

## **Section 10 Buffers**

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## ATTACHMENT

Attachment 10-1    Canton Mountain Wind Project Vegetation Management Plan

## **10.0 BUFFERS**

### **10.1 INTRODUCTION**

Vegetated buffers play an important role in mitigating impacts of development through their ability to provide important functions such as stormwater treatment, visual screening, separation of incompatible land uses, and wildlife habitat.

The "no adverse effect on the natural environment" standards of the Site Location Act (38 M.R.S.A. Section 484(3)), specify criteria for evaluating (1) whether or not a developer has made adequate provisions to fit a proposed development harmoniously into the existing natural environment and (2) whether or not the development will adversely affect existing land uses, scenic character, or natural resources in the municipality in which the project is proposed or in neighboring municipalities.

The following sections describe how Canton Mountain Wind, LLC (CMW) has incorporated vegetated buffers into the Canton Mountain Wind Project (Project) design and how these buffers will function to comply with the natural buffers standards of the Site Law, the Stormwater Law's Chapter 500 buffer standards, and other regulatory guidance, including Maine Department of Environmental Protection's (Maine DEP) interim performance standards for maintenance of electric utility corridors.

#### **10.1.1 Basis for Buffer Designs**

CMW prioritized avoidance and minimization of impacts to the natural and human environment when designing the Project. CMW established a minimum 2,500-foot setback between any proposed turbine and any non-participating residence during the early planning and design phases of the Project. The closest non-participating residence to the Project is approximately 2,900 feet from the nearest turbine. A number of facility design scenarios were considered throughout an iterative design process: the final layout was chosen based on a combination of factors, including avoiding and minimizing impacts to the natural environment, design and construction of best management practices (BMPs); and feasibility of safely implementing the design, particularly on steep slopes and at high elevations.

Maintaining vegetated buffers played a key role in the Project's impact avoidance and minimization strategy. The Project, as currently designed, is proposed on approximately 2,978 acres of land located in Canton and Dixfield, Oxford County, Maine. CMW has secured rights for the project area by lease and easement agreements with landowners. Approximately 58 acres of land will be cleared for construction, and only areas requiring grading (approximately 33.4 acres) will be grubbed. Following construction, approximately 48.4 acres of disturbed area will be re-vegetated for operation of the Project. After turbine installation, road widths will be reduced from both 24 feet (new road up to the ridgeline) and 32 feet (road along the ridgeline) to 12 feet for operations. The Project will result in 9.6 acres of developed land after construction, of which 9 acres will be impervious area.

#### **10.1.2 Project Buffers**

The following sections describe how CMW has incorporated vegetated buffers into specific components of the Project.

### **10.1.2.1 Wind Turbine Buffers**

CMW designed the workspace required to construct the wind turbines to maximize efficient use of the ridgeline and minimize the need for tree clearing. Typically, a 250- to 300-foot radius around each turbine is completely cleared, resulting in a circular impact area. CMW's efficient design, however, results in a smaller, irregularly shaped impact area that minimizes tree clearing without affecting feasibility of construction. As depicted on the project design drawings (Exhibit 1), the design for each turbine site includes space to access the turbine foundation, a crane pad for the crane that will lift the rotor onto the towers, and the minimum area necessary for additional construction workspace and rotor assembly. CMW has maximized use of relatively level terrain on the ridge to minimize cut-and-fill slopes on road shoulders, thereby minimizing the area of disturbance and the project footprint. In addition, all workspace in the vicinity of the towers, with the exception of a 10-foot area surrounding the turbine foundations, will be maintained as gravel. The remaining construction workspace will be loamed, seeded, and re-vegetated following construction.

### **10.1.2.2 Road Buffers**

Access to the proposed Project will be via Ludden Lane, an existing 14- to 18-foot-wide, 3-mile-long gravel road that will be widened to 16 to 20 feet to accommodate equipment during construction. A new 3,425-foot-long section of access road will extend from the end of Ludden Lane to the ridgeline and will be 24 feet wide during construction. The 7,175-foot-long ridgeline road/crane path will be 32 feet wide during construction. With the exception of periodic turnouts, roads will be reduced to 12 feet wide or their original width, whichever is greater, following construction of the Project; this will be accomplished by actively revegetating the downslope section or widened area of the road. These roads will remain at their reduced width during operations of the Project, unless they need to be widened to allow a crane on site; any revegetated area disturbed by a crane will be restored after the crane leaves the site. On the access road CMW will maintain an approximately 12-foot-wide vegetated meadow buffer along the downslope side of the road, with a limited-disturbance forested buffer of at least 35 feet in width further downslope. Along the downslope side of the ridgeline road, CMW will maintain an approximately 20-foot-wide vegetated meadow buffer and a 35-foot-wide limited-disturbance forested buffer. All forested buffers begin at the clearing limits or slightly farther downslope (refer to Exhibit 1 for details). These vegetated buffers were designed based on the stormwater analyses prepared for the Project (see Section 12) to remove sediment and associated pollutants from stormwater runoff and to protect water quality in downgradient water resources.

### **10.1.2.3 Electric Transmission Line Buffers**

Construction and maintenance of the proposed electric transmission line that will parallel the existing Saddleback Ridge Wind Project transmission line for approximately 5,800 linear feet will be in general conformance with Maine DEP's *Minimum Performance Standards for Transmission Line Corridors* and ISO-New England's safety standards. These standards specify BMPs for development of transmission line corridors before, during, and after construction. These standards require selective clearing of "capable" vegetation within protected natural resources and critical habitats. Capable vegetation is defined as those species of vegetation capable of growing to a height that would reach the conductor safety zone (maximum sag elevation of the transmission lines). Most trees in Maine would qualify as capable vegetation in accordance with these standards. The standards also specify the promotion of non-capable vegetation (species unlikely to grow to heights that interfere with power lines, i.e., shrubs and

herbaceous plants) during the natural regeneration of resource areas that require tree removal during construction (a partial list of non-capable species can be found in Table 2 of Attachment 10-1).

