WETLAND DELINEATION REPORT

For Antrim Wind Energy Project Town of Antrim Hillsborough County, New Hampshire

Prepared for:

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1.0 INTRODUCTION

Antrim Wind Energy LLC (AWE) is proposing to construct the Antrim Wind Energy Project (Project) on Tuttle Hill and Willard Mountain in the Town of Antrim, Hillsborough Country, New Hampshire. The proposed Project is sited entirely on privately owned land that is leased by AWE. The proposed Antrim Wind Energy Project involves the construction of wind turbines, an electrical collection system and interconnection substation, new access road, and an operations and maintenance building. There will be no new electrical transmission lines, other than collector system lines, constructed as part of this Project. The total direct impact for the access roads, the turbine pads, and electrical collector system will be approximately 57.1 acres.

The proposed project is sited on the ridges of Tuttle Hill and Willard Mountain which are oriented east-northeast to west-southwest. The ridges are approximately parallel to NH Route 9, which is about ¾ of a mile to the north. Between the ridgeline and Route 9 is an existing transmission corridor containing both an 115kV transmission line and a 34.5kV distribution circuit; the proposed Project will interconnect with the existing 115kV line. See Attachment A, Figure 1, for a map of the Project area and Project elements.

TRC Environmental Corporation (TRC) was retained by AWE to identify and delineate jurisdictional wetlands and waterways within the project area to support the design, or layout, of the proposed facilities. TRC has prepared this wetland delineation report on behalf of AWE to support the submittal of a Joint Application for a Permit (a U.S. Army Corps of Engineers (ACOE) and New Hampshire State wetlands permit).

2.0 CURRENT AND HISTORIC LAND USES

2.1 Current Land Use

Most of the Town of Antrim is undeveloped, and a large proportion of the town's landscape is heavily wooded. Much of Antrim's forested areas are located in the Rural and Rural Conservation Zoning Districts of town; these two districts constitute over 70% of Antrim's total area. These woodlands are viewed by the town as a renewable resource and are logged on a regular basis. In addition to abundant woodland, there are also numerous conservation areas, hiking trails and water features (Town of Antrim 2011).

2.2 Historic Land Use

Historically, the area of the proposed Project was cleared for sheep farming; numerous stone walls still remain as a result of this historic activity. After the decline of sheep farming, the site was allowed to regenerate into a forested condition. Subsequently, timber harvesting has occurred in many areas on Tuttle Hill and Willard Mountain. Currently, the land in and around the area of proposed development consists of undeveloped forest land in various stages of maturity, ranging from recent clear cuts and early successional stands as a result of timber harvesting, to mature forested areas.

3.0 WETLAND DELINEATION METHODOLOGY

3.1 Siting Alternatives

The layout of wind turbines is a function of several siting factors that balance the location of each wind turbine and environmental compatibility. These factors include:

- maximizing wind speed;
- minimizing tree clearing, wetland impacts, and the acquisition of land (the Project proposes to lease the land needed for the Project facilities);
- maintaining the current use of the land;
- connecting the turbines with an efficient and practical network of unpaved access roads for construction and maintenance of the turbines:
- co-locating electric cables with the access road corridor that connect the turbines to electric substation; and
- co-locating the electric transmission line that would connect the Project to the electric grid within existing infrastructure right-of-way.

These siting factors inherently create the need for a Project survey area that was sufficiently large enough to provide for an adequate area to identify cultural and natural resources and allow for the opportunity to evaluate siting alternatives that avoid and minimize impacts to any identified resources. After reviewing available topographic, soils mapping, and potential turbine locations for the Project area, TRC developed a survey area, which is depicted on Figure 1, found in Attachment A. With a survey corridor of 500 feet in width with a 250 foot radius around potential turbine locations, the survey area was approximately 462 acres.

To determine the potential for wetland impacts from construction of the Antrim Wind Energy Project, TRC assessed the survey area for the presence of federal and jurisdictional wetlands. A New Hampshire Certified Wetland Scientist from TRC conducted wetland delineations in August, September, November 2011, and October 2014 (refer to Attachment B for professional resume and qualifications). TRC also investigated hydrologic connectivity (drainage ditches, natural swales, intermittent and perennial streams outside the study corridor when necessary to verify "normal conditions" or "nexus" hydrologic determinations. The delineations were performed in accordance with the U.S. Army Corps of Engineers (USACE) wetland delineation criteria and methodology which is described in Section 3.2. The USACE data sheets have been compiled for this Wetland Delineation Report and presented in Attachment C.

This report presents the delineation methodology, wetland identification, and the results of the field wetland delineation, including descriptions of on-site hydrology, soils and vegetation (see Section 4.0). Mapping is provided in Attachment A, with Figure 2 presenting the wetland mapping.

3.2 Wetland Delineation Method

TRC wetland delineation crews surveyed proposed corridors using the Federal Routine Determination Method presented in the USACE Wetlands Delineation Manual (USACOE 1987), including clarifications and interpretations provided in the March 6, 1992 guidance memorandum (Williams 1992), USACOE and Environmental Protection Agency guidance on jurisdictional forms (USACOE 2007), and the Regional Supplements to Corps Delineation Manual (USACOE 2009).

The 1987 USACE manual and guidance memorandums emphasize a three-parameter approach to wetland boundary determination in the field. This approach involves the identification of: (i) evidence of wetland hydrology; (ii) presence of hydric soils; and (iii) predominance of hydrophytic vegetation as defined by the National Plant List Panel (Reed 1988). Positive indicators of all three parameters are normally present in wetlands and serve to distinguish between both upland and transitional plant communities. Identified wetlands were classified according to Cowardin et al. (1979).

After a wetland area was initially identified, an appropriate transect and plot location was established, generally perpendicular to the wetland/upland boundary, in order to document conditions within each plant community and firmly establish the wetland boundary using wetland indicators. USACE Wetland Determination data forms were completed for each representative wetland transect. These data forms are provided in Attachment C to this report. The wetland boundary was marked with sequentially numbered (alpha-numeric) pink flagging labeled with "Wetland Delineation". Once wetland flags were in place, the location of each flag was pinpointed using a hand-held Global Positioning Satellite (GPS) unit. These data were downloaded into a GIS system and then plotted on the project base map (a USGS geo-referenced map), which is provided in Attachment A, Figure 2. The results of the delineations are summarized in Section 4.0.

4.0 WETLAND DELINEATION RESULTS

A total of thirty eight (38) wetland areas were identified in the Project survey area. This report describes and maps those wetlands within and in relative proximity to the proposed roads, turbines, collector system, the proposed transmission right-of-way corridor, and other facility sites associated with the Project (see Figure 2 in Attachment A). The 38 wetlands are represented in Table 4.1 due to their occurrence in the proposed corridor and in close proximity to the proposed project corridors or facility sites. Of the 38 wetlands, twenty-four (24) are deciduous broad-leaf forested wetlands, three (3) are conifer dominated forested wetland, two (2) are mixed forested and scrub-shrub wetland, and five (5) are scrub-shrub wetlands. Three (3) of the delineated wetlands within the Project corridor consist of two or more wetland types, including three (3) streams with associated palustrine wetlands (2 intermittent and 1 perennial stream). The wetland associated with the perennial water-way consists of a mixed palustrine system. Table 4-1 provides a summary of the wetlands identified along the Project corridor, including their classification in accordance with Cowardin et al (1979).

Narrative descriptions of wetland hydrology, soils and vegetation observed within the Project study area are presented in the following sections. Tables 4-1, 4-2 and 4-3 summarize the wetlands delineated in this report, streams identified, and the soil series information we assembled for the Project area respectively.

4.1 Vegetation

Within the Project area, vegetative communities consist of forested upland and wetland communities. Forest stands include mostly mixed coniferous and deciduous forest, with a small portion of the Project area sustained as a managed transmission line ROW and another portion recently timber harvested on Willard Mountain.

The wetland communities crossed by the Project include and scrub-shrub wetlands typically found in the transmission line ROW and isolated forested wetlands. The scrub-shrub wetlands typically contain sapling red maple (*Acer rubrum*), maleberry (*Lyonia lingustrina*), red osier dogwood (*Cornus stolonifera*), arrowwood (*Viburnum dentatum*), meadowsweet (*Spiraea latifolia*), and steeplebush (*Spiraea tomentosa*). The forested wetlands typically contain red maple, yellow birch (*Betula alleghaniensis*), and green ash (*Fraxinus pennsylvanica*).

Upland tree species found throughout the Project area include red oak (*Quercus rubra*), American beech (*Fagus grandifolia*), sugar maple (*Acer saccharum*), white pine (*Pinus strobus*), red spruce (*Picea rubens*), balsam fir (*Abies balsama*), quaking aspen (*Populus tremuloides*), paper birch (*Betula papyrifera*), eastern hemlock (*Tsuga canadensis*) and others. Upland herbaceous species include wild sarsassparilla (*Aralia nudicaulis*), New York fern (*Thelypteris noveboracensis*), Solomon's-seal (*Polygonatum pubescens*), star flower (*Trientalis borealis*), hayscented fern (*Dennstaedtia punctilobula*) and Canada mayflower (*Maianthemum canadense*).

4.2 Hydrology

Streams within the Project area include an unnamed perennial and intermittent streams draining both to the north (Route 9) toward the North Branch River and to the southeast draining into Gregg Lake. Because the Project area is along a ridgeline and moderately well drained, we

observed very few perennial streams. Observations in the field generally suggest that rainfall and snow melt in the spring quickly run off the ridge to lower elevations, without collecting volumes that fill natural depressions or create natural ponds. Small forest wetland areas occur along skidder trails, confined pockets in the regional bedrock, saddle areas along the ridgeline, and in other areas of poorly drained soils that support wetland vegetation.

4.3 Soils

TRC reviewed the published soil survey of the Project area and conducted soil profile characterizations in the study corridor to confirm the presence of hydric soil indictors. Within the Project survey area, a total of 7 different soil types have been mapped by the Natural Resource Conservation Service (formerly the Soil Conservation Service) (USDA & NRCS 2009). Table 4-3 summarizes the soil series in the project area and indicates that most of the Project area soils are mapped with a slope of 3-35 percent. The soil type mapping has also been overlain on the Project location map (see Figure 3 in Attachment A). The mapped soil types range from excessively drained to well drained soils. Field surveys have resulted in delineating additional soil types that are poorly drained to very poorly drained soils and are hydric or wetland soils. Hydric soils are defined as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil.

The wetlands flagged in the Project corridors generally exhibited the soil characteristics of a dark surface horizon (A horizon) overlying grayish (10YR 5/1) to grayish brown (10YR 4/1), sandy loam subsoils with common redoximorphic features. As described below, this is typical of the loamy till parent material sediments in which many of the soils in the region are formed. The upland soils within the forested uplands lacked a low chroma matrix and had typical matrix chromas ranging between 3 and 6. In wetlands, the hydric soil showed evidence of a seasonal high water table in the form of low chroma matrix and redoximorphic features, indicating that the soils experience anaerobic conditions from prolonged saturation thereby meeting the definition of a hydric soil in some instances. The upland and more transitional area soils have developed redoximorphic features common to somewhat poorly to moderately well drained soils but did not exhibit the required low chroma matrix and as a result were not classified as hydric soils. In addition, as a result of glacial till environment, the subsoil (B) and substratum (C) horizons of both hydric and non-hydric soils commonly contain layers of loose stony material on steeper slopes with loamy materials, which are not necessarily indicative of an aquic moisture regime or reducing conditions.

Table 4-1 Summary of Wetlands within Project Area									
Figure 2 8.5" x 11" Sheet Number	Wetland ID	Wetland Types and Associations	Associated Wetland Impact	Cowardin Classification					
4	AN1	Isolated forested wetland. Contains VP1	No direct impact	PFO1					
4	AN2	Isolated forested wetland. Bat radar within wetland	0.005 acre/228 sq. ft. Access road.	PFO4					
4	AN3	Isolated forested wetland	No direct impact	PFO1					
4	AN4	Isolated forested wetland. Contains VP2	No direct impact	PFO1					
4	AN5	Isolated forested wetland. Contains VP3	No direct impact	PFO1					
4	AN6	Isolated forested wetland	No direct impact	PFO1					
3	AN7	Isolated forested wetland straddling property line	No direct impact	PFO1					
3, 4	AN8	Forested wetland draining southeast associated with intermittent stream AN9	0.001 acre/34 sq. ft. Access road.	PFO4					
3	AN10	Isolated forested wetland within skidder trail	No direct impact	PFO1					
1, 3	AN11	Isolated forested wetland with ephemeral inlet and outlet	No direct impact	PFO1					
1	AN12	Isolated forested wetland within skidder trail	No direct impact	PFO1					
1, 3	AN13	Isolated forested wetland along ATV trail	No direct impact	PFO1					

Table 4-1 Summary of Wetlands within Project Area									
Figure 2 8.5" x 11" Sheet Number	Wetland ID	Wetland Types and Associations	Associated Wetland Impact	Cowardin Classification					
1, 3	AN14	Isolated forested wetland within skidder trail	No direct impact	PFO1					
1	AN15	Isolated forested wetland within skidder trail	No direct impact	PFO1					
1	AN16	Very small isolated wetland along old skidder trail	No direct impact	PFO1					
1	1 AN18	6 forested wetland areas draining north associated with perennial stream AN17	No direct impact	PFO1/4 & PSS1					
1	AN20	Isolated scrub-shrub	No direct impact	PSS1					
1	AN21	Isolated scrub-shrub wetland within transmission ROW	No direct impact	PSS1					
1	AN22	Isolated forested wetland within skidder trail	0.004 acre/170 sq. ft. Access road.	PFO1					
1	AN23	Isolated forested wetland within skidder trail	No direct impact	PFO1					
4	AN24	Isolated forested wetland. Associated with VP 5. ATV trail within wetland.	No direct impact	PFO1					
4	AN25	Isolated forested wetland. Associated with VP 4.	No direct impact	PFO4					
5	AN26	Forested wetland draining to the northwest along property line	No direct impact	PFO1					
5	AN27	Forested wetland draining to the southeast. Associated with intermittent stream AN28.	0.028 acre/ 1,218 sq. ft. Access Road	PFO1					

