 (226)	12 (10)	daily: 2.09 (113); 3-day: 1.37 (74); weekly: 1.18 (64)	Jain, A., P. Kerlinger, R. Curry, L. Slobodnik, A. Fuerst, and C. Hansen. 2009. Annual Report for the Noble Ellenburg Windpark, LLC. Postconstruction Bird and Bat Fatality Study – 2008. Prepared by Curry and Kerlinger, LLC.
Ellenburg, New York	agricultural, woodland (54)	April 15 to November 15, 2009	6 daily, 12 weekly	28 (4)	daily: 8.01 (433); weekly: 3.70 (200)	19 (2)	daily: 5.69 (307); weekly: 2.29 (124)	Jain, A., Kerlinger, P., Slobodnik, L., Curry, R., Russel, K. 2010. Annual Report for the Noble Ellenburg Windpark, LLC Post-Construction Bird and Bat Fatality Study - 2009. Prepared for Noble Environmental Power, LLC.
Bliss, New York	agricultural, woodland (67)	April 21 to Nov 14, 2008	8 daily, 8 every 3-days, 7 weekly	74 (15)	daily: 7.58 (508); 3-day:14.66 (983); weekly: 13.01 (872)	20 (7)	daily: 4.30 (288); 3-day: 0.66 (44); weekly: 0.74 (50)	Jain, A., P. Kerlinger, R. Curry, L. Slobodnik, J. Quant, D. Pursell. 2009. Annual Report for the Noble Bliss Windpark, LLC. Postconstruction Bird and Bat Fatality Study – 2008. Prepared by Curry and Kerlinger, LLC.
Bliss, New York	agricultural, woodland (67)	April 15 to November 15, 2009	8 daily, 15 weekly	36 (0)	daily: 8.24 (552); weekly: 4.46 (299)	25 (7)	daily: 4.45 (298); weekly: 2.87 (192)	Jain, A., Kerlinger, P., Slobodnik, L., Curry, R., Russel, K. 2010. Annual Report for the Noble Bliss Windpark, LLC Post-Construction Bird and Bat Fatality Study - 2009. Prepared for Noble Environmental Power, LLC.
Altona, New York	primarily woodlots (65)	April 26 to October 15, 2010	22 weekly, 8 daily from July 18 to Sept 18	24 (7)	daily: 6.51 (423); weekly: 3.87 (252)	14 (6)	daily: 1.55 (101); weekly: 2.76 (180)	Jain, A., Kerlinger, P., Slobodnik, L., Curry, R., Russel, K. 2011. Annual Report for the Noble Altona Windpark, LLC Post-Construction Bird and Bat Fatality Study - 2010. Prepared for Noble Environmental Power, LLC.
Cohocton and Dutch Hill, NY	agricultural, woodland (50)	April 15 to Nov 15, 2009	5 daily, 12 weekly	62 (7)	daily: 40.4 (2002); weekly: 13.8 (804)	15 (3)	2.9 - 4.7 (147-235)	Stantec Consulting. 2010. Cohocton and Dutch Hill Wind FarmsYear 1 Post-Construction Monitoring Report, 2009 for the Cohocton and Dutch Hill Wind Farms In Cohocton, New York. Prepared for Canandaigua Power Partners, LLC and Canandaigua Power Partners II, LLC.
Cohocton and Dutch Hill, NY	agricultural, woodland (50)	April 26 to October 22, 2010	17 weekly except when 12 weekly and 5 daily from July 15-Sept 17	63 (5)	daily: 25.62 (1281); weekly 1: 5.04 (252); weekly 2: 10.44 (522)	9 (1)	daily: 2.06 (103); weekly 1: 0.82 (41); weekly 2: 1.16 (58)	Stantec Consulting. 2011. Cohocton and Dutch Hill Wind FarmsYear 2 Post-Construction Monitoring Report, 2010 for the Cohocton and Dutch Hill Wind Farms In Cohocton, New York. Prepared for Canandaigua Power Partners, LLC and Canandaigua Power Partners II, LLC.
Wethersfield, NY	agricultural, woodlots (84)	April 15 to Oct 15, 2010	28 weekly	62 (13)	24.45 (2054)	11 (7)	2.55 (214)	Jain, A., Kerlinger, P., Slobodnik, L., Curry, R., Russel, K., Harte, A. 2011. Annual Report for the Noble Wethersfield Windpark, LLC Post-Construction Bird and Bat Fatality Study - 2010. Prepared for Noble Environmental Power, LLC.