CMW's consistency with Maine DEP's transmission line performance standards before, during, and after construction will promote preservation of vegetated buffers. These standards promote the retention of low-growing species and ground covers to the maximum extent practicable, resulting in a utility corridor that provides a diversity of riparian, wetland, and upland habitats that provide cover for small animals and birds as well as browsing habitat for larger mammals. In addition, these vegetated buffers will function to mitigate impacts of stormwater runoff and preserve water quality in downgradient water resources.

An invasive species control plan will be followed for work performed in the transmission line corridor to ensure construction methods do not encourage the spread of invasive species and, therefore, create greater challenges for control of these species during operations.

#### **10.1.2.4 Typical Stream Buffers**

Eight perennial streams and 14 intermittent streams regulated by the Maine DEP and the U.S. Army Corps of Engineers were identified in the vicinity of the Project during field surveys. None of these streams will be permanently impacted by construction or operations of the Project.

There are two intermittent streams (TS11 and TS13) and one perennial stream (TS18) located within the section of transmission line corridor that will be shared with the Saddleback Ridge Project. None of these streams will be crossed to install the transmission line for the Project.

CMW will maintain a minimum 75-foot riparian buffer from Maine DEP-regulated rivers, streams, and brooks where practicable, unless being crossed or on existing roads. In addition, the transmission line was designed to maintain a 100-foot setback from waterbodies for power pole installation, thereby minimizing soil disturbance in the vicinity of streams.

The contractor will oversee the construction phase of the Project and be responsible for ensuring that protective measures identified in this application are employed effectively in the field. Erosion and sedimentation control measures will be installed, inspected regularly by construction inspectors, and maintained throughout construction to prevent adverse impacts to waterbodies and other resources (see Section 14 of this application). Details regarding protection of stream buffers after construction are presented in Section 10.3 below and in the Vegetation Management Plan (Attachment 10-1). This Project will employ an independent third-party environmental inspector to ensure all erosion control measures are properly employed.

#### **10.1.2.5 Wetland Buffers**

Seventy-five freshwater wetlands were delineated in the project area, including the access road, ridgeline, and transmission line portions of the Project. These wetlands include 33 palustrine forested (PFO), 11 palustrine scrub-shrub (PSS), and 31 palustrine emergent (PEM) wetlands in the project area. Of these 75 resources, only portions of 11 wetlands will be permanently impacted by the Project, for total permanent impacts of only 3,039 square feet (0.07 acre). Approximately 1,736 square feet of permanent wetland impacts are associated with upgrading Ludden Lane and new access roads to the ridgeline; 1,303 square feet of permanent impact are associated with the ridgeline access road; and no permanent wetland impacts will be associated with the transmission line portion of the Project. Six wetlands will be traversed with temporary timber mats to support construction of the transmission line.

All of the wetland resources crossed using timber mats during construction will be restored to pre-construction conditions following construction. Approximately 2,258 square feet of PFO wetlands located adjacent to Ludden Lane will be converted and maintained as PSS wetlands during operations of the roadside electric transmission line. In all cases where wetlands are impacted by the Project or located adjacent to the project work limits, vegetation clearing has been minimized and natural buffers have been maintained to the greatest extent practicable.

#### **10.1.2.6 Vernal Pool Buffers**

Vernal pool surveys identified six pool resources in the vicinity of the access road survey area, 12 vernal pool resources in the vicinity of the ridgeline, and one vernal pool within the transmission line survey area that meet Maine DEP's physical definition for vernal pools. Of these 19 resources, 10 pools were observed during amphibian breeding season with no egg masses (barren vernal pools or BVPs) after two, and in some cases three, field visits; and seven pools had some biological activity but not enough to meet Maine DEP's criteria as a Potential Significant Vernal Pool (PSVP). One pool (plan ID 9PSVP, field ID CR\_SVP\_BA506) located along the ridgeline met Maine DEP's biological criteria for classification as a PSVP. However, there is some debate whether this resource is a natural feature in the landscape because it appears to be at least partially associated with historic quarrying. The field data form for this resource has not been submitted to the Maine Department of Inland Fisheries and Wildlife (Maine DIFW) for review as of the date of this application; therefore, classification as a significant vernal pool has not been confirmed. For the purposes of the engineering design, CMW assumed this PSVP would meet the significance criteria and designed the Project to ensure 75 percent of the Critical Terrestrial Habitat (CTH, i.e., area within 250 feet of the spring high water line of the vernal pool), surrounding the pool remained intact following construction of the Project.

In addition, one Significant Vernal Pool (SVP) is located outside of the proposed project work limits and east of the proposed transmission line that runs between the Ludden Lane Substation and Ludden Lane (see Attachment 7-1, Appendix G, Map 1). Data forms for this SVP were submitted to Maine DIFW as part of the regulatory permitting for the Saddleback Ridge Wind Project in 2010, and Maine DIFW confirmed that this SVP meets the Natural Resources Protection Act significance criteria. It was also determined that the adjacent transmission line could be built maintaining a minimum 100-foot separation distance between the transmission line right-of-way and the spring high water line of the SVP and that a minimum of 75 percent of the adjacent CTH would remain intact following construction. Therefore, the transmission line could be built in compliance with Maine DEP's Permit-by-Rule standards (Chapter 305), Section 19, for activities in, on or over significant vernal pool habitat. Because the CMW transmission line would be built entirely within the previously approved transmission line right-of-way, and no additional alteration of habitat is proposed, the Project is also expected to meet Maine DEP's Chapter 305, Section 19, Permit-by-Rule Standards.