Figure 2 8.5" x 11" Sheet Number	Wetland ID AN30	Wetland Types and Associations Isolated forested	Associated Wetland Impact	Cowardin	
1	AN30		1	Cowardin Classification	
		wetland with ephemeral inlet and outlet	0.02 acre/869 sq. ft. Substation	PFO1	
1	AN31	Isolated scrub-shrub wetland within transmission ROW	0.016 acre/708 sq. ft. Transmission tap structure and guys	PSS1	
1	AN32	Isolated scrub-shrub wetland within transmission ROW	0.032 acre/1,392 sq. ft. Access Road	PSS1	
1	AN33	Isolated forested wetland within skidder trail	No direct impact	PFO1	
1	AN35	Isolated forested an scrub-shrub wetland located in ROW and to the North of the ROW	No direct impact	PFO1/PSS1	
4	AN36	Isolated forested wetland with peat soils	No direct impact	PFO1	
4	AN37	Isolated forested wetland adjacent to ATV trail	No direct impact	PFO1	
4	AN38	Isolated forested wetland with potential vernal pool	No direct impact	PFO1	
5	AN41	Isolated forested wetland.	0.06 acre/2,584 sq. ft. Turbine 9.	PFO1	
4	AN1000	Isolated forested wetland	0.022 acre/963 sq. ft. Turbine 4.	PFO1	
2	AN-LD 1	Isolated forested wetland.	No direct impact	PFO1	
2	AN-LD 2	Isolated forested and scrub-shrub wetland.	No direct impact	PFO/PSS1	
2	AN-LD 3	Isolated forested wetland	No direct impact	PFO1	
2 TOTAL IMPACT	AN-LD 4	Isolated scrub-shrub wetland. Formerly borrow pit area.	0.02 acre/955 sq. ft. Temporary staging area. 0.21 acre/9,121 sq. ft.	PSS1	

4.4 Wetland Descriptions

The following narratives briefly characterize the delineated wetlands summarized in Table 4-1. Refer to Figure 2 for the location of these wetlands within the project study area and landscape in

Attachment A.

<u>Wetland ANI</u> is a deciduous mixed forest wetland dominated by red maple (*Acer rubrum*), and black spruce (*Picea mariana*). It is located within a pocket of ledge along the ridgeline of Tuttle Hill. This wetland also contains Vernal Pool 1.

<u>Wetland AN2</u> is a deciduous mixed forest wetland dominated by yellow birch (*Betula alleghaniensis*) and black spruce. It is located within a pocket of ledge along the ridgeline of Tuttle Hill.

<u>Wetlands AN3, AN4 and AN5</u> are deciduous forested wetlands dominated by red maple. They are located within pockets of ledge along the ridgeline of Tuttle Hill. Wetland AN4 contains Vernal Pool 2, and wetland AN5 contains Vernal Pool 3.

<u>Wetland AN6</u> is a deciduous forest wetland dominated by red maple. It is located within a pocket of ledge along the ridgeline between Tuttle Hill and Willard Mountain.

<u>Wetland AN7</u> is a very small deciduous forest wetland dominated by red maple. It is located along a stone wall within a pocket of ledge along the ridgeline between Tuttle Hill and Willard Mountain.

<u>Wetland AN8</u> is a deciduous forest wetland dominated by red maple and yellow birch. It is located within a swale draining from Wetland AN7 towards the southeast. An intermittent stream segment (Stream AN9) is located within this wetland. The stream flows between very large boulders; eventually the hydrology disappears as the slope increases along the southeast boundary of the wetland.

<u>Wetlands AN10, AN11 and AN12</u> are deciduous forest wetlands dominated by yellow birch and green ash (*Fraxinus pennsylvanica*). They are located in hillside seeps created by skidder activity.

<u>Wetland AN13</u> is a deciduous forest wetland dominated by red maple. It is located within a hillside seep created by skidder activity. An ATV access trail traverses the northwestern portion of this wetland.

<u>Wetlands AN14 and AN15</u> are deciduous forest wetlands dominated by yellow birch and green ash. They are located in hillside seeps created by skidder activity.

<u>Wetland AN16</u> is a very small deciduous forest wetland dominated by red maple. It is located within an old skidder trail to the north of the transmission ROW.

<u>Wetland AN18</u> is a wetland complex associated with perennial stream AN17. Six components of this wetland complex were individually identified as wetlands AN18a, b, c, d, e and f. Component AN18a is an area of scrub shrub within the existing transmission corridor; it is dominated by red osier dogwood (*Cornus stolonifera*), green ash, and black willow (*Salix nigra*). Wetlands AN18 b, c, d, e and f are deciduous mixed forested wetlands dominated by green ash, yellow birch, and red maple. Each of these wetlands has been impacted by logging activity.

<u>Wetlands AN20 and AN21</u> are deciduous scrub shrub wetlands dominated by red maple, meadowsweet (*Spiraea latifolia*), and steeplebush (*Spiraea tomentosa*). They are located within the existing transmission corridor.

<u>Wetlands AN22 and AN23</u> are deciduous forest wetlands dominated by red maple, yellow birch and green ash. They are located in hillside seeps created by skidder activity.

<u>Wetland AN24</u> is a deciduous forest wetland dominated by red maple and yellow birch. It is located within a depression on the ridgeline between Tuttle Hill and Willard Mountain. An ATV trail traverses the through the middle of this wetland, from north to south. This wetland also contains Vernal Pool 5.

<u>Wetland AN25</u> is an evergreen mixed forest wetland dominated by eastern hemlock (*Tsuga canadensis*) and yellow birch. It is located within a depression on the ridgeline between Tuttle Hill and Willard Mountain. This wetland contains Vernal Pool 4.

<u>Wetland AN26</u> is a deciduous forest wetland dominated by red maple and yellow birch. It is located within a depression on the ridgeline between Tuttle Hill and Willard Mountain. This wetland drains to the northwest.

<u>Wetland AN27</u> is a deciduous mixed forest wetland dominated by red maple, yellow birch, and black spruce. It is located within the saddle area at the northern base of Willard Mountain. The wetland drains to the southeast and feeds Intermittent Stream AN28 which drains to the southeast.

<u>Wetland AN30</u> is a very small deciduous forest wetland dominated by red maple. It receives ephemeral flow from wetland AN31 which is located upslope (and within the existing transmission corridor). This wetland has an ephemeral drainage that flows towards intermittent stream AN29 to the north.

<u>Wetlands AN31 and AN32</u> are deciduous scrub shrub wetlands dominated by red maple, meadowsweet and maleberry (*Lyonia lingustrina*). They are located within the existing transmission corridor. Wetland AN31 ephemerally drains to the north into Wetland AN30.

<u>Wetland AN33</u> is a very small deciduous forest wetland dominated by red maple. It is located within a hillside seep created by skidder activity.

<u>Wetland AN35</u> is primarily a forested wetland dominated by red maple, but includes an area of scrub shrub. The scrub shrub component is located within the existing transmission corridor, on the southern portion of the wetland, and is dominated by winterberry (*Ilex verticillata*).

<u>Wetland AN36</u> is an isolated forested wetland dominated by red maple. This wetland contains organic soils. It is located in a saddle area and is near an ATV trail.

<u>Wetland AN37</u> is a small isolated deciduous forest wetland dominated by red maple. It has an ephemeral drainage that flows west across an ATV trail that is adjacent to the wetland.

<u>Wetland AN38</u> is an isolated deciduous forest wetland dominated by red maple, with a thick understory of winterberry shrubs. It has an ephemeral drainage that flows northwest through a steep boulder area. This wetland contains an area which has been identified as a potential vernal pool.

<u>Wetland AN41</u> is an isolated deciduous forest wetland dominated by red maple with a sparse understory of red maple and yellow birch saplings and a dense herbaceous layer dominated by cinnamon fern. This wetland is located at the base of a long bouldery slope.

<u>Wetland AN1000</u> is an isolated deciduous forest wetland dominated by red maple with an understory of winterberry shrubs and a patchy herbaceous layer of cinnamon fern and three-seeded sedge. This wetland is located in a concave area that drains to the east, and the soils are saturated to within 10-inches of the surface.

<u>Wetland AN-LD 1</u> is a deciduous forest wetland dominated by red maple (*Acer rubrum*). It is located within a depression on a terrace located above the North Branch River valley. Soils are saturated and are sandy with a cemented restrictive layer.

<u>Wetland AN-LD 2</u> is a deciduous forest wetland dominated by red maple with a lesser component of highbush blueberry and meadowsweet. It is located in a flat area on a terrace above the North Branch River valley. An old borrow pit is directly adjacent to the wetland boundary. Soils are saturated and are sandy.

<u>Wetland AN-LD 3</u> is deciduous forested wetland dominated by red maple. It is located within a depression on a terrace located above the North Branch River valley. Soils are saturated and are sandy. An intermittent stream channel (AN-LD-INT 1) carries surface water and disperses in this wetland area.

<u>Wetland AN-LD 4</u> is a deciduous scrub-shrub wetland dominated by speckled alder. It is located within an old borrow pit excavation on a terrace above the North Branch River valley. Soils are sandy, saturated and surface water was present at the time of survey.

4.5 Waterbody Descriptions

The following narratives briefly characterize the identified perennial and intermittent watercourses summarized in Table 4-2. Refer to Figure 2 in Attachment A for the location of these watercourses within the project study area.

Table 4-2 Summary of Streams within Project Area							
Figure 2 8.5" x 11" Sheet Number	Stream ID	Flow Regime	Associated Impact	Associated Wetland(s)			
2	AN9	Intermittent	No direct impact	AN8			
1	AN17	Perennial	74 linear feet, 4 foot wide channel	AN18a,b,c,d,e,f			
1	AN19	Intermittent	No direct impact	Tributary to AN17			
4	AN28	Intermittent	No direct impact	AN27			

4	AN28a	Intermittent	No direct impact	
1	AN29	Intermittent	156 linear feet, 1	
1	AIN29	Intermittent	foot wide channel	
1	AN34	Intermittent	No direct impact	Flows into AN17
2	AN40	Intermittent	No direct impact	
2	AN-LD-INT 1	Intermittent	No direct impact	AN_LD 3
TOTAL IMPACT			230 linear ft./	
TOTAL IMPACT			452 sq. ft.	

Stream AN9 is an intermittent stream with a sandy substrate. The average width of the stream is 2 feet and the bank height is less than one foot. There was approximately 1 inch of flowing water in the stream at the time of the wetland delineation survey (in late summer, 2011). The stream channel commences within wetland AN8 and disperses within the same wetland due to slopes and a bouldery landscape, which allows for subsurface flow.

<u>Stream AN17</u> is perennial stream with a gravel/cobble substrate. The average width of the stream is 4 feet and the bank height averages approximately one foot. There was approximately 5 inches of flowing water at the time of the delineation. The stream flows into the survey area from the south and then out to the north, flowing towards Route 9. Intermittent Streams AN19 and AN34 flow into this stream.

<u>Stream AN19</u> is an intermittent stream with a sandy substrate. The average width of the stream is approximately 1 foot and the bank height is less than one foot. There was approximately 1 inch of flowing water at the time of the delineation. The stream channel commences in a forested setting, within a seep on a slope, and flows into Stream AN17.

<u>Stream AN28</u> is an intermittent stream with a gravel/sand substrate. The average width of the stream is approximately 3 feet and the bank height is less than one a foot. There were approximately 4 inches of flowing water at the time of the delineation. The stream channel commences within wetland AN27 and flows to the southeast.

<u>Stream AN28a</u> is an intermittent stream with a gravel/cobble substrate. The average width of the stream is approximately 2 feet and the bank height averages approximately one foot. There were approximately 2 inches of flowing water at the time of the delineation. The stream channel commences within an upland area with steep slopes and disperses within the upland as it flows down slope. This dispersal is due to slopes and a bouldery landscape, which allows for subsurface flow.

<u>Stream AN29</u> is an intermittent stream with a gravel/cobble substrate. The average width of the stream is approximately one foot, and the bank height is less than one foot. There was no flowing water in the streambed at the time of the delineation. The stream channel commences within an upland area with steep slopes and disperses within the upland as it flows down slope. This dispersal is due to slopes and a bouldery landscape, which allows for subsurface flow.

<u>Stream AN34</u> is an intermittent stream with a gravel/cobble substrate. The average width of the stream is approximately 3 feet and the bank height is less than one foot. There were approximately 4 inches of flowing water at the time of the delineation. The stream channel commences in a forested setting within a seep on a slope and flows into Stream AN17.

<u>Stream AN40</u> is an intermittent stream with a gravel/cobble substrate. The average width of the stream is 2 feet and the bank height averaged around a foot. There were approximately 2 inches of flowing water at the time of the delineation. The stream channel commences within an upland area with steep slopes and disperses within the upland downslope due to slopes and a bouldery landscape, which allows for subsurface flow.

<u>Stream AN-LD-INT 1</u> is an intermittent stream with a sandy substrate that originates in a logging trail upslope and south of the site. The average width of the stream is 1-2 feet and the bank height is less than one foot. The channel was dry at the time of the wetland delineation survey (in July 2012). The stream channel disperses within wetland AN-LD 3.