Chateaugay, NY	agricultural, woodlots (71)	April 26 to Oct 15, 2010	24 weekly	22 (7)	3.66 (260)	19 (9)	2.40 (170)	Jain, A., Kerlinger, P., Slobodnik, L., Curry, R., Russel, K. 2011. Annual Report for the Noble Chateaugay Windpark, LLC Post-Construction Bird and Bat Fatality Study - 2010. Prepared for Noble Environmental Power, LLC.
Lempster, NH	forested ridgeline (12)	April 15-June 1; July 15-Oct 31, 2009	4 daily	10 (2)	spring: 0.58 (7); fall: 5.51 (66)	9 (4)	spring: 0.80 (10); fall: 5.95 (71)	Tidhar, D., W. Tidhar, and M. Sonnenberg. 2010. Post-Construction Fatality Surveys for Lempster Wind Project. Prepared for Lempster Wind, LLC.
Lempster, NH	forested ridgeline (12)	April 15-June 1; July 15-Oct 31, 2010	12 weekly	14 (5)	spring (0); fall 7.13 (86)	11 (0)	spring: 1.16 (14); fall: 4.12 (49)	Tidhar, D., W. Tidhar, L. McManus, and Z. Courage. 2011. 2010 Post-Construction Fatality Surveys for Lempster Wind Project. Prepared for Lempster Wind, LLC.
Stetson Mountain I, Maine	forested ridgeline (38)	April 20 to Oct 21, 2009	19 weekly	5 (0)	2.11 (80)	30 (9)	4.03 (153)	Stantec Consulting. 2010. Stetson I Mountain Wind Project, Year 1 Post-Construction Monitoring Report, 2009. Prepared for First Wind Management, LLC.
Stetson Mountain I, Maine	forested ridgeline (38)	April 18 to October 21, 2011	19 weekly	4 (0)	0.43 (16)	7 (0)	1.77 (67)	Normandeau Associates. 2010. Year 3 Post-construction avian and bat casualty monitoring at the Stetson I Wind Farm. Prepared for First Wind, LLC.
Stetson Mountain II, Maine	forested ridgeline (17)	April 19 to Oct 15, 2010	17 weekly	14 (0)	2.48 (42.12)	11 (0)	2.14 (36.41)	Normandeau Associates. 2010. Stetson Mountain II Wind Project Year 1 Post-Construction Avian and Bat Mortality Monitoring. Prepared for First Wind, LLC.
Kibby Mountain, Maine	forested ridgeline (44)	May 2 to June 20; July 11 to October 14, 2011	22 3 times every 2 wks	6 (3)	spring: (0); fall: 0.37 (16)	17 (4)	spring: 0.72 (32); fall: 0.29 (12)	Stantec Consulting. 2011. 2011 Post-Construction Monitoring Report Kibby Wind Power Project, Franklin County, Maine. Prepared for TransCanada Hydro Northeast, Inc.

*33 birds found on May 23, 2003 at turbines near a substation and at substation associated with sodium vapor lights

**Results of spring interim report, study period April 20 to June 1.

***Fresh bats found at curtailment treatment turbines reported only.

Exhibit 9-5

Evidence of Weaver Wind LLC Good Standing

MAINE

Department of the Secretary of State

Bureau of Corporations, Elections and Commissions

Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Wed Oct 17 2018 11:40:57. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
WEAVER WIND, LLC	20130154FC	LIMITED LIABILITY COMPANY (FOREIGN)	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
09/24/2012	N/A	DELAWARE

Other Names	(A=Assumed ; F=Former)
NONE	

Clerk/Registered Agent

CORPORATION SERVICE COMPANY
45 MEMORIAL CIRCLE
AUGUSTA, ME 04330