In addition, one amphibian breeding area (ABA) was identified within the access road survey limits associated with a beaver dammed section of Ludden Brook, and another ABA was identified in the transmission line survey limits as egg masses found in skidder ruts. Thirteen Corps pools were also identified during breeding season surveys. Details regarding these surveys and results can be found in the Project Resource Survey Report included as Attachment 7-1 in Section 7 of this application.

CMW prioritized avoidance and minimization of impacts to vernal pool resources during the design phase of the Project, with the result that none of these resources will be directly impacted by the Project. CMW

will maintain as much vegetative buffer between these resources and the construction work limits as practicable and will employ erosion and sedimentation controls during construction to ensure protection of these resources. The proposed electric transmission line will traverse the western edge of the 250-foot CTH for the SVP located on the southern end of the transmission line, north of the Ludden Lane Substation. Construction and operation of the transmission line in this location is not anticipated to have an adverse effect on this SVP or its CTH, as this work will be performed in compliance with Maine DEP's Chapter 305, Permit-by-Rule Standards for activities in, on, or over significant vernal pool habitats.

### **10.1.3 Post-Construction Vegetation Management Plan**

The Maine DEP's *Minimum Performance Standards for Transmission Line Corridors* requires preparation of a Vegetation Management Plan (VMP) for maintenance of transmission line corridors following construction.

In addition, CMW will need to comply with ISO New England's Right-of-way Vegetation Maintenance Standards to maintain the integrity and functionality of the transmission lines, to maintain access in case of emergency repairs, and to facilitate safety inspections. These standards establish vegetation clearances, inspection schedules, and BMPs to limit tree-caused risk to the transmission lines.

CMW's VMP for operations is provided in Attachment 10-1 and is consistent with Maine DEP guidelines on past wind energy projects.



**Attachment 10-1  
Canton Mountain Wind Project  
Vegetation Management Plan**

*December 14, 2011*

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## **1.0 INTRODUCTION**

Post-construction vegetation management (VM) in utility line corridors is critical to ensure the reliability of electric transmission during the operation of wind energy projects. This Post-Construction Vegetation Management Plan (VMP) was prepared in general conformance with the Maine Department of Environmental Protection's (Maine DEP's) Minimum Performance Standards for Transmission Line Corridors. These standards are intended to help operators maintain integrity and functionality of the transmission lines, avoid and minimize impacts to the environment, maintain access in case of emergency repairs, and facilitate safety inspections. These standards establish vegetation clearances, inspection cycles, and best management practices to limit tree-caused risk to the transmission lines.

The following sections describe activities that should be completed in advance of field mobilization for VM activities. Because there are time-of-year restrictions for certain activities within and adjacent to protected resources and because certain herbicides must be used during specific climatic conditions, advanced planning is recommended. Some of the following activities can be performed just prior to field mobilizations for VM; others should be performed well in advance of field VM activities.

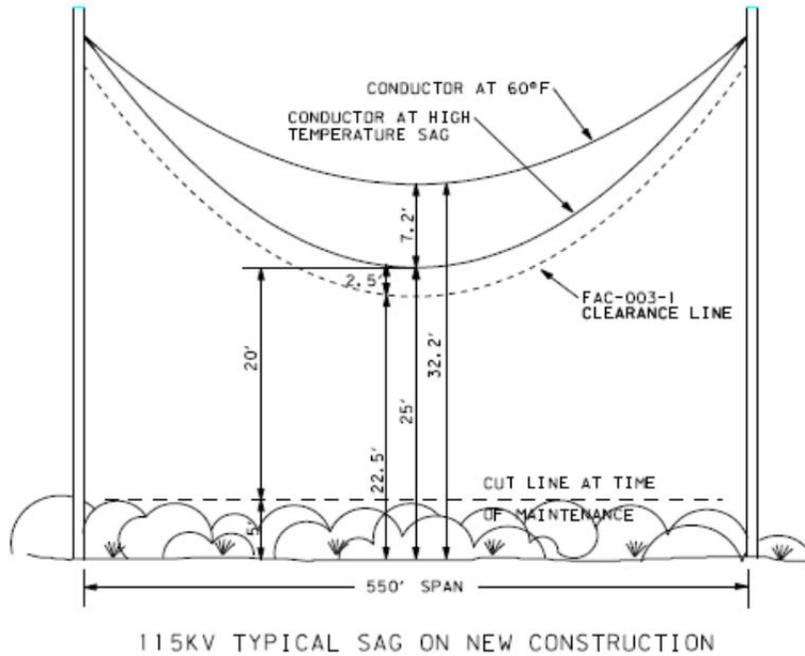
## **2.0 PRE-VEGETATION MANAGEMENT PLANNING**

It is appropriate to plan for VM during the first year after construction of the Project. CMW will define a schedule for right-of-way vegetation inspections based on the species present in the right-of-way, their anticipated rate of growth, along with any other applicable environmental and operational factors that could impact the relationship between vegetation and the transmission lines.