Table 4-3 Soil Description Summary						
Soil Names	Symbol	% Slopes	Hydric (y/n)	Parent Material	Drainage Class	
Lyman-Tunbridge-Rock outcrop complex	161C	3-15	N	Lyman: Loamy Till Underlain by Schist Bedrock; Tunbridge: Loamy Till Underlain by Granite	Lyman: Somewhat Excessively Drained; Tunbridge: Well Drained	
Lyman-Tunbridge-Rock outcrop complex	161D	15-35	N	Lyman: Loamy Till Underlain by Schist Bedrock; Tunbridge: Loamy Till Underlain by Granite	Lyman: Somewhat Excessively Drained; Tunbridge: Well Drained	
Tunbridge-Lyman- Monadnock complex, stony	160B	3-8	N	Tunbridge: Loamy Till Underlain by Granite; Lyman: Loamy Till Underlain by Schist Bedrock; Monadnock: Loam Underlain by Sandy Till	Tunbridge: Well Drained; Lyman: Somewhat Excessively Drained; Monadnock: Well Drained	
Tunbridge-Lyman- Monadnock complex, stony	160C	8-15	N	Tunbridge: Loamy Till Underlain by Granite; Lyman: Loamy Till Underlain by Schist Bedrock; Monadnock: Loam Underlain by Sandy Till	Tunbridge: Well Drained; Lyman: Somewhat Excessively Drained; Monadnock: Well Drained	
Marlow stony loam	77C	8-15	N	Loamy Till	Well Drained	
Marlow stony loam	77D	15-35	N	Loamy Till	Well Drained	
Rock outcrop	399			Granite	Excessively Drained	
Colton Loamy Sand	22C	8-15	N	Sandy and Gavelly Outwash	Excessively Drained	

4.6 Natural Resource Conservation Service Soil Series Descriptions

The following are the abbreviated descriptions of each of the relevant soil types taken from the USDA (Natural Resource Conservation Service) Official Soil Series Descriptions Online Soils Database and the Soil Survey Geographic Database (SSURGO) for Hillsborough County, New Hampshire, Western Part (USDA & NRCS 2009). Additional information regarding relevant soil characteristics are also summarized in Table 4-3. Soils mapping of the Project area is in Attachment A, Figure 3.

Tunbridge-Lyman-Monadnock complex, stony

Tunbridge Series: These very moderately deep, well drained soils formed in loamy till of Wisconsin age derived mainly from micaceous schist, gneiss, and phyllite. They are on mountain side slopes, mountain tops, mountain ridges, hill tops, and hill slopes. Slope ranges from 0 to 75 percent. The A horizon is typically very friable dark brown sandy loam, with weak fine granular structure. The B horizon is typically reddish brown to yellowish brown silt loams.

It is friable with subangular blocky structure. Bedrock is usually encountered at 28 inches.

Lyman Series: These shallow, somewhat excessively drained soils formed thin mantle of till and frost fractured rock fragments derived principally from gray, greenish gray, or nearly black mica schist rocks with lesser amounts of phyllite, granite, and gneiss. They are found on rocky hills, mountains and high plateaus. Slopes range from 3 to 35 percent. Ap horizons are typically black and 6 inches or more thick. Texture is sandy loam, fine sandy loam, very fine sandy loam, loam or silt loam in the fine-earth fraction. The E horizon generally is a reddish gray fine sandy loam, with very weak fine granular structure. The B horizon generally is a dark red to brown loam, with very weak fine granular structure. Bedrock is usually encountered at a depth of 18 inches.

Monadnock Series: These very deep, well drained soils formed in a loamy mantle underlain by acid, sandy till of Wisconsin age derived mainly from schist, granite, gneiss, and quartzite. They are on upland hills, plains, and mountain sideslopes. Slope ranges from 0-60 percent. The A horizon is typically very friable brown fine sandy loam. The E horizon generally is a light brownish gray sandy loam with a weak fine granular structure. The B horizon generally is reddish to yellowish brown, 5 to 23 inches deep, very friable with a weak fine granular structure. The C horizon consists of gravelly loamy sand extending to a depth of 65 inches.

Lyman-Tunbridge-Rock outcrop complex

Lyman Series: These shallow, somewhat excessively drained soils formed thin mantle of till and frost fractured rock fragments derived principally from gray, greenish gray, or nearly black mica schist rocks with lesser amounts of phyllite, granite, and gneiss. They are found on rocky hills, mountains and high plateaus. Slopes range from 3 to 35 percent. Ap horizons are typically black and 6 inches or more thick. Texture is sandy loam, fine sandy loam, very fine sandy loam, loam or silt loam in the fine-earth fraction. The E horizon generally is a reddish gray fine sandy loam, with very weak fine granular structure. The B horizon generally is a dark red to brown loam, with very weak fine granular structure. Bedrock is usually encountered at a depth of 18 inches.

Tunbridge Series: These very moderately deep, well drained soils formed in loamy till of Wisconsin age derived mainly from micaceous schist, gneiss, and phyllite. They are on mountain side slopes, mountain tops, mountain ridges, hill tops, and hill slopes. Slope ranges from 0 to 75 percent. The A horizon is typically very friable dark brown sandy loam, with weak fine granular structure. The B horizon is typically reddish brown to yellowish brown silt loams. It is friable with subangular blocky structure. Bedrock is usually encountered at 28 inches.

Marlow Series

These well drained soils formed in dense, loamy till derived mainly from mica schist, granite, and phyllite. They are found on drumlins and glaciated uplands. They are moderately deep to a densic contact and very deep to bedrock. Slope ranges from 0 to 60 percent. Typically, the A horizon is a friable very dark gray fine sandy loam with a moderate fine granular structure. Generally, the E horizon is gray fine sandy loam, with very friable consistence. The B horizon consists of a yellowish red to olive fine sandy loam with a weak fine granular structure. The C horizon is an olive gray fine sandy loam with moderate medium platy structure and is very firm.

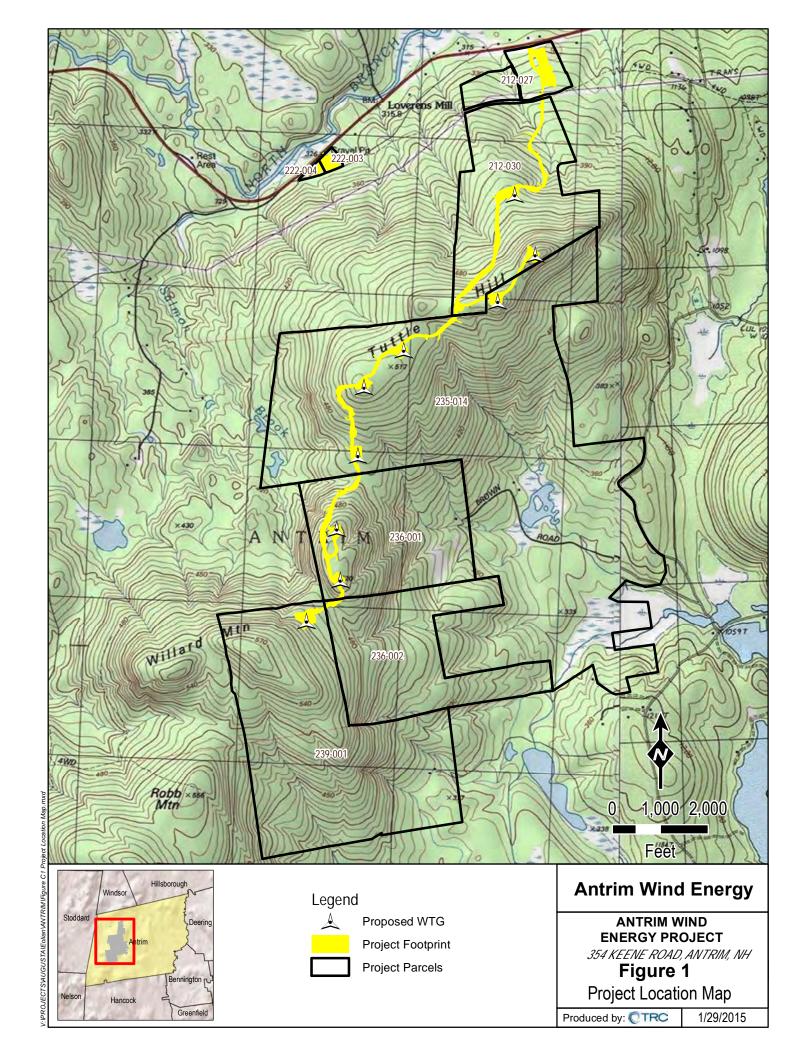
Colton Series

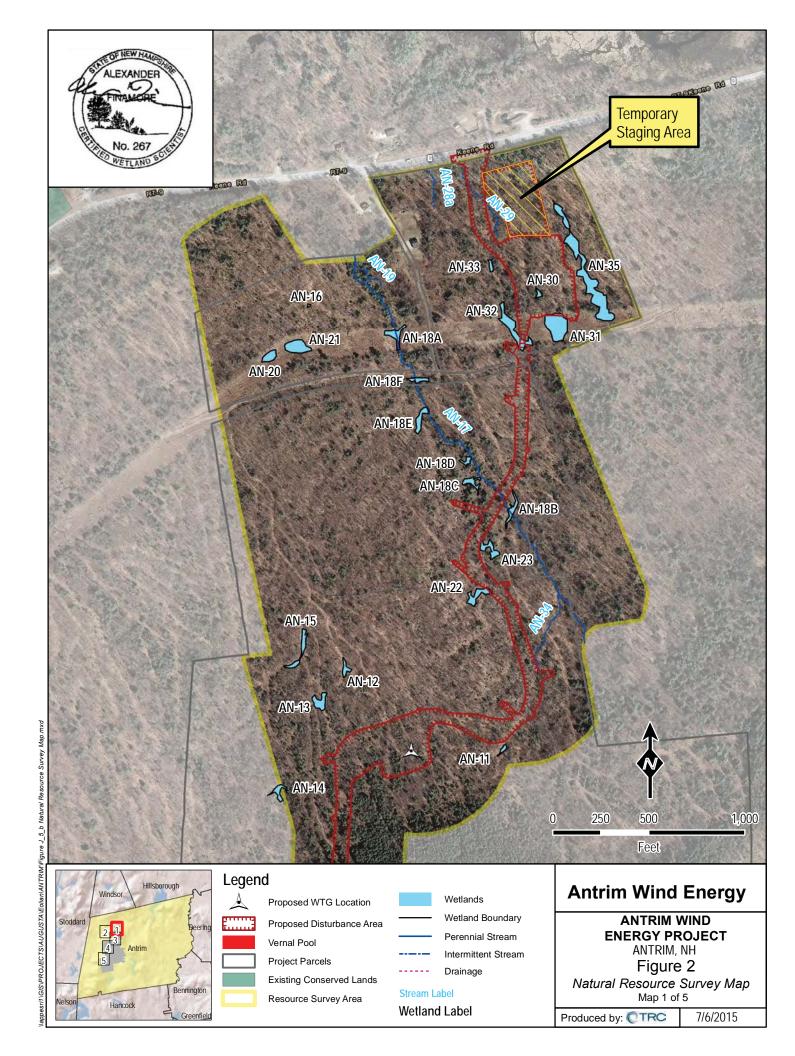
These excessively drained soils formed in sandy and gravelly glacial outwash derived mainly from granite till. They are found on outwash terraces, kames, and eskers. Slope ranges from 0 to 50 percent. The solum ranges from 18 to 36 inches in thickness. The content of rock fragments ranges from 10 to 55 percent in the solum and 35 to 70 percent in the C horizon. Some pedons have an A horizon that is dark reddish brown. The E horizon has gray to dark gray. The A and E horizons range from loamy coarse sand to find sandy loam. The B horizon is dark reddish brown to reddish yellow. It ranges from coarse sand to loamy sand. The C horizon is dark reddish gray to reddish yellow.