Growth rates of vegetation vary due to species, soil, site and climatic conditions. Therefore, inspections of the transmission lines shall be performed at least once a year to determine where vegetation is not in compliance with ISO-NE and Maine DEP standard clearances. The objective of the vegetation inspection will be to observe and record vegetation conditions which might immediately affect the operation or maintenance of the transmission lines. The following list is representative of observations that should be made during inspections:

- Heights of vegetation in the transmission corridor
- Clearance of road crossing screens/buffers
- Vegetation which is not in compliance with standard clearances
- Evidence of vegetation-conductor contact or burning caused by contact
- Trees which, because of their condition, are an immediate threat to the lines

When vegetation is not in compliance with the standards, action shall be initiated within a reasonable time frame to obtain the conductor to vegetation clearances shown in Figure 1.



**ASSUMPTIONS**  
 1113Kcmil Bluejay ACSR  
 8,000\* tension @ NESC Heavy  
 60° Sag @ Initial  
 High Temp Sag @ 248°F final

**Figure 1. Conductor to Vegetation Recommended Clearances**

## 2.1 Training

CMW’s personnel and contractors that will be participating in VM activities on the right-of-way will receive appropriate environmental training before they are allowed access to the right-of-way. Prior to training sessions, CMW personnel and contractors will be required to review this VMP. Training sessions will consist of a review of all sections of this VMP with specific attention to the restrictions in protected resources and associated buffers. Training will also include a thorough review of as-built plan and profile drawings, specifically the locations of all protected resources along the utility corridor. Personnel will be informed of the number of protected resources located between each set of utility poles and will be responsible for ensuring these resources are identified in the field prior to the start of VM activities. Personnel responsible for field location of protected resources will be trained in the use of Global Positioning System (GPS) equipment. Training will also include an overview of safety protocols, a list of emergency contacts, restrictions on fueling equipment in the vicinity of resources, best management practices for erosion and sedimentation control, and appropriate protocols (including clean up, monitoring, and reporting) if there is an inadvertent release of hazardous materials (i.e., fuel, hydraulic oils, herbicides) during VM activities.

## 2.2 Protected Resource Identification

Wetlands, streams, and special habitats in the transmission line corridor will be flagged in the field prior to initial line clearing and flagged or located with GPS equipment prior to VM activities. CMW or its consultant will be responsible for ensuring that protected resources are accurately located and flagged in the field prior to the start of VM activities.

## 2.3 Invasive Species Vegetation Monitoring

The objectives of CMW’s invasive species vegetation monitoring measures are to prevent the introduction and spread of invasive species as a result of construction and maintenance of the utility lines. Locations within the electric utility transmission line corridor that contain invasive plant species, as identified in Table 1, will be identified prior to construction of the Project.

**Table 1. Maine Invasive Plant Species**

<b>Scientific Name</b>	<b>Common Name</b>
<i>Acer platanoides</i>	Norway maple
<i>Alliaria petiolata</i>	Garlic mustard
<i>Berberis thunbergii</i>	Japanese barberry
<i>Celastrus orbiculatus</i>	Oriental bittersweet
<i>Cynanchum louiseae</i>	Black swallowwort
<i>Elaeagnus umbellata</i>	autumn olive
<i>Fallopia japonica</i>	Japanese knotweed
<i>Frangula alnus</i>	glossy buckthorn
<i>Lonicera morrowii</i>	Morrow’s honeysuckle
<i>Lonicera tatarica</i>	tatarian honeysuckle
<i>Lythrum salicaria</i>	purple loosestrife
<i>Phragmites australis</i>	common reed
<i>Rhamnus cathartica</i>	common buckthorn
<i>Rosa multiflora</i>	multiflora rose

CMW will prepare an invasive species control plan (ISCP) to be implemented both during and following construction. The objective of the ISCP will be to identify the extent of invasive species present and to develop control measures based on the specific propagation characteristics of those species. This should be prepared prior to construction to ensure construction methods employed do not encourage the spread of invasive species and, therefore, create greater challenges for control of these species during operations. Invasive species management both prior to and following construction may include mechanical and chemical control methods.

### 3.0 ARBORICULTURAL MANAGEMENT PRACTICES

Arboricultural management practices within the project transmission line corridor will be in compliance with the following standards:

1. Capable vegetation may be removed and controlled within the transmission line portions of the Project. Capable vegetation is defined as species that are capable of growing to a height that would reach the conductor safety zone as illustrated in Figure 1. Most tree species in Maine are defined as capable vegetation; a partial list of non-capable species is provided in Table 2.

NOTE: For useful guidance, see North American Reliability Corporation standard, FAC-003-1, Transmission Vegetation Management Program, as amended.
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2. When and if terrain conditions permit (e.g., certain ravines and narrow valleys) capable vegetation must be permitted to grow within and adjacent to protected natural resources or critical habitats where maximum growing height can be expected to remain below the conductor safety zone. Narrow valleys are those that are spanned by a single section of transmission line, pole-to-pole.
3. Locations within the Project that contain invasive plant species, as identified in Table 1, will be identified prior to the start of construction of the project or the start of construction on any individual segment of the project at the discretion of the applicant. The applicant shall develop an invasive species vegetation monitoring plan and submit it to the Department for review and approval prior to the start of construction on the project. The vegetation monitoring plan must have a stated objective of preventing the introduction and spread of invasive species as a result of construction. Herbicide application is an acceptable method of controlling invasive growth, when hand removal or other non-chemical methods will not be effective, including in protected natural resources and other sensitive areas.
4. When capable vegetation within and adjacent to a protected natural resource or identified critical habitat must be removed for the purpose of constructing the development, the natural re-generation of non-capable woody vegetation must be allowed within all protected resources as defined in Section 2.2. At a minimum, the natural re-generation of non-capable woody vegetation must be allowed. To facilitate the regeneration of natural vegetation within and adjacent to protected resources and special habitats as defined in Section 2.2, the contractor must separate the topsoil from the mineral soil when excavating during project construction. The excavated topsoil must be returned to its original place and position in the landscape and appropriate erosion control methods must be utilized.

**Table 2. Partial List of Maine Non-Capable Woody Species.**

**Large Shrubs**

Alternate-leaf dogwood	<i>Cornus alternifolia</i>
American hazelnut	<i>Corylus americana</i>
Azaleas	<i>Rhododendron spp.</i>
Beaked hazelnut	<i>Corylus cornuta</i>
Common elderberry	<i>Sambucus canadensis</i>
Highbush blueberry	<i>Vaccinium corymbosum</i>
Maleberry	<i>Lyonia ligustrina</i>
Mountain-holly	<i>Nemopanthus mucronata</i>
Northern arrowwood	<i>Viburnum dentatum</i>
Chokecherry	<i>Prunus virginiana</i>
Shadbush	<i>Amelanchier spp.</i>
Speckled alder	<i>Alnus serrulata</i>
Willow (various species)	<i>Salix spp.</i>
Winterberry (Black alder)	<i>Ilex verticillata</i>
Witch hazel	<i>Hamamelis virginiana</i>

**Medium Shrubs**

Azaleas	<i>Rhododendron spp.</i>
Black chokeberry	<i>Aronia melanocarpa</i>
Blackberries	<i>Rubus supp.</i>
Broad-leaved Meadowsweet	<i>Spirea latifolia</i>
Buttonbush	<i>Cephalanthus occidentalis</i>
Common juniper	<i>Juniperus communis</i>
Hobblebush	<i>Viburnum alnifolium</i>
Leatherwood	<i>Dirca palustris</i>
Northern bayberry	<i>Myrica pensylvanica</i>
Raspberries	<i>Rubus supp</i>
Red chokeberry	<i>Aronia arbutifolia</i>
Red osier dogwood	<i>Cornus stolonifera</i>
Red-berried elder	<i>Sambucus pubens</i>
Rhodora	<i>Rhododendron canadense</i>
Roses	<i>Rosa supp.</i>
Silky dogwood	<i>Cornus amomum</i>
Steeplebush	<i>Spirea tomentosa</i>
Virginia rose	<i>Rosa virginiana</i>
Willow (various species).	<i>Salix spp</i>
Withrod	<i>Viburnum cassinoides</i>

**Table 2. Partial List of Maine Non-Capable Woody Species.**

<b>Small Shrubs</b>	
Bog rosemary	<i>Andromeda glaucophylla</i>
Bush honeysuckle	<i>Diervilla lonicera</i>
Canada yew (Ground hemlock)	<i>Taxus canadensis</i>
Huckleberry	<i>Gaylussacia baccata</i>
Labrador tea	<i>Ledum groenlandicum</i>
Leatherleaf	<i>Chamaedaphne calyculata</i>
Lowbush blueberry	<i>Vaccinium angustifolium, V. pallidum, V. myrtilloides</i>
Rose (various species)	<i>Rosa spp.</i>
Sheep laurel	<i>Kalmia angustifolia</i>
Sweetfern	<i>Comptonia peregrina</i>
Sweetgale	<i>Myrica gale</i>

#### 4.0 HERBICIDE APPLICATION

Herbicide application within the Project transmission line corridor must be in compliance with the following standards:

1. Herbicide usage must comply with all label requirements and standards established by the Maine Board of Pesticides Control (MBPC), as amended from time to time. Herbicide restrictions and approvals are governed by MBPC. Some key standards include the following:
  - (a) Use of only trained applicators working under licensed supervisors.
  - (b) Awareness of the impacts of climatic conditions prior to application.
  - (c) Application must not take place when wind speed exceeds 15 MPH as measured on-site at the time of application. The application must be administered in such a manner that drift will be minimized to the extent practicable.

NOTE: The use of combinations of herbicides and surfactants/adjuvants is governed by the United States Environmental Protection Agency (USEPA) and label requirements

2. Products with low potential for mobility and low persistence in the environment must be selected for use in sensitive resource areas. When operating within riparian areas, significant vernal pools (SVPs), and inland waterfowl and wading bird habitats (IWWHs) the following is required.
  - (a) The following are the only herbicides that may be used within riparian areas, SVPs, and IWWHs unless otherwise authorized by the department prior to application
    - (i) 2,4-D salt formulation, NOT the ester formulation
    - (ii) Glyphosate
    - (iii) Imazapyr
    - (iv) Fosamine Ammonium
    - (v) Aminopyralid Triisopropanolammonium