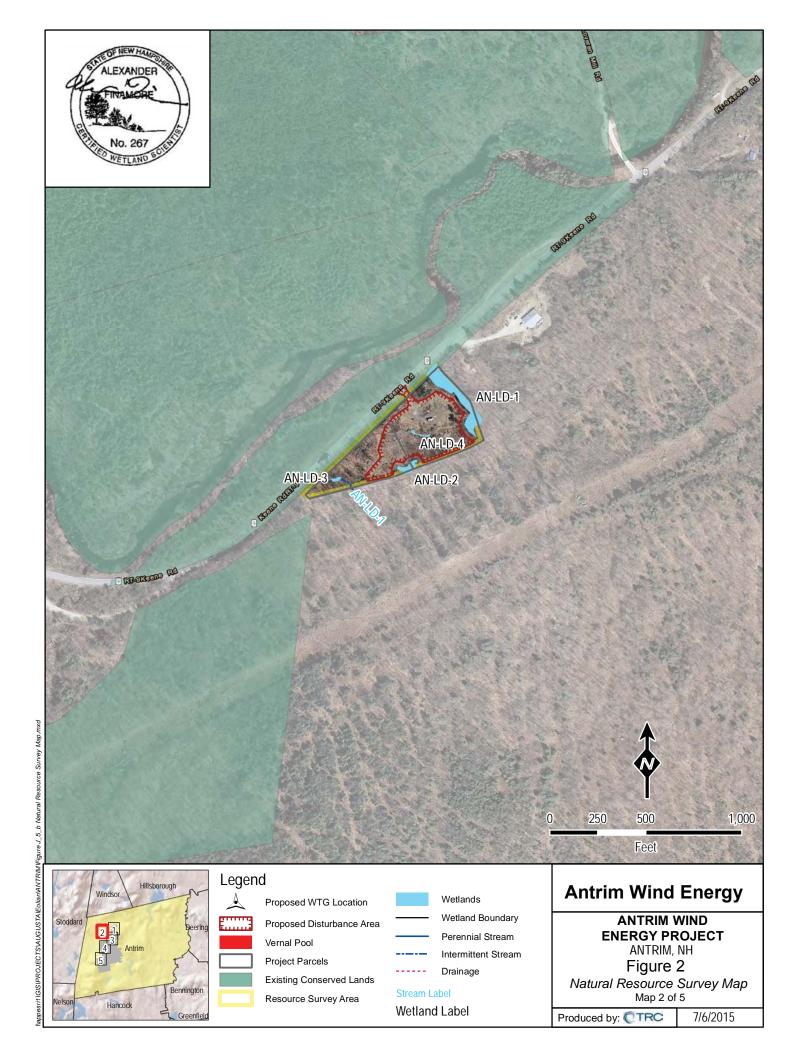
5.0 REFERENCES

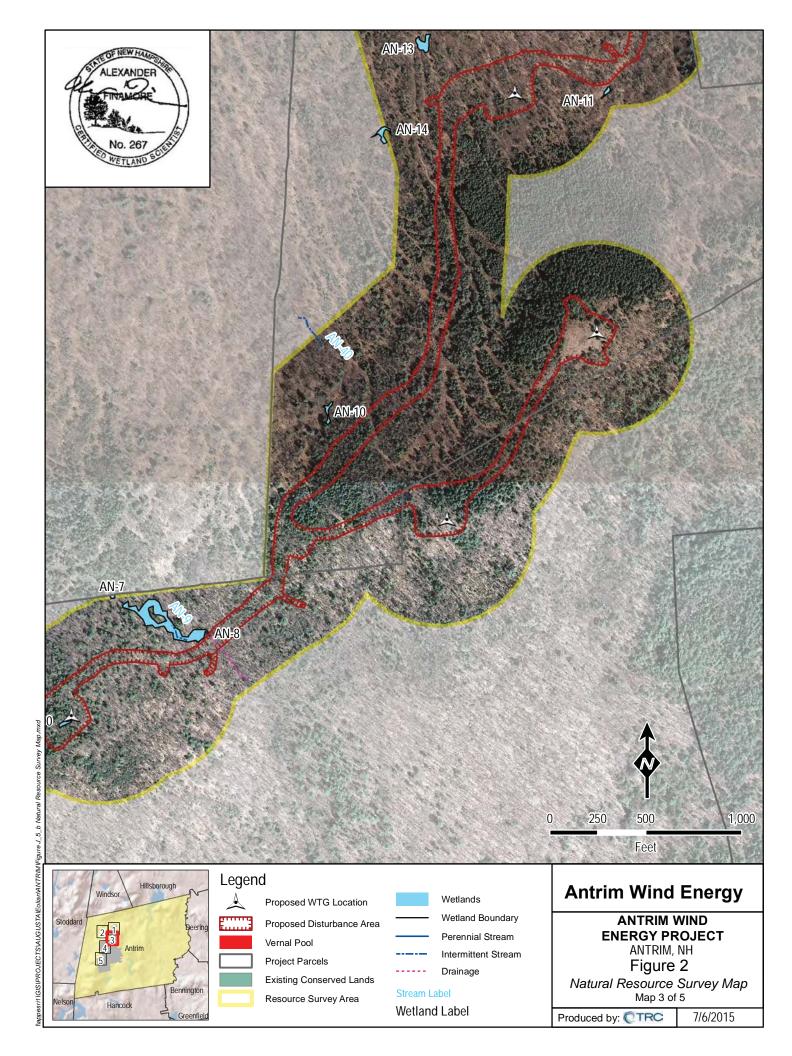
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- USACOE. 1987. Corps of Engineers Wetland Delineation Manual. Technical Report U-87-1. Waterways Experiment Station, Vicksburg, MS.
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- USDA, NRCS. 2011. Soil series classification online database. Online: http://soils.usda.gov/technical/classification/scfile/index.html . Site visited December 9, 2011.
- USDA, NRCS. 2011. Web soil survey. Online: http://websoilsurvey.nrcs.usda.gov/app/. Site visited December 9, 2011.
- Williams, A.E. 1992. Memorandum: Clarification and Interpretation of the 1987 Manual. U.S. Army Corps of Engineers.

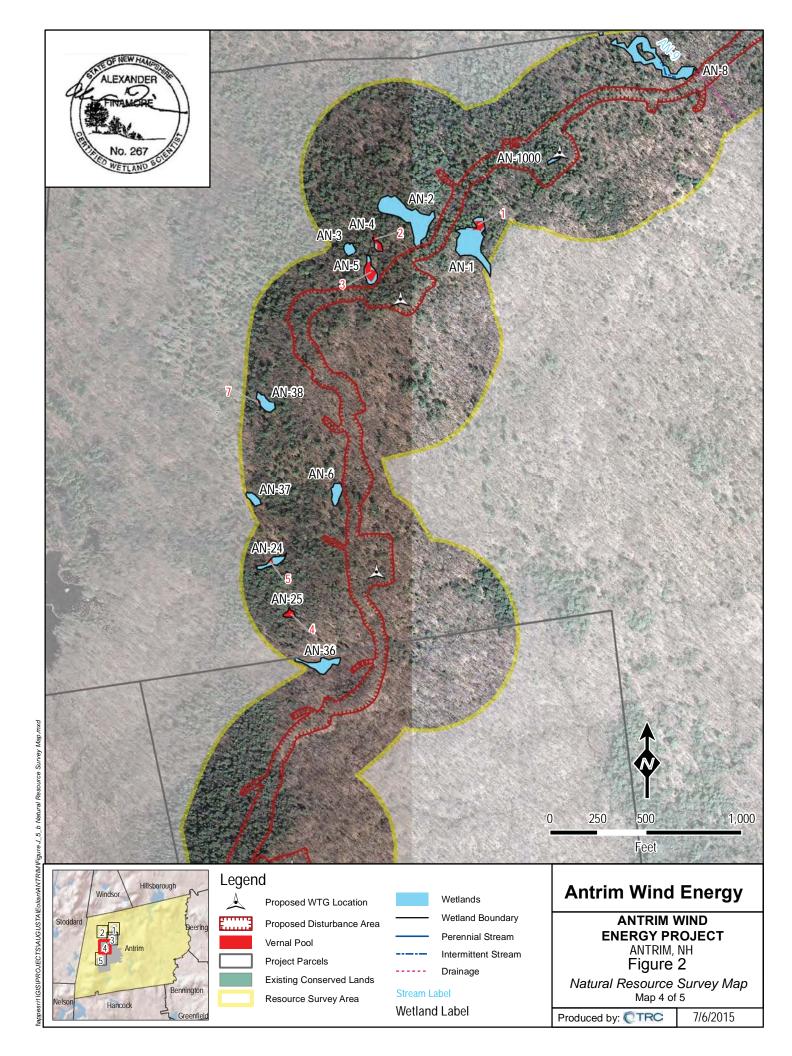
ATTACHMENT A PROJECT MAPPING

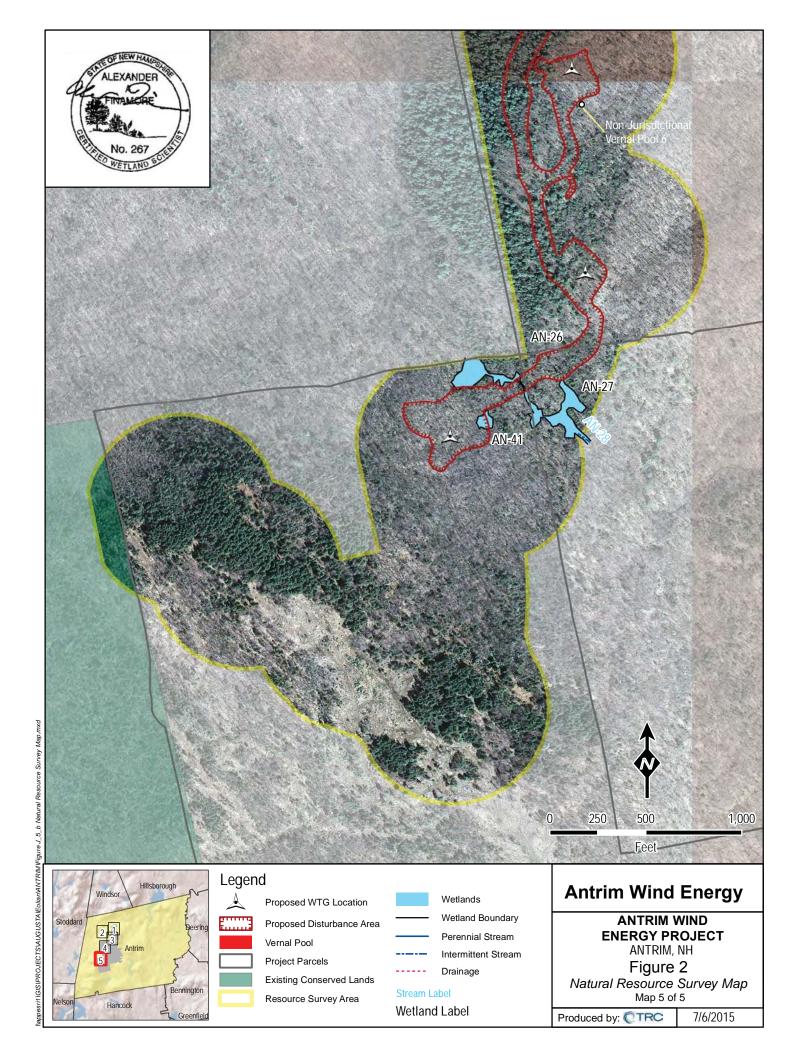


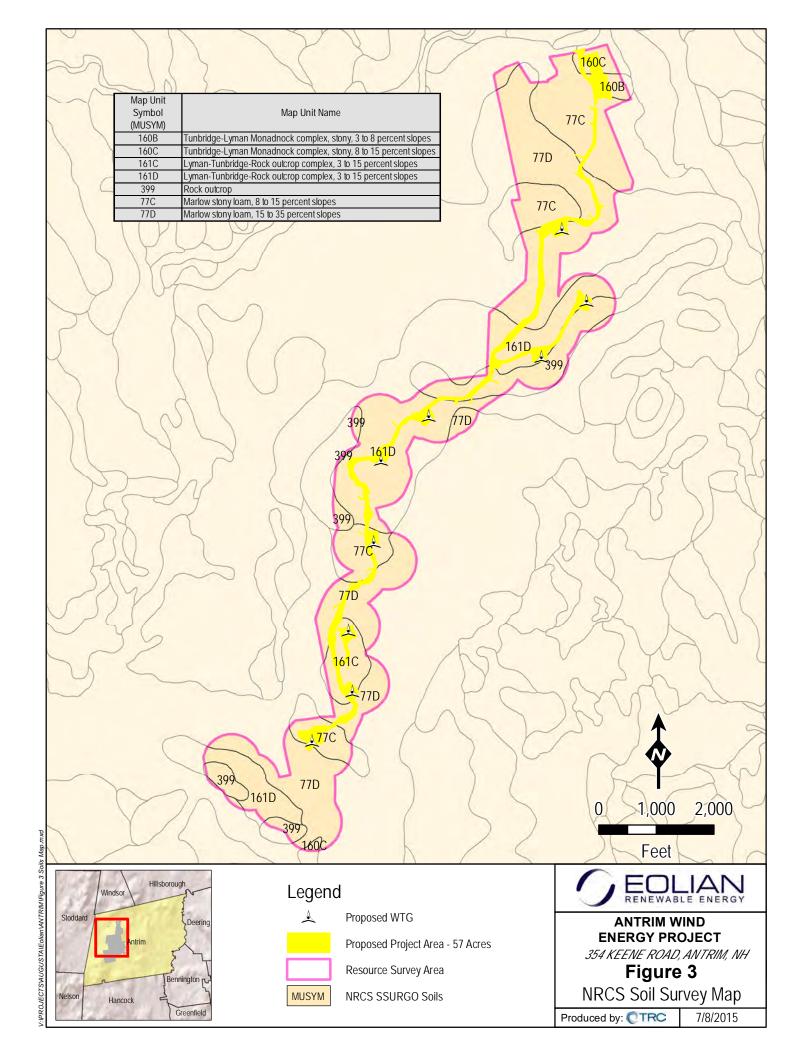












ATTACHMENT B PROFESSIONAL RESUME



ALEXANDER A. FINAMORE

EDUCATION

B.S., Environmental Science and Management, University of Rhode Island, 2004

AREAS OF EXPERTISE

Mr. Finamore has over 7 years experience encompassing

- Federal, State, and Local Environmental Permitting
- Wetland Delineations and Reports
- Subsurface Wastewater Disposal Design
- Vernal Pool Identification and Assessment
- Land Survey
- Preliminary Environmental Site Assessments (PESS)

REPRESENTATIVE EXPERIENCE

Mr. Finamore has completed or managed numerous wetland delineations and vernal pool surveys throughout the northeastern U.S., ranging from single house lots to large linear projects. Mr. Finamore has also completed or managed the permitting process and/or the preparation of technical documents in accordance to State and Federal site location, wetlands, and subsurface wastewater disposal system regulations.

Reunion Energy, Grandpa's Knob Wind Farm, Natural Resource Mapping – VT Wetland Scientist, 2011 Mr. Finamore organized and directed field crews, performed wetland delineations along corridor of proposed 20 wind turbines and collector line, performed vernal pool surveys, attended site walk with client and pertinent state and federal regulators.

Eolian Wind, Antrim Wind Farm, Natural Resource Mapping – NH Wetland Scientist, 2011 Mr. Finamore performed wetland delineations along corridor of proposed 10 wind turbines and collector line, performed vernal pool surveys, attended site walk with client and pertinent state and federal regulators

VELCO, Lines 350 & 370, Natural Resource Mapping – VT Wetland Scientist, 2011 Mr. Finamore organized and directed field crews, performed wetland delineations, wetland function and values assessments, stream classifications, and natural community surveys along existing transmission line right-of-ways

National Grid, 015S, Turtle Sweeps – MA Ecologist, 2011 Mr. Finamore performed Turtle Sweeps for Wood Turtle and Eastern Box Turtle for line restoration work due to tornado damage

National Grid, S9, Natural Resource Mapping – MA Wetland Scientist, 2011 Mr. Finamore performed wetland delineations for reconductoring along the S9 line.

National Grid, Y151, Natural Resource Mapping – MA Wetland Scientist, 2011 Mr. Finamore performed wetland delineations for reconductoring along the A126 line.



Spectra Energy, Wetland Permitting – CT, MA, RI Wetland Scientist, 2011 Mr. Finamore performed local and state wetland permitting for installation of launcher and receiver barrels for pipeline segments throughout Algonquin's distribution system

MBCR, Natural Resource Mapping – Walpole, MA Wetland Scientist, 2010 Mr. Finamore delineated watersheds for culvert sizing using GIS and ground truthing.