- (vi) Metsulfon methyl
  - (vii) Garlon 4 Ultra (active ingredient triclopyr)
3. The following surfactants, as well as others approved by the department in consultation with Maine DIFW may be used within riparian areas, SVPs, and IWWHs.
- (a) Agri-Dex
  - (b) Competitor
  - (c) Dyne-Amic
  - (d) Clean Cut
  - (e) Cide-Kick
  - (f) Nu-Film IR
  - (g) Induce
  - (h) Chemsurf90
  - (i) 41-A
  - (j) EcoPak MSO (methylated soy bean oil)
4. Herbicides must be applied in accordance with USEPA label requirements to minimize wash-off.
5. There may be no aerial or motorized application of herbicides.
6. Pre-application planning meetings with the contractor must be conducted.
7. CMW or its agent will supervise and inspect all protected natural resource areas during application.
8. Low-pressure, manual backpack sprayers, with appropriate nozzles to minimize drift, will be used.
9. Herbicide application will be specific to individual targeted species.
10. CMW or its agent will conduct post-treatment inspection.
11. No herbicide may be stored, mixed or loaded within 100 feet of wetlands or surface waters.
12. Herbicides will not be applied within the following setbacks from drinking water supplies.
- (a) Water supply wells.
    - (i) 100 feet from a known private well, and 200 feet from a public water supply well, for any product with an active ingredient listed in the Agricultural Research Services' Pesticide Properties Database as having a Pesticide Leaching Potential of low or very low.
    - (ii) 200 feet from a known private well, and 400 feet from a public water supply well, for any product with an active ingredient listed in the Agricultural Research Services' Pesticide Properties Database as having a Pesticide Leaching Potential of intermediate, high, or very high.
  - (b) Surface water sources and springs.
    - (i) 100 feet from a known private intake or spring, and 200 feet from a public water supply intake, for any product with an active ingredient listed in the Agricultural Research Services' Pesticide Properties Database as having a Pesticide Solution Runoff Potential or Pesticide Adsorbed Runoff Potential of low or very low, or for any product applied only by cut surface treatment, thin-line or low-volume basal, or low-volume foliar application.

(ii) 200 feet from a known private intake or spring, and 400 feet from a public water supply intake, for any product with an active ingredient listed in the Agricultural Research Services' Pesticide Properties Database as having a Pesticide Solution Runoff Potential or Pesticide Adsorbed Runoff Potential of intermediate or high.

13. Herbicides will not be applied within 25 feet of the following:

- (a) Any surface waters of the State.
- (b) Wetlands with open water at the time of application.
- (c) Significant Vernal Pool depressions (whether there is standing water or not).
- (d) An area listed in Maine's biological conservation data system, Biotics, of the Maine Natural Areas Program, including rare natural communities and ecosystems (state rarity rank of S1 through S3 and habitats supporting Endangered or Threatened plant species). Boundaries and locations are as determined by the Maine Natural Areas Program of the Department of Conservation.
- (e) Habitat of any species declared rare, threatened or endangered by the Maine Department of Inland Fisheries and Wildlife, Maine Department of Marine Resources, or the Director of the U.S. Fish and Wildlife Service.

## **5.0 SPILL MANAGEMENT, REFUELING, AND FUEL STORAGE REQUIREMENTS**

The following spill management will be used during vegetation management activities:

1. Spills or releases of petroleum products or other hazardous materials within the transmission line corridor will be managed in accordance with the Canton Mountain Wind Project Spill Control and Countermeasure Plan (SCCP) approved by the Maine DEP.
2. The Project SCCP will include the following setbacks unless the applicant can demonstrate that, due to special circumstances at specific locations, these setbacks are impractical based on site-specific conditions. Determinations of special circumstances may be made on-site by the third-party inspector:
  - (a) No fuel storage, vehicle/equipment parking and maintenance, and refueling activity may occur within 100 feet of a protected wetland or other waterbody.
  - (b) No fuel storage, vehicle/equipment parking and maintenance, and refueling activity may occur within 200 feet of a private water supply.
  - (c) No fuel storage, vehicle/equipment parking and maintenance, and refueling activity may occur within 400 feet of a public water supply.
  - (d) No fuel storage, vehicle/equipment parking and maintenance and refueling activity may occur within 25 feet minimum of the following:
    - (i) An area listed in Maine's biological conservation data system, Biotics, of the Maine Natural Areas Program, including rare natural communities and ecosystems (state rarity rank of S1 through S3 and habitats supporting Endangered or Threatened plant species). Boundaries and locations are as determined by the Maine Natural Areas Program of the Department of Conservation.
    - (ii) Habitat of any species declared rare, threatened or endangered by the Maine Department of Inland Fisheries and Wildlife, Maine Department of Marine Resources, or the Director of the U.S. Fish and Wildlife Service.

## **6.0 ESTABLISHING BOUNDARIES AND SETBACKS**

The following standards will be followed for establishing boundaries and setbacks prior to vegetation management:

1. The boundaries of all setbacks defined in Sections 4 (Herbicide Application) and 5 (Spill Management, Refueling, and Fuel Storage Requirements) will be clearly marked in the field, or designated areas outside of those boundaries must be established for fuel storage, vehicle/equipment parking and maintenance, refueling, and storage, mixing, or loading of herbicides and shown on the plans, prior to initial line clearing and flagged or located with a global positioning system (GPS) prior to maintenance operations. Setbacks from wells for herbicide application will be clearly marked in the field.
2. Prior to routine applications of herbicides as part of right-of-way maintenance, CMW will determine whether or not additional sections of the right-of-way are affected as a result of new public or private water supplies, and will clearly mark in the field or locate with GPS the boundaries of any such water supplies prior to these applications, so that the setbacks defined in Section 4 can be maintained. The applicant is not required to maintain herbicide application setbacks from water supplies outside of the right-of-way that are no longer in use.

## **7.0 CONSTRUCTION MATTING**

The following requirements will be applied to timber mats or matting used during construction and/or vegetation management along the Project transmission line.