Central Maine Power, Co., Natural Resource Mapping and State and Federal Permit Application – ME Wetland Scientist, 2009-Present Mr. Finamore performed wetland delineations along proposed transmission line corridors, performed vernal pool surveys, performed routine stormwater inspections, performed invasive species inventories, field located resources and setbacks for pre-construction, prepared GIS maps and data tables for associated NRPA, Site Location of Development, and Army Corps of Engineers permitting, provided survey assistance on structure location and conductor height over major river crossings.

First Wind & 3Phase, Land Survey – Lincoln, ME Survey Technician, 2010 Mr. Finamore performed structure layout for the collector and transmission line servicing 40 wind turbines.

NSTAR, Natural Resource Mapping – RI Wetland Scientist, 2010 Mr. Finamore performed wetland delineations along an existing transmission line.

Town of Morrisville, FERC Pre-application Document – Morrisville, VT Ecologist, 2010 Mr. Finamore collected existing condition information regarding geologic, soil, wetland, wildlife, botanical, and rare, threatened and endangered species pertinent to FERC relicensing from federal, state, and local agencies for four hydroelectric dams.

Bangor Hydro, Natural Resource Mapping and State and Federal Permit Application, Ellsworth – ME Wetland Scientist, 2009-2010 Mr. Finamore performed wetland delineations along proposed transmission line corridors, assessed potential access roads for viability, prepared GIS maps and data tables for associated NRPA, Site Location of Development, and Army Corps of Engineers permitting.

National Grid, A127, Natural Resource Mapping – MA Wetland Scientist, 2009 Mr. Finamore performed wetland delineations for reconductoring along the A126 line.

VELCO, PV-20, Natural Resource Mapping – VT Wetland Scientist, 2009 Mr. Finamore performed wetland delineations, wetland function and values assessments, stream classifications, and natural community surveys along existing transmission line right-of-ways.

L.L. Bean, Inc., Natural Resource Mapping and Permitting – Freeport, ME Wetland Scientist & Survey Technician, 2005-2008 Mr. Finamore performed wetland delineations, vernal pool surveys, topographic mapping, and prepared Natural



Resource Protection Act applications and assisted with Site Location of Development Act applications.

First Wind, Natural Resource Mapping – ME Wetland Scientist, 2006-2007 Mr. Finamore performed wetland delineations and vernal pool surveys for the First Wind Stetson Wind Farm and associated transmission line corridors.

Bangor Hydro Electric Company, Natural Resource Mapping – Bangor, ME Wetland Scientist, 2008 Mr. Finamore performed wetland delineations and vernal pool surveys for the rebuild of Line 64.

Maine Coast Heritage Trust, Natural Resource Inventory – Stonington, ME Wetland Scientist, 2009 Mr. Finamore performed a Natural Resource inventory of 11 properties managed by MCHT. Inventories included gathering of available GIS data, historical aerial photography, and historical accounts of land use, vegetative inventories, soil evaluations, and wildlife observations.

Zyacorp Cinemagic, Natural Resource Mapping, Environmental Permit Applications, Environmental Site Assessment and Topographic Mapping – Westbrook and Saco, ME Environmental Scientist & Survey Technician, 2005-2009 Mr. Finamore performed wetland delineations, vernal pool surveys, topographic mapping on commercial properties. Mr. Finamore prepared environmental permit applications under Maine's Natural Resource Protection Act and a Preliminary Environmental Assessment on the Saco property.

New England College, Environmental Permit Application – Henniker, NH Wetland Scientist, 2009 Mr. Finamore prepared environmental permit applications under New Hampshire's Fill and Dredge in Wetlands statute for the installation of an athletic field.

Bangor Retirement Community, Wetland Mitigation Design and Monitoring – Bangor, ME Wetland Scientist, 2007-2009 Mr. Finamore assisted with the design of a wetland creation area mitigating over an acre of wetland disturbance. Mr. Finamore performed annual monitoring of the mitigation area and submitted reports to the Maine Department of Environmental Protection.

Town of Wells, Salt Marsh Erosion Monitoring – Wells, ME Wetland Scientist, 2004 Mr. Finamore mapped erosional features within a coastal marsh and inventoried vegetation and wildlife

CERTIFICATIONS AND TRAINING

Certified Wetland Scientist, #267, NH Licensed Site Evaluator, #391, ME

AFFILIATIONS

Maine Association of Wetland Scientists – Member (Member since 2005) Maine Association of Site Evaluators – Member (Member since 2005)

ATTACHMENT C U.S. ARMY CORPS OF ENGINEERS WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Applicant/Owner: Eolian Ren	roject	City/C	County: Antrim		Sampling Date: 10-Aug-11
	newable Energy, LLC		Sta	te: NH	Sampling Point: AN1 Wet
Investigator(s): AF JG		Se	ction, Township, Range:	S. T.	
Landform (hillslope, terrace	e, etc.): Hillside		relief (concave, convex, r		
Subregion (LRR or MLRA):		 Lat.:	Long		Datum:
				-	
Soil Map Unit Name:				— INVVI CIASSIII	cation: PFO
Are climatic/hydrologic con	ditions on the site ty	pical for this time of year?	Yes No	(If no, explain in	
Are Vegetation, So	il 🗌 , or Hydrol	logy significantly distu	urbed? Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation . , So	il 🗌 , or Hydrol	logy naturally problem	natic? (If needed,	explain any answe	ers in Remarks.)
Summary of Finding	gs - Attach site		ling point location	ns, transects,	important features, etc.
Hydrophytic Vegetation Pro		No O			
Hydric Soil Present?	Yes	No O	Is the Sampled Area within a Wetland?	Yes ● No ○	
Wetland Hydrology Presen	t? Yes 💿	No O			
Hydrology					
Wetland Hydrology Indica	tors:			Secondary Indicato	rs (minimum of 2 required)
Primary Indicators (minim		check all that apply)		Surface Soil Cr	•
Surface Water (A1)		✓ Water-Stained Leaves (B9))	Drainage Patte	
✓ High Water Table (A2)		Aquatic Fauna (B13)	•	Moss Trim Line	es (B16)
Saturation (A3)		Marl Deposits (B15)		Dry Season Wa	ater Table (C2)
I []		Hydrogen Sulfide Odor (C	1)	Crayfish Burro	MC (CO)
Water Marks (B1)		r.yan ogoni oannao oaon (o		Grayiisii bairo	ws (Co)
Sediment Deposits (B2)		Oxidized Rhizospheres alo	ng Living Roots (C3)	Saturation Visi	ble on Aerial Imagery (C9)
Sediment Deposits (B2) Drift deposits (B3)		Oxidized Rhizospheres alo Presence of Reduced Iron	(C4)	Saturation Visi Stunted or Stre	ble on Aerial Imagery (C9) essed Plants (D1)
Sediment Deposits (B2) Drift deposits (B3) Algal Mat or Crust (B4)		Oxidized Rhizospheres alo Presence of Reduced Iron Recent Iron Reduction in	(C4)	Saturation Visi Stunted or Stro Geomorphic Po	ble on Aerial Imagery (C9) essed Plants (D1) osition (D2)
Sediment Deposits (B2) Drift deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	ial Imagery (R7)	Oxidized Rhizospheres alo Presence of Reduced Iron Recent Iron Reduction in Thin Muck Surface (C7)	(C4) Tilled Soils (C6)	Saturation Visi Stunted or Stro Geomorphic Po Shallow Aquita	ble on Aerial Imagery (C9) essed Plants (D1) osition (D2) rd (D3)
Sediment Deposits (B2) Drift deposits (B3) Algal Mat or Crust (B4)		Oxidized Rhizospheres alo Presence of Reduced Iron Recent Iron Reduction in	(C4) Tilled Soils (C6)	Saturation Visi Stunted or Stro Geomorphic Po	ble on Aerial Imagery (C9) essed Plants (D1) osition (D2) ord (D3) hic Relief (D4)
Sediment Deposits (B2) Drift deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aer	ave Surface (B8)	Oxidized Rhizospheres alo Presence of Reduced Iron Recent Iron Reduction in Thin Muck Surface (C7) Other (Explain in Remarks	(C4) Tilled Soils (C6)	Saturation Visi Stunted or Stre Geomorphic Po Shallow Aquita Microtopograp	ble on Aerial Imagery (C9) essed Plants (D1) osition (D2) ord (D3) hic Relief (D4)
Sediment Deposits (B2) Drift deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aer Sparsely Vegetated Conca	Yes No	Oxidized Rhizospheres alo Presence of Reduced Iron Recent Iron Reduction in Thin Muck Surface (C7) Other (Explain in Remarks	(C4) Tilled Soils (C6)	Saturation Visi Stunted or Stre Geomorphic Po Shallow Aquita Microtopograp	ble on Aerial Imagery (C9) essed Plants (D1) osition (D2) ord (D3) hic Relief (D4)
Sediment Deposits (B2) Drift deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aer Sparsely Vegetated Conca	ave Surface (B8)	Oxidized Rhizospheres alo Presence of Reduced Iron Recent Iron Reduction in Thin Muck Surface (C7) Other (Explain in Remarks Depth (inches):	(C4) Tilled Soils (C6)	Saturation Visi Stunted or Stre Geomorphic Po Shallow Aquita Microtopograp FAC-neutral Te	ble on Aerial Imagery (C9) essed Plants (D1) osition (D2) rd (D3) hic Relief (D4) est (D5)
Sediment Deposits (B2) Drift deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aer Sparsely Vegetated Conca	Yes No	Oxidized Rhizospheres alo Presence of Reduced Iron Recent Iron Reduction in Thin Muck Surface (C7) Other (Explain in Remarks Depth (inches): Depth (inches):	(C4) Tilled Soils (C6)	Saturation Visi Stunted or Stre Geomorphic Po Shallow Aquita Microtopograp	ble on Aerial Imagery (C9) essed Plants (D1) osition (D2) ord (D3) hic Relief (D4)

VEGETATION - Use scientific names of plan	nts		ominant pecies?		Sampling Point: AN1 Wet
Tree Stratum (Plot size: 30')	Absolute % Cover	Re		Indicator Status	Dominance Test worksheet:
1. Acer rubrum	20	V	50.0%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: 8 (A)
O Disea mariana	20	V	50.0%	FACW-	That are obt, facw, of fac.
3	0		0.0%		Total Number of Dominant
4.	0		0.0%		Species Across All Strata: 8 (B)
5	0		0.0%		Percent of dominant Species
6	0	П	0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
7	0	П	0.0%		Prevalence Index worksheet:
7:	40	_ To	otal Cove	-	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15')	40	- 10	otal cove	•	0BL species 0 x 1 = 0
1. Betula alleghaniensis	10	✓	25.0%	FAC	FACW species 83 x 2 = 166
2. Picea mariana	15	✓	37.5%	FACW-	
3. Vaccinium corymbosum	15	✓	37.5%	FACW-	17/0 Species x 0 =
4	0		0.0%		racu species x 4 =
5	0		0.0%		UPL species x 5 =
6	0		0.0%		Column Totals: 113 (A) 256 (B)
7.	0		0.0%		Prevalence Index = B/A = 2.265
	40	= To	tal Cove	r	Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size: 5')		_			Rapid Test for Hydrophytic Vegetation
1. Carex Intumescens	15	✓	45.5%	FACW+	✓ Dominance Test is > 50%
2.Osmunda cinnamomea	10	V	30.3%	FACW	✓ Prevalence Index is ≤3.0 ¹
3. Coptis trifolia	8	V	24.2%	FACW	Morphological Adaptations ¹ (Provide supporting
4	0		0.0%		data in Remarks or on a separate sheet)
5	0	Ш	0.0%		☐ Problematic Hydrophytic Vegetation ¹ (Explain)
6	0	Ш	0.0%		
7	0		0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8	0	Ш	0.0%		
9	0		0.0%		Definitions of Vegetation Strata:
10	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0		0.0%		at breast height (DBH), regardless of height.
12	0		0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:)	33	= To	otal Cove	r	greater than 3.28 ft (1m) tall
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
2	0		0.0%		size, and woody plants less than 3.28 ft tall.
3	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in
4	0		0.0%		height.
	0	– To	ntal Cove		Ĭ

Remarks: (Include photo numbers here or on a separate sheet.)

Yes ● No ○

Hydrophytic Vegetation Present?

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN1 Wet

-	eeded to document the indicator or confirm the	absence of indicators.)	
Depth Matrix (inches) Color (moist) %	Redox Features Color (moist) % Type 1 Loc²	Texture Remarks	
0-10 10YR 2/1 100%	Color (moist) // Type Luc-		_
0-10 10TR 2/1 100%			
<u> </u>			
			_
			_
		·	_
1 Turner C. Concentration D. Depletion PM - Pedus	ced Matrix, CS=Covered or Coated Sand Grains ² Loca	- DI Para Lining M_Matrix	_
· · · · · · · · · · · · · · · · · · ·	ed Matrix, C5=Covered of Coated Sand Granis -Loca	<u> </u>	
Hydric Soil Indicators: Histosol (A1)	Deliver Deliver Confess (CO) (LDD D	Indicators for Problematic Hydric Soils: 3	
	Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)	
Histic Epipedon (A2) Black Histic (A3)	Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)	
Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
Stratified Layers (A5)	Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L)	
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)	
☐ Thick Dark Surface (A12)	Redox Dark Surface (F6)	Thin Dark Surface (S9) (LRR K, L)	
Sandy Muck Mineral (S1)	Depleted Dark Surface (F7)	Iron-Manganese Masses (F12) (LRR K, L, R)	
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	☐ Piedmont Floodplain Soils (F19) (MLRA 149B) ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
Sandy Redox (S5)		Red Parent Material (TF2)	
Stripped Matrix (S6)		Very Shallow Dark Surface (TF12)	
☐ Dark Surface (S7) (LRR R, MLRA 149B)		Other (Explain in Remarks)	
³ Indicators of hydrophytic vegetation and wetland	d hydrology must be present, unless disturbed or probl		
	- Hydrorogy		
Restrictive Layer (if observed):			
Type: Ledge Depth (inches): 10		Hydric Soil Present? Yes No	
		•	
Remarks:			

Project/Site: Antrim Wind Project			City/County	: Antrim		Sampling Date: 10-Aug-11
Applicant/Owner: Eolian Renewable En	ergy, LLC			Sta	te: NH	Sampling Point: AN1 Upland
Investigator(s): AF JG			Section.	Township, Range:	S. T.	
Landform (hillslope, terrace, etc.):	Hillside		_	(concave, convex, n		Slope: 5.0 % / 2.9 °
Subregion (LRR or MLRA):		Lat.:		Long		Datum:
					-	
Soil Map Unit Name:					NWI classif	ication:
Are climatic/hydrologic conditions or	the site ty	pical for this time of ye	ear?	Yes No	(If no, explain in	*
Are Vegetation . , Soil .	, or Hydrolo	ogy 🗌 significant	ly disturbed	? Are "Normal	Circumstances" p	oresent? Yes • No O
Are Vegetation . , Soil .	, or Hydrold	ogy 🗌 naturally p	roblematic?	(If needed,	explain any answe	ers in Remarks.)
Summary of Findings - Att		<u> </u>	ampling	point location	ıs, transects,	important features, etc.
Hydrophytic Vegetation Present?		No •				
Hydric Soil Present?	Yes 🔾	No •		he Sampled Area hin a Wetland?	Yes \bigcirc No $lacktriangle$)
Wetland Hydrology Present?	Yes 🔾	No •				
Hydrology						
Wetland Hydrology Indicators:	roquirod.	abaak all that annly)				ors (minimum of 2 required)
Primary Indicators (minimum of one Surface Water (A1)	e requireu;		(DO)		Surface Soil Co	
High Water Table (A2)		Water-Stained Lea Aquatic Fauna (B1)			☐ Drainage Patte	
Saturation (A3)		Marl Deposits (B15				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide (Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizospho		ng Roots (C3)		ible on Aerial Imagery (C9)
☐ Drift deposits (B3)		Presence of Reduc	-		Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc	tion in Tilled S	Soils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)		Thin Muck Surface	(C7)		Shallow Aquita	
Inundation Visible on Aerial Imagery		Other (Explain in R	Remarks)			phic Relief (D4)
Sparsely Vegetated Concave Surface	(B8)				FAC-neutral To	est (D5)
Field Observations:						
Surface Water Present? Yes		Depth (inches):				
Water Table Present? Yes	No 💿	Depth (inches):				Yes ○ No •
Saturation Present? (includes capillary fringe) Yes	No •	Depth (inches):		Wetland Hydr	ology Present?	Yes ○ NO ⑤
Describe Recorded Data (stream gai	uge, monito	oring well, aerial photo	s, previous i	inspections), if avail	able:	
Remarks:						

/EGETATION - Use scientific names of	Dominant Species?			Sampling Point: AN1 Upland					
Tree Stratum (Plot size: 30')	Absolute % Cover	Re		Indicator Status	Dominance Test w				
	25	V	30.1%	FACU	Number of Dominant That are OBL, FACW			2	(A)
Picea rubens	22	V	39.8%	FACU			-		
Acer rubrum	25	V	30.1%	FAC	Total Number of Don Species Across All St			7	(B)
			0.0%		Species Across Air Sti	ata.	-		(D)
			0.0%		Percent of domina			20 (0)	(4 (5)
			0.0%		That Are OBL, FAC	CW, or FA	C:	28.6%	(A/B)
			0.0%		Prevalence Index v	vorksheet	:		
		= Tc	tal Cove	r	Total % Cov		Multiply	/ by:	
apling/Shrub Stratum (Plot size: 15')		_			OBL speci es	0	x 1 =	0	
Picea rubens	10	✓.	55.6%	FACU	FACW species	0	x 2 =	0	-
. Fagus grandifolia	3		16.7%	FACU	FAC species	38	x 3 =	114	_
_ Vaccinium angustifolium		\	27.8%	FACU-		91		364	-
			0.0%		FACU species	0	x 4 =	0	-
•	0		0.0%		UPL speci es		x 5 =		-
•	0		0.0%		Column Totals:	129	(A)	478	(B)
-	0		0.0%		Prevalence In	dex = B/A	. =	3.705	
lerb Stratum (Plot size: 5')		= To	tal Cove	r	Hydrophytic Vegeta	ation Indi	rators.		
erb stratum (Piot size. 3					Rapid Test for			ation	
1 .Aralia nudicaulis			16.1%	FACU	Dominance Te	•	,		
2.Lycopodium obscurum		V	32.3%	FACU	Prevalence In				
3.Malanthemum canadense	3	Ш	9.7%	FAC-	☐ Morphologica			ovido cum	ortina
4.trillium spp.	3		9.7%		data in Remai	ks or on a	separate	e sheet)	or ting
5.Trientalis borealis	10	✓	32.3%	FAC	Problematic F	lydrophyt	ic Vegeta	tion ¹ (Ex	olain)
6			0.0%						
7			0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
8	0		0.0%						
9	0		0.0%		Definitions of Ve	egetatio	n Strata:	:	
0	0		0.0%		Tree - Woody plan	ts, 3 in. (7	'.6 cm) or	more in o	liamete
1	0		0.0%		at breast height (D	BĤ), regà	rdless of	height.	
2	0		0.0%		 Sapling/shrub - Wo	andy plant	o logo the	an 2 in Di	امم لاد
	31	= To	tal Cove	r	greater than 3.28 f				on anu
Voody Vine Stratum (Plot size:)									
			0.0%		Herb - All herbaced size, and woody pl				rdless
2			0.0%		size, and woody pi	anto 1688	uiaii 3.28	ıı tall.	
3			0.0%		Woody vine - All w	oody vine	s greater	than 3.28	ft in
1		Ш	0.0%		height.				
	0	= To	tal Cove	r					
					Hydrophytic Vegetation				
					Present? Ye	es 🔾 🗈	10 💿		

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN1 Upland

Profile Descr	ription: (Desc	ribe to	the depth	n needed to document the indicator or confirm the	e absence of indicators.)	
Depth (inches)		Matrix	_ ~	Redox Features		5 · · · · alta
	Color (m		%	Color (moist) % Type 1 Loc²	Texture .	Remarks
0-6	10YR	3/2	100%		Loam	
6-7	2.5Y	5/3	100%		Fine Loamy Sand	
7-16	10YR	4/3	100%	·	Fine Sandy Loam	
16+	2.5Y	5/6	100%		Fine Sandy Loam	
<u></u> _						
			-			
1 T. ma. C. Con		Danlatia	- DM Do	the tribute of Covered or Control Sand Crains 21 o		t
• • •		Depletio	n. Rivi=ked	duced Matrix, CS=Covered or Coated Sand Grains 2Log	· · · · · · · · · · · · · · · · · · ·	
Hydric Soil I				Polyvalue Below Surface (S8) (LRR R,	Indicators for Probler	
	pedon (A2)			MLRA 149B)		RR K, L, MLRA 149B)
Black Hist				☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox	
	n Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)		Peat (S3) (LRR K, L, R)
	Layers (A5)			Loamy Gleyed Matrix (F2)	☐ Dark Surface (S7) (I☐ Polyvalue Below Sur	
	Below Dark Su	ırface (A	.11)	Depleted Matrix (F3)	Thin Dark Surface (
☐ Thick Dar	rk Surface (A12	2)		Redox Dark Surface (F6)		sses (F12) (LRR K, L, R)
Sandy Mu	uck Mineral (S1)		Depleted Dark Surface (F7)		Soils (F19) (MLRA 149B)
	eyed Matrix (S4	4)		Redox Depressions (F8)		(MLRA 144A, 145, 149B)
Sandy Re					Red Parent Material	
	Matrix (S6)	- MIDA	1 4 4 0 D)		Very Shallow Dark S	
	face (S7) (LRR				Other (Explain in Re	marks)
³ Indicators o	f hydrophytic v	egetatio	n and wetl	and hydrology must be present, unless disturbed or prol	blematic.	
Restrictive L	ayer (if obse	rved):				
Type:						Yes ○ No ●
Depth (inc	ches):				Hydric Soil Present?	Yes ○ No •
Remarks:						



AN1 Wetland



AN1 Wetland



AN1 Upland

Project/Site: Antrim Wind Project			City/Coun	ty: Antrim		Sampling Date: 10-	Aug-11
Applicant/Owner: Eolian Renewable E	nergy, LLC			Sta	ate: NH	Sampling Point:	AN2 Wet
Investigator(s): AF JG			Section	n, Township, Range:	S. T.	 R.	
Landform (hillslope, terrace, etc.):	Ridgetop		_	f (concave, convex, r		Slope:	0.0% / 0.0°
Subregion (LRR or MLRA):		Lat.:		Lon	n ·	· Datur	
Soil Map Unit Name:						ication: PFO/PSS	
Are climatic/hydrologic conditions of	on the site typ	oical for this time of y	ear?	Yes ● No ○	(If no, explain in		
Are Vegetation , Soil	, or Hydrolo	ogy Significant	ly disturbe	d? Are "Norma	l Circumstances" p	oresent? Yes •	No O
Are Vegetation, Soil	, or Hydrold	ogy 🗌 naturally p	problemation	? (If needed,	explain any answe	ers in Remarks.)	
Summary of Findings - At			ampling	g point location	ns, transects,	, important fea	tures, etc.
Hydrophytic Vegetation Present?		No O					
Hydric Soil Present?	Yes 💿	No O		the Sampled Area within a Wetland?	Yes ● No C)	
Wetland Hydrology Present?	Yes 💿	No O					
Hydrology							
Wetland Hydrology Indicators:					Socondary Indicate	ors (minimum of 2 requi	rad)
Primary Indicators (minimum of or	ne required;	check all that apply)			Surface Soil C	ors (minimum of 2 requi racks (B6)	red)
Surface Water (A1)		✓ Water-Stained Lea	ives (B9)		Drainage Patte		
✓ High Water Table (A2)		Aquatic Fauna (B1			Moss Trim Lin		
Saturation (A3)		Marl Deposits (B15	5)		Dry Season W	ater Table (C2)	
Water Marks (B1)		Hydrogen Sulfide	Odor (C1)		Crayfish Burro	ows (C8)	
Sediment Deposits (B2)		Oxidized Rhizosph	eres along L	iving Roots (C3)		ible on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduc				ressed Plants (D1)	
☐ Algal Mat or Crust (B4)☐ Iron Deposits (B5)		Recent Iron Reduc		l Soils (C6)	Geomorphic P		
Inundation Visible on Aerial Image	rv (B7)	☐ Thin Muck Surface	` '		Shallow Aquita	ohic Relief (D4)	
Sparsely Vegetated Concave Surface		Uther (Explain in F	Remarks)		FAC-neutral To		
Field Observations:) O						
Surface Water Present? Yes		Depth (inches):					
Water Table Present? Yes	No O	Depth (inches):	9			Yes ● No ○	
Saturation Present? (includes capillary fringe) Yes	No O	Depth (inches):	0	Wetland Hyd	rology Present?	Yes ⊕ No ∪	
Describe Recorded Data (stream g Remarks:	auge, monito	ring well, aerial photo	os, previou:	s inspections), if avai	ilable:		