1. Timber mats or matting:
  - shall not be made from wood from ash trees (*Fraxinus sp*);
  - unfinished timbers used in the construction of the mats must be free of bark unless mats are manufactured by an approved producer with a compliance agreement certified by the Maine Forest Service;
  - shall be cleaned of soil and vegetative material by pressure washing before entering the State of Maine;
  - shall not have been used in, or made from lumber from, Federally Quarantined areas as set out in 7 CFR 301 unless accompanied by the appropriate USDA certificate of treatment required for interstate transport. Said certificates will be maintained in a central filing location available for review by appropriate Agency personnel for a period of three (3) years after project completion, as determined by CMW; and,
  - must have shipping information sufficient to identify the shipper and number and shipping origin of the mats.
2. The Maine Forest Service or U. S. Department of Agriculture will be allowed, upon request to CMW, to inspect mats and matting material for compliance with these standards.

## **8.0 PROTECTED RESOURCES VEGETATION MANAGEMENT**

### **8.1 Stream Crossings and Riparian Buffers**

The following conditions apply to the one stream (TS18) and its associated riparian buffer that occurs along the proposed CMW electric transmission line right-of-way that will be shared with the Saddleback Ridge Wind Project. Vegetation management associated with other streams in the vicinity of the Project will be maintained from existing access roads and will not require in-stream work or temporary stream crossings for vegetation maintenance.

- A. Riparian natural buffers (or “riparian buffers”) must be retained within 100 feet of all Class A, AA, outstanding river segments, or rivers, streams, or brooks containing Threatened or Endangered species unless the department determines that the functions and values of the riparian buffer will not be impacted by the removal of vegetation and approves an alternative minimum buffer. A “riparian buffer” is a buffer on a stream, river, or brook. In no case may the riparian buffer be reduced to less than 25 feet. The riparian buffer is measured horizontally from the top of the stream bank. Class A & AA rivers, streams and brooks are listed in Title 38 M.R.S.A. § 467 and 468 and can be found at the Department’s website: <http://www.maine.gov/dep/blwq/docmonitoring/classification/index.htm>.
- B. Riparian buffers on rivers, streams or brooks other than those described in (A) must include all areas within 25 feet of the river, stream or brook unless the applicant demonstrates that functions and values of the riparian buffer will not be impacted by the removal of vegetation. The riparian buffer is measured horizontally from the top of bank.
- C. The placement of structures within a riparian buffer must be avoided to the maximum extent practicable and is not allowed unless specifically approved by the department.
- D. All riparian buffers must be flagged in the field prior to initial line clearing and flagged or located with a global positioning system (GPS) prior to any maintenance operations.
- E. No accumulation of slash may be left within fifty (50) feet, horizontal distance, of the top of the stream bank. In all other areas slash must either be removed or disposed of in such a manner that it lies on the ground and no part thereof extends more than eighteen (18) inches above the ground. Any debris that falls below the normal high-water line of a water body or tributary stream shall be removed.
- F. Unless frozen, streams must be crossed using mats or bridges. Streams may not be forded, except as provided in (H) below. The Department prefers the use of mats and bridges, however, in specific instances culverts may be installed during the construction of the temporary access roads provided that the streams to be culverted are not: Class A or AA waters, outstanding river segments, do not support salmon or other coldwater fisheries, or contain threatened or endangered species. These culverts must be installed when the stream channel is dry, the stream may be dammed and pumped around the construction site, and the culverts must be embedded six inches into the soil and sized so that the diameter is equal to 1.2 times the bank full width of the stream. A temporary culvert(s) installed for the sole purpose of providing center support to an equipment bridge spanning a waterbody is not subject to the installation requirements described above. Any culvert installed for center support should be laid directly on the stream bed, shall not be

embedded and should allow water to pass freely through and on either side of the culvert. The stream channel must be restored to natural conditions when the culverts are removed.

- G. Initial clearing within a riparian buffer must be undertaken during frozen-ground conditions whenever practicable, and if not practicable, the recommendations of the third-party inspector must be followed regarding appropriate techniques to minimize disturbance to the maximum extent practicable, such as the use of travel lanes to accommodate mechanical equipment use within the riparian buffer.
- H. No mechanized equipment except All Terrain Vehicles (ATVs) for maintenance and inspection or as provided in (F) above, may be operated in any river, stream or brook or associated riparian buffers in order to minimize stream bank impacts.
- I. Within all riparian buffers, impacts to scrub-shrub and herbaceous vegetation and other non-capable species must be minimized to the maximum extent practicable.

## **8.2 Wetlands**

CMW transmission lines that will run roadside will be maintained from existing and proposed access roads. The following performance standards apply to wetlands within the transmission line right-of-way that will be shared with the Saddleback Ridge Wind project:

- A. The wetland vegetation management minimum performance standards apply to all delineated wetlands within the utility line corridor unless the third-party inspector determines that the functions and values of the wetlands will not be impacted by the removal of vegetation.
- B. All delineated freshwater wetlands must be flagged in the field prior to initial line clearing and flagged or located with GPS prior to maintenance operations.
- C. If initial clearing or other construction activities result in areas of bare soil or minimally vegetated cover, the areas of bare soil must be allowed to re-vegetate naturally, where practicable. If areas are sufficiently large to warrant planting, a native seed designed to provide short term cover must be applied, and the area must be allowed to return to non-capable native woody and perennial herbaceous vegetation naturally.
- D. No accumulation of slash may be left within fifty (50) feet, horizontal distance, of the edge of an emergent marsh or open water wetland. In all other areas slash must either be removed or disposed of in such a manner that it lies on the ground and no part thereof extends more than eighteen (18) inches above the ground. Any debris that falls into the emergent marsh or open water wetland shall be removed.
- E. Initial transmission line corridor clearing, slash removal and non-emergency infrastructure maintenance within wetlands must be undertaken during frozen ground conditions whenever practicable. If not practicable, appropriate techniques to minimize disturbance to the maximum extent practicable, such as the use of pre-established cutting lanes to accommodate mechanical equipment use within saturated or inundated wetlands will be established.
- F. Within these freshwater wetlands, impacts to scrub-shrub and herbaceous vegetation, and other non-capable species must be minimized to the maximum extent practicable.