V V	55.6% 44.4% 0.0% 0.0% 0.0% 0.0% 0.0% otal Cover	FACW- FAC+	Dominance Test w Number of Dominan That are OBL, FACW Total Number of Dominan That Are OBL, FACW Percent of domina That Are OBL, FACW Total % Cov OBL species FACW species FACU species FACU species Column Totals: Prevalence In Hydrophytic Veget Rapid Test fo	ant Species V, or FAC: ominant ditrata: ant Species CW, or FAC worksheet ver of: 100 55 30 0 185 andex = B/A tation India	s C: Multiply x 1 = x 2 = x 3 = x 4 = x 5 = (A)	100 110 90 0 0 300 1.622	(A) (B) (A/B)
— = To —	44.4% 0.0% 0.0% 0.0% 0.0% 0.0% 33.3% 33.3% 0.0% 0.0	FACW-FACW-	That are OBL, FACW Total Number of Dor Species Across All St Percent of domina That Are OBL, FAC Prevalence Index of Total % Cov OBL species FACW species FACU species FACU species UPL species Column Totals: Prevalence Index of Prevalence Inde	worksheet ver of: 100 55 30 0 185 ndex = B/A tation India	C: Multiply x 1 = x 2 = x 3 = x 4 = x 5 = (A) A = cators:	6 100.0% y by: 100 110 90 0 0 300 1.622	(B) _ (A/B)
= Total	0.0% 0.0% 0.0% 0.0% 0.0% 0.08 33.3% 33.3% 0.0% 0.0% 0.0% 0.0% 0.0% 0.	FACW- FAC+ FACW-	Total Number of Dor Species Across All St Percent of domina That Are OBL, FAC Prevalence Index of Total % Cov OBL species FACW species FACU species FACU species UPL species Column Totals:	ant Species (CW, or FAC) worksheet ver of: 100 55 30 0 0 185 ndex = B/A tation India	C: Multiply x 1 = x 2 = x 3 = x 4 = x 5 = (A) A = cators:	100.0% y by: 100 110 90 0 300 1.622	(B) _ (A/B)
- = T(0.0% 0.0% 0.0% 0.0% 0.1 Cover 33.3% 33.3% 0.0% 0.0% 0.0% 0.0% 0.0% 0.	FACW- FACW-	Prevalence Index Total % Cov OBL species FACW species FACU species FACU species FACU species Column Totals: Prevalence Index	ant Species CW, or FAI worksheet ver of: 100 55 30 0 0 185 ndex = B/A tation India	C: Multiply x 1 = x 2 = x 3 = x 4 = x 5 = (A) A = cators:	100.0% y by: 100 110 90 0 300 1.622	(A/B)
✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	0.0% 0.0% 0.0% 0.08 33.3% 33.3% 0.0% 0.0% 0.0% 0.0% 0.0% 0.	FACW- FACW-	Percent of domina That Are OBL, FAI Prevalence Index Total % Cov OBL species FACW species FACU species UPL species Column Totals: Prevalence In Hydrophytic Veget	ant Species CW, or FAC worksheet ver of: 100 55 30 0 185 ndex = B/A tation India	C: Multiply x 1 = x 2 = x 3 = x 4 = x 5 = (A) A = cators:	100.0% y by: 100 110 90 0 300 1.622	(A/B)
✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	0.0% 0.0% 0tal Cover 33.3% 33.3% 0.0% 0.0% 0.0% 0.0% 0.0% 0.	FACW- FACW-	Prevalence Index Total % Cov OBL species FACW species FACU species UPL species Column Totals: Prevalence In	worksheet ver of: 100 55 30 0 185 ndex = B/A tation India	C: Multiply x 1 = x 2 = x 3 = x 4 = x 5 = (A) A = cators:	y by: 100 110 90 0 0 300 1.622	- ` ´ ´
✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	0.0% otal Cover 33.3% 33.3% 0.0% 0.0% 0.0% 0.0% ptal Cover 90.9%	FACW- FACW-	Prevalence Index Total % Cov OBL species FACW species FACU species UPL species Column Totals: Prevalence In Hydrophytic Veget	worksheet ver of: 100 55 30 0 0 185 ndex = B/A tation Indicates	:: Multiply x 1 = x 2 = x 3 = x 4 = x 5 = (A) Cators:	y by: 100 110 90 0 0 300 1.622	- ` ´ ´
✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	33.3% 33.3% 33.3% 0.0% 0.0% 0.0% 0.0% 0.	FACW- FACW-	Total % Cov OBL species FACW species FACU species UPL species Column Totals: Prevalence In	ver of: 100 55 30 0 0 185 andex = B/A tation India	Multiply x 1 = x 2 = x 3 = x 4 = x 5 = (A)	100 110 90 0 0 300 1.622	 - - - - (B)
✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	33.3% 33.3% 33.3% 0.0% 0.0% 0.0% 0.0% 0.	FACW- FACW-	OBL species FACW species FACU species UPL species Column Totals: Prevalence In	100 55 30 0 0 185 ndex = B/A	x 1 = x 2 = x 3 = x 4 = x 5 = (A)	100 110 90 0 0 300 1.622	
✓	33.3% 33.3% 0.0% 0.0% 0.0% 0.0% otal Covel	FAC+ FACW-	FACW species FAC species FACU species UPL species Column Totals: Prevalence In Hydrophytic Veget	55 30 0 0 185 ndex = B/A	x 2 = x 3 = x 4 = x 5 = (A)	110 90 0 0 300 1.622	- - - - (B)
✓	33.3% 33.3% 0.0% 0.0% 0.0% 0.0% otal Covel	FAC+ FACW-	FAC species FACU species UPL species Column Totals: Prevalence In Hydrophytic Veget	$ \begin{array}{r} 30 \\ 0 \\ 0 \\ 185 \end{array} $ ndex = B/A	x 3 = x 4 = x 5 = (A) A = cators:	90 0 0 300 1.622	- - - (B)
✓	33.3% 0.0% 0.0% 0.0% 0.0% otal Cover	FACW-	FACU species UPL species Column Totals: Prevalence In Hydrophytic Veget	$\frac{0}{0}$ $\frac{185}{185}$ $186 = B/A$ $186 = B/A$	x 4 = x 5 = (A) A =	0 0 300 1.622	- - - (B)
	0.0% 0.0% 0.0% 0.0% otal Cover		UPL species Column Totals: Prevalence In Hydrophytic Veget	0 185 ndex = B/A	x 5 = (A) A = cators:	0 300 1.622	- - (B)
	0.0% 0.0% 0.0% otal Cover		Col umn Total s: Prevalence In Hydrophytic Veget	185 ndex = B/A tation India	(A) A = cators:	300	(B)
	0.0% 0.0% otal Cover		Col umn Total s: Prevalence In Hydrophytic Veget	ndex = B/A	\ =cators:	1.622	(B)
	0.0% otal Cover		Hydrophytic Veget	tation Indi	cators:		
	90.9%		Hydrophytic Veget	tation Indi	cators:		
	-	OBL					
	-	OBL		n riyaropii	ytic veget	tation	
	4 5%		✓ Dominance T	Test is > 50)%		
	-	FACW	✓ Prevalence In	ndex is ≤3.	.0 ¹		
	4.5% 0.0%	FACW	Morphologica	al Adaptati	ions ¹ (Pro	ovide supp	orting
	0.0%		data in Rema		-		
	0.0%		Problematic I	Hydrophyti	ic Vegeta	tion ¹ (Exp	olain)
	0.0%		¹ Indicators of hy	vdric soil ar	nd wetlan	d hydrolog	av must
	0.0%		be present, unless	s disturbed	d or proble	ematic.	gy
	0.0%		Definitions of V	/egetatio	n Strata:		
				. 0: /-	.		
							liameter
\Box				,,9			
			Sapling/shrub - Woody plants less than 3 in. DBH a			3H and	
-			greater than 3.26	it (IIII) tall.			
	0.0%						rdless o
	0.0%		size, and woody p	plants less	than 3.28	ft tall.	
	0.0%		Woody vine - All w	woody vine	s greater	than 3.28	ft in
	0.0%		height.	,	5		
_ = T	otal Cove	-					
	= To	0.0% 0.0% 0.0% 0.0%	0.0% 0.0% = Total Cover 0.0% 0.0% 0.0%	O.0% at breast height (I Sapling/shrub - W greater than 3.28 O.0% O.0% O.0% O.0% O.0% O.0% O.0% e Total Cover	at breast height (DBH), regal spreader than 3.28 ft (1m) tall	at breast height (DBH), regardless of Sapling/shrub - Woody plants less that greater than 3.28 ft (1m) tall Herb - All herbaceous (non-woody) plants less than 3.28 moody plants less than 3.28 moody plants less than 3.28 moody vine - All woody vines greater height.	at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DE greater than 3.28 ft (1m) tall Herb - All herbaceous (non-woody) plants, rega size, and woody plants less than 3.28 ft tall. Woody vine - All woody vines greater than 3.28 height.

 $\label{lem:Remarks: (Include photo numbers here or on a separate sheet.)} \\$

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN2 Wet

	ription: (Des	scribe to	the depth	needed to document the indicator or confirm the a	absence of indicators.)
Depth (inches)	. Color (ı	Matrix	_ %	Redox Features Color (moist) % Type 1 Loc²	Texture Remarks
				Color (moist) 78 Type Loc-	
0-8	10YR	2/1	100%		Muck
8-15	2.5Y	5/1	100%		Sand
1			- DM D	Matrix CC Coursed to Control Control Control	Atom Di Don Linion M Mahin
• •		=Depletioi	n. RIVI=Rea	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	
Hydric Soil I					Indicators for Problematic Hydric Soils : 3
Histosol (Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	pedon (A2)			Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
Black Hist				Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4) Layers (A5)			Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L)
	Below Dark S	Surface (A1	11)	Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)
	k Surface (A1		11)	Redox Dark Surface (F6)	☐ Thin Dark Surface (S9) (LRR K, L)
	uck Mineral (S	•		☐ Depleted Dark Surface (F7)	Iron-Manganese Masses (F12) (LRR K, L, R)
	eyed Matrix (Redox Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B)
Sandy Re		54)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Matrix (S6)				Red Parent Material (TF2)
	face (S7) (LRI	R R, MLRA	149B)		Very Shallow Dark Surface (TF12)
					Other (Explain in Remarks)
			n and wetta	and hydrology must be present, unless disturbed or proble	ematic.
Restrictive L	ayer (if obs	erved):			
Type:					Hydric Soil Present? Yes No
Depth (inc	:hes):				Tryunc 3011 Present: Yes © NO O
Remarks:					

Project/Site: Antrim Wind Project			City/County	: Antrim		Sampling Date: 10-Aug-11
Applicant/Owner: Eolian Renewable En	nergy, LLC			Sta	te: NH	Sampling Point: AN2 upland
Investigator(s): AF JG			Section.	Township, Range:	S. T.	
Landform (hillslope, terrace, etc.):	Ridgetop		_	(concave, convex, r		Slope: 3.0 % / 1.7 °
Subregion (LRR or MLRA):		Lat.:		Long		Datum:
					NWI classif	
Soil Map Unit Name:						
Are climatic/hydrologic conditions o	n the site ty	pical for this time of y	ear?	res ● No ○	(If no, explain in	•
Are Vegetation , Soil	, or Hydrolo	ogy 🗌 significant	ly disturbed?	Are "Normal	Circumstances" p	oresent? Yes No
Are Vegetation, Soil	, or Hydrold	ogy 🗌 naturally p	roblematic?	(If needed,	explain any answe	ers in Remarks.)
Summary of Findings - At		<u> </u>	ampling	point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present?		No •				
Hydric Soil Present?	Yes 🔾	No •		he Sampled Area hin a Wetland?	Yes O No 🗨	
Wetland Hydrology Present?	Yes 🔾	No •				
Hydrology						
Wetland Hydrology Indicators:	o roquirod:	chack all that apply)				ors (minimum of 2 required)
Primary Indicators (minimum of on Surface Water (A1)	e requireu,		·· (DO)		Surface Soil C Drainage Patte	
High Water Table (A2)		Water-Stained Lea Aquatic Fauna (B1	• •		Moss Trim Lin	
Saturation (A3)		Marl Deposits (B15				dater Table (C2)
Water Marks (B1)		Hydrogen Sulfide			Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosph	eres along Livi	ng Roots (C3)		ible on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduc	ed Iron (C4)		Stunted or Str	ressed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc	tion in Tilled S	oils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)		Thin Muck Surface	(C7)		Shallow Aquita	
Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surface		Other (Explain in F	Remarks)			ohic Relief (D4)
Sparsely vegetated concave surface	3 (88)				FAC-neutral T	est (D5)
Field Observations:						
Surface Water Present? Yes		Depth (inches):		_		
Water Table Present? Yes	No 💿	Depth (inches):			rology Present?	Yes ○ No ●
Saturation Present? (includes capillary fringe) Yes		Depth (inches):				Tes UNU U
Describe Recorded Data (stream ga	uge, monito	oring well, aerial photo	os, previous i	nspections), if avai	lable:	
Remarks:						

/EGETATION - Use scientific names of p	Dominant Species?				Sampling Point: AN2 upland				
Tree Stratum (Plot size: 30')	Absolute % Cover	Re		Indicator Status					
. Quercus rubra	35	V	58.3%	FACU-	Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)				
Pinus strobus	25	~	41.7%	FACU					
			0.0%		Total Number of Dominant Species Across All Strata: 7 (B)				
			0.0%		Species Across Air Strata.				
			0.0%		Percent of dominant Species				
			0.0%		That Are OBL, FACW, or FAC: 28.6% (A/B)				
			0.0%		Prevalence Index worksheet:				
		 = To	otal Cove	r	Total % Cover of: Multiply by:				
· • • • • • • • • • • • • • • • • • • •					0BL species 0 x 1 = 0				
. Acer rubrum		✓	18.2%	FAC	FACW species $0 \times 2 = 0$				
_ Betula papyrifera			9.1%	FACU	FAC species $20 \times 3 = 60$				
. Fagus grandifolia		V	18.2%	FACU	FACU speci es 105 x 4 = 420				
Picea rubens		✓	45.5%	FACU	UPL species $0 \times 5 = 0$				
. Betula alleghaniensis			9.1%	FAC					
•	0		0.0%		Column Totals: 125 (A) 480 (B)				
•	0		0.0%		Prevalence Index = $B/A = 3.840$				
erb Stratum (Plot size: 5')	55	= To	otal Cove	r	Hydrophytic Vegetation Indicators:				
1	F	~	E0 00/	FACIL	Rapid Test for Hydrophytic Vegetation				
1. Vaccinium angustifolium		▼	50.0%	FACU-	☐ Dominance Test is > 50%				
2.Trientalis borealis			50.0%	FAC	Prevalence Index is ≤3.0 ¹				
3			0.0%		☐ Morphological Adaptations ¹ (Provide supporting				
4 <u>. </u>			0.0%		data in Remarks or on a separate sheet)				
5			0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)				
6			0.0%		1				
7			0.0%		¹ Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic.				
8			0.0%						
9			0.0%		Definitions of Vegetation Strata:				
0	0	Ш	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter				
1	0	Ш	0.0%		at breast height (DBH), regardless of height.				
2	0		0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and				
No ado Nice Chartery (Diet size)	10	= To	otal Cove	r	greater than 3.28 ft (1m) tall				
Voody Vine Stratum (Plot size:)									
			0.0%		Herb - All herbaceous (non-woody) plants, regardless size, and woody plants less than 3.28 ft tall.				
2			0.0%		size, and woody plants less than 5.20 it tall.				
3			0.0%		Woody vine - All woody vines greater than 3.28 ft in				
1		Ш	0.0%		height.				
	0	= To	otal Cove	r					
					Undershirtin				
					Hydrophytic Vegetation Present? Yes No No				