- G. Brown mowers may be used for removal of moderate stands of sapling sized capable species (less than 4 inch diameter at breast height) with the approval of the third party inspector. Woody debris resulting from use of brown mowers shall not exceed a depth of two inches or prohibit revegetation in wetland areas.

**Table 3. Canton Mountain Wind Project – Wetlands Located Along the Transmission Line Right-of-way**

Resource Identification		Wetlands <sup>2</sup>				Notes
Plan ID	Field ID	PFO <sup>1</sup>	PSS	PEM	WSS <sup>3</sup>	
TW10	AFA-W5			D		Primarily PEM wetland with small section of PFO to west. Area is disturbed by previous logging operations.
TW12	AFA-W8			D	R	Primarily PEM wetland with small section of PFO to west. Area is disturbed by previous logging operations.
TW16	AFA-W12	D			R	Approximately 75 percent of this wetland is PFO.
TW20	AFA-W14			D		Approximately 70% of the wetland is PEM due to past disturbance
TW23	AFA-W17	D				Wetland is approximately half PFO and half PEM. The PEM is because of disturbance.

<sup>1</sup> Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. FWS/OBS-79/31, U.S. Fish and Wildlife Service, Office of Biological Services, Washington, D.C.

PFO=Palustrine (freshwater) forested wetland, PSS=Palustrine shrub-scrub wetland, PEM=Palustrine emergent wetland

<sup>2</sup> D = Dominant Wetland Type

<sup>3</sup> Wetlands of Special Significance Designations:  
R = within 25 feet of Maine DEP jurisdictional river, stream, or brook

### 8.3 Significant Vernal Pools Habitat (SVPH)

The following performance standards apply to significant vernal pool habitat (SVPH) that occurs along the transmission line corridor:

- A. The SVPH vegetation management minimum performance standards in this section apply to all SVPHs identified within the development and any portion of a SVPH that extends onto the development site and is included or eligible for inclusion on the State's SVPH GIS data layer, unless the department determines that the functions and values of the SVPH will not be impacted by the Project. The minimum buffer of 250 feet for a significant vernal pool, required by Section 9(C)(1)(c)(iii), does not apply to an electric utility corridor regulated under Appendix A.
- B. Geographic Information System (GIS) data maintained by the Department of Inland Fisheries & Wildlife must be used in concert with the State's database to site projects and must be used to avoid SVPHs to the maximum extent practicable.

Note: All vernal pools (significant and non-significant) identified by the permittee are provided to Maine DIFW and placed on the State's SVPH GIS data layer.

- C. The utility corridor must be sited in a manner that avoids and minimizes fragmentation of the habitat area to the maximum extent practicable. Without regard to the minimum buffer width

specified in Section 9, if impacts are necessary within a SVPH, the development must be sited as close as practicable to the outside edge of the SVPH in a location that minimizes fragmentation of the habitat area to the maximum extent practicable.

- D. All identified SVPHs, located within the approved construction right-of-way, must be flagged in the field prior to initial line clearing and flagged or located with GPS prior to any maintenance operations.
- E. Equipment travel within the SVPH depression (the significant vernal pool) is prohibited unless the depression is sufficiently frozen or dry to the extent that ground alteration would be avoided based on a determination made by CMW's representative and approved by DEP's third party inspector. The removal of capable species must be accomplished using hand cutting or "reach-in" techniques to cut and remove trees when practicable based on the size of the vernal pool depression. When the vernal pool depression is too large to enable hand removal of cut vegetation, travel lanes may be established based on the professional opinion of CMW's representative and approved by the third-party inspector to facilitate the least impact methods for removal of cut vegetation based on site-specific conditions.
- F. Mechanical maintenance of vegetation or non-emergency infrastructure maintenance within 250 feet of a SVPH depression is prohibited between April 1<sup>st</sup> and June 30<sup>th</sup>. Maintenance clearing between April 1<sup>st</sup> and June 30<sup>th</sup> within the 250-foot critical terrestrial habitat must utilize hand tools only (e.g. brush hooks, chainsaws and selective herbicide applications), unless otherwise approved by the Department. No vegetation maintenance operations or non-emergency infrastructure maintenance may occur within a vernal pool depression or within 25 feet of a vernal pool depression between April 1<sup>st</sup> and June 30<sup>th</sup>.
- G. No accumulation of slash may be left within fifty (50) feet, horizontal distance, of the edge of the SVP depression (the significant vernal pool). In all other areas slash must either be removed or disposed of in such a manner that it lies on the ground and no part thereof extends more than four (4) feet above the ground. Any debris that falls into the habitat must be removed.
- H. Clearing associated with new construction within a SVPH must be undertaken during frozen ground conditions when practicable. In the event that it is not practicable, vegetation removal within the SVPH must be removed using hand cutting or "reach-in" techniques. If hand cutting or "reach-in" techniques alone are not adequate to facilitate the removal of vegetation due to the size of the SVPH, travel lanes to accommodate mechanical equipment within the 250-foot critical terrestrial habitat may be used with the approval of the third party inspector.
- I. Within a SVPH, impacts to scrub-shrub and herbaceous vegetation and other non-capable species must be minimized to the maximum extent practicable.
- J. The permittee must notify and consult with the third-party inspector in advance of proposed clearing within SVPH during construction.