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN2 upland

Profile Desci	ription: (Desc	cribe to	the depth	needed to document the indicator or confirm the	absence of indicators.)	
Depth (inches)		Matrix	_ ~	Redox Features		5
	Color (m		%	Color (moist) % Type 1 Loc²	Texture	Remarks
0-4	10YR	3/2	100%		Loam	
4-12	10YR	4/6	100%		Fine Sandy Loam	
12-16	10YR	5/8	100%		Fine Sandy Loam	
¹ Type: C=Con		Depletio	n. RM=Rec	luced Matrix, CS=Covered or Coated Sand Grains ² Loc.	ation: PL=Pore Lining. M=Matrix	
Hydric Soil		<u> </u>		·	Indicators for Problematic	Undria Caila . 3
Histosol (Polyvalue Below Surface (S8) (LRR R,		
	pedon (A2)			MLRA 149B)	2 cm Muck (A10) (LRR K,	
☐ Black His				☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) 5 cm Mucky Peat or Peat	
Hydroger	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)	Dark Surface (S7) (LRR K	
☐ Stratified	Layers (A5)			Loamy Gleyed Matrix (F2)	Polyvalue Below Surface (
Depleted	Below Dark Su	urface (A	11)	Depleted Matrix (F3)	Thin Dark Surface (S9) (L	
Thick Dar	k Surface (A12	2)		Redox Dark Surface (F6)	Iron-Manganese Masses (
	uck Mineral (S1			☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	Piedmont Floodplain Soils	
	eyed Matrix (S	4)		☐ Redux Depressions (Fo)	Mesic Spodic (TA6) (MLRA	A 144A, 145, 149B)
Sandy Re					Red Parent Material (TF2)	
	Matrix (S6)	D 141 D4	4.400\		Very Shallow Dark Surface	e (TF12)
	face (S7) (LRR				Other (Explain in Remarks	5)
³ Indicators o	f hydrophytic \	/egetatio	n and wetla	and hydrology must be present, unless disturbed or prob	ematic.	
Restrictive L	ayer (if obse	rved):				
Type:						
Depth (inc	hes):				Hydric Soil Present? Yes	s ○ No ●
Remarks:						
ĺ						



AN2 Wetland



AN2 Wetland



AN2 Wetland



AN2 Upland

Project/Site: Antrim Wind Project		City/County: Antrim		Sampling Date: 10-Aug-11
Applicant/Owner: Eolian Renewable Energy,	, LLC	Sta	te: NH	Sampling Point: AN3 Wet
Investigator(s): AF JG		Section, Township, Range:	S. T.	 R.
Landform (hillslope, terrace, etc.): Ridq	etop L	.ocal relief (concave, convex, n		
Subregion (LRR or MLRA):	 Lat.:	Long	L:	Datum:
Soil Map Unit Name:			NWI classific	
·			_	
Are climatic/hydrologic conditions on the	site typical for this time of year	ar? Yes ● No ○	(If no, explain in	·
Are Vegetation, Soil, or	Hydrology L significantly	disturbed? Are "Normal	Circumstances" pi	resent? Yes No
Are Vegetation $\ \ \ \ \ \ \ \ \ \ \ \ \ $	Hydrology 🗌 naturally pro	oblematic? (If needed, e	explain any answe	rs in Remarks.)
Summary of Findings - Attach		mpling point location	s, transects,	important features, etc.
	s • No O			
	s • No O	Is the Sampled Area within a Wetland?	Yes No	
Wetland Hydrology Present? Yes	s No			
Hydrology				
Wetland Hydrology Indicators:			Carandam, Indianta	(
Primary Indicators (minimum of one req	uired: check all that annly)			rs (minimum of 2 required)
Surface Water (A1)	✓ Water-Stained Leave	2c (R0)	Surface Soil Cra Drainage Patte	
High Water Table (A2)	Aquatic Fauna (B13)	• •	Moss Trim Line	
✓ Saturation (A3)	Marl Deposits (B15)		Dry Season Wa	
☐ Water Marks (B1)	Hydrogen Sulfide Oc	dor (C1)	Crayfish Burrov	vs (C8)
Sediment Deposits (B2)	Oxidized Rhizospher	es along Living Roots (C3)	Saturation Visit	ole on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced	d Iron (C4)	Stunted or Stre	ssed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction	on in Tilled Soils (C6)	Geomorphic Po	
Iron Deposits (B5)	☐ Thin Muck Surface (•	Shallow Aquita	
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	U Other (Explain in Ne	marks)	✓ Microtopograph ✓ FAC-neutral Te	
			- The fleation fe	
Field Observations: Surface Water Present? Yes N	Depth (inches):			
	Depth (inches):			
Saturation Present?	Depth (inches): _	Wetland Hydr	ology Present?	Yes No
Describe Recorded Data (stream gauge,			able:	
Remarks:				

VEGETATION - Use scientific names of plants	Dominant
	Species?

VEGETATION - Ose scientific flames of pla	Sampling Point: AN3 Wet								
- O. (Diet size, 20)	Absolute				Dominance Test worksheet:				
Tree Stratum (Plot size: 30')	% Cover			Status	Number of Dominant Species				
1. Acer rubrum				FAC	That are OBL, FACW, or FAC: 5 (A)				
2			0.0%		Total Number of Dominant				
3			0.0%		Species Across All Strata: 5 (B)				
4		Н	0.0%		Percent of dominant Species				
5			0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)				
6			0.0%						
7		_			Prevalence Index worksheet:				
Sapling/Shrub Stratum (Plot size: 15')		= 10	otal Cover	•	Total % Cover of: Multiply by: OBL species 20 x 1 = 20				
1. Picea mariana	15	V	37.5%	FACW-	FACW species $50 \times 2 = 100$				
2. Acer rubrum	5		12.5%	FAC					
3. Vaccinium corymbosum	20	✓	50.0%	FACW-					
4	0		0.0%		TACO Species X 4				
5	0		0.0%		UPL species X 5 =				
6	0		0.0%		Column Totals: 95 (A) 195 (B)				
7	0		0.0%		Prevalence Index = $B/A = 2.053$				
Herb Stratum (Plot size: 5')		= To	otal Cover	-	Hydrophytic Vegetation Indicators:				
					Rapid Test for Hydrophytic Vegetation				
1.Osmunda cinnamomea	15		42.9%	FACW	✓ Dominance Test is > 50%				
2.Carex stricta 3.			57.1%	OBL	✓ Prevalence Index is ≤3.0 ¹				
3 <u>.</u> 4.			0.0%		Morphological Adaptations ¹ (Provide supporting				
5.			0.0%		data in Remarks or on a separate sheet)				
5. 6.			0.0%		☐ Problematic Hydrophytic Vegetation ¹ (Explain)				
7.			0.0%		¹ Indicators of hydric soil and wetland hydrology must				
8.			0.0%		be present, unless disturbed or problematic.				
9.			0.0%		Definitions of Vegetation Strata:				
10.	0 0		0.0%		_				
11			0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
12.	0		0.0%						
		ш - т	otal Cover		Sapling/shrub - Woody plants less than 3 in. DBH and				
Woody Vine Stratum (Plot size:)		- ''	otal Covel		greater than 3.28 ft (1m) tall				
1	0_		0.0%		Herb - All herbaceous (non-woody) plants, regardless of				
2	0_		0.0%		size, and woody plants less than 3.28 ft tall.				
3	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in				
4	0		0.0%		height.				
	0	= To	otal Cover	-					
					Hydrophytic				
					Vegetation Vegetation				
					Present? Yes No U				
Remarks: (Include photo numbers here or on a separate she	eet.)								

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN3 Wet

	iption: (Des	scribe to t	the depth	needed to document the indicator or confirm the	absence of indicators.)	
Depth (inches)	Color (r	Matrix	- %	Redox Features Color (moist) % Type 1 Loc²	Texture	Remarks
0-5	10YR	3/2	100%	Coloi (Hoist) 78 Type Luc-	Sandy Loam	Remarks
			10076			
5-10	2.5Y	4/2			Loamy Sand Ted	ge
10+						90
¹ Type: C=Cond	entration. D	=Depletior	n. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	tion: PL=Pore Lining. M=Matrix	
Hydric Soil I	ndicators:				Indicators for Problema	tic Hydric Soils : 3
Histosol (A	\1)			Polyvalue Below Surface (S8) (LRR R,	2 cm Muck (A10) (LRR	-
Histic Epip				MLRA 149B)	Coast Prairie Redox (A	
☐ Black Histi				☐ Thin Dark Surface (S9) (LRR R, MLRA 149B) ☐ Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat or Pe	
	Sulfide (A4)			Loamy Gleyed Matrix (F2)	☐ Dark Surface (S7) (LRF	R K, L)
	Layers (A5)		14)	Depleted Matrix (F3)	Polyvalue Below Surface	ce (S8) (LRR K, L)
_	Below Dark S		11)	Redox Dark Surface (F6)	Thin Dark Surface (S9)	
	ck Mineral (S	•		Depleted Dark Surface (F7)	☐ Iron-Manganese Masse	
	yed Matrix (S			Redox Depressions (F8)	Piedmont Floodplain So	
Sandy Rec		54)			Mesic Spodic (TA6) (M	
Stripped M					Red Parent Material (T	
	ace (S7) (LRF	R R, MLRA	149B)		☐ Very Shallow Dark Surf☐ Other (Explain in Rema	
				and hydrology must be present, unless disturbed or proble		11 KS)
			Tana wetta	ind frydrology flust be present, unless disturbed of proble	emanc.	
Restrictive La	•	erved):				
Type: lec					Hydric Soil Present?	′es ● No ○
Depth (inch	ies):_10					
Remarks:						

Project/Site: Antrim Wind Project	City/Co	ounty: Antrim		Sampling Date: 10-Aug-11
Applicant/Owner: Eolian Renewable Energy, LL	<u> </u>	Stat	te: NH	Sampling Point: AN3 Upland
Investigator(s): AF JG	Sec	ction, Township, Range:	S. T.	R.
Landform (hillslope, terrace, etc.): Ridgeto	p Local r	relief (concave, convex, n	one): none	Slope: 3.0 % / 1.7 °
Subregion (LRR or MLRA):	Lat.:	Long		Datum:
Soil Map Unit Name:			NWI classifi	
Are climatic/hydrologic conditions on the sit	timized for this time of year?	Yes No	—	Daulea\
			(If no, explain in	· · · · ·
	Irology		Circumstances" p	
	Irology L naturally problema	,	explain any answe	
Summary of Findings - Attach s		ing point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes		Is the Sampled Area		
Hydric Soil Present? Yes		within a Wetland?	Yes O No •	
Wetland Hydrology Present? Yes	No ●			
Hydrology				
Wetland Hydrology Indicators:				rs (minimum of 2 required)
Primary Indicators (minimum of one required Surface Water (A1)			Surface Soil Cr	
High Water Table (A2)	Water-Stained Leaves (B9) Aquatic Fauna (B13)		☐ Drainage Patte	
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1))	Crayfish Burro	
Sediment Deposits (B2)	Oxidized Rhizospheres alon		Saturation Visi	ble on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron ((C4)	Stunted or Stre	essed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Ti	illed Soils (C6)	Geomorphic Po	
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquita	` '
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	Uther (Explain in Remarks)	l	☐ Microtopograp ☐ FAC-neutral Te	
Sparsely vegetated contrave surface (50)			FAC-Neunan re	est (D5)
Field Observations: Surface Water Present? Yes No				
	• • • • • • • • • • • • • • • • • • • •			
Water Table Present? Yes No		Wetland Hydr	ology Present?	Yes ○ No •
Saturation Present? (includes capillary fringe) Yes No	Depth (inches):		ology i resent.	100 - 110 -
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, previ	ious inspections), if availa	able:	
Remarks:				

Species Species Tendicator	VEGETATION - Use scientific names of p	Sampling Point: AN3 Upland				
1. Pieca rubens 3 3	Tree Stratum (Plot size: 30')		Re	el.Strat.		
2. Pinus strobus	Picea rubens	66	V	66.7%	FACU	
0) Dinus strobus	22	V	33.3%	FACU	
0 0.0% 0.0% That Are OBL, FACW, or FAC: 0.0% (A/B)				0.0%		
O				0.0%		Species across all strata:
0				0.0%		
Prevalence Index worksheet: Total % Cover of: Multiply by:				0.0%		That Are OBL, FACW, or FAC: 0.0% (A/B)
Sapling/Shrub Stratum (Plot size: 15') 99	,			0.0%		Prevalence Index worksheet:
Picea rubens			 = To		r	
D		10		100.00/	FACU	0BL species 0 x 1 = 0
O					FACU	FACW species $0 \times 2 = 0$
						FAC species $0 \times 3 = 0$
D						445
Column Total s: 115	•	0				· · · · · · · · · · · · · · · · · · ·
	•					(5)
Total Cover Total Cover	•					Column lotals: 115 (A) 400 (D)
1. Quercus rubra 3	·		Ш	0.0%		Prevalence Index = B/A = 4.000
1. Quercus rubra 2. Vaccinium angustifolium 3.	Herb Stratum (Plot size: 5')	10	= To	otal Cove	r	
2. Vaccinium angustifolium 3.	1 Ouercus rubra	3	V	50.0%	FACU-	Rapid Test for Hydrophytic Vegetation
Prevalence Index is \$3.0 1						☐ Dominance Test is > 50%
4.	ব				17100	Prevalence Index is ≤3.0 ¹
5.	Λ ⁻					Morphological Adaptations ¹ (Provide supporting
6.						
7.						Problematic Hydrophytic Vegetation ¹ (Explain)
be present, unless disturbed or problematic. Definitions of Vegetation Strata: Tree - Woody plants, 3 in. (7.6 cm) or more in diamete at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall Period of the size: Definitions of Vegetation Strata: Tree - Woody plants, 3 in. (7.6 cm) or more in diamete at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine - All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation	7					1 Indicators of hydric soil and wetland hydrology must
9.	0					be present, unless disturbed or problematic.
0.						Definitions of Vegetation Strata:
1						
2.						
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall O						at breast height (DBH), regardless of height.
1	۷		_			Sapling/shrub - Woody plants less than 3 in. DBH and
1	Woody Vine Stratum (Plot size:)	6	= 10	otal Cove	r	greater than 3.28 ft (1m) tall
2		0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
3			\Box			
4	2 2		\Box			Manda de la Constante de la Co
0 = Total Cover Hydrophytic Vegetation				-		
Hydrophytic Vegetation	Т.				-	l noight.
Vegetation Veg Ala A			- 10	Jan Gove	•	
Vegetation Veg Na 🔎						
Vegetation Veg Ala A						
						Hydrophytic
Present? 163 C NO C						
						Present? 163 C NO C

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN3 Upland

Profile Desci	ription: (Desc	ribe to	the depth	needed to document the indicator or confirm the	absence of indicators.)	
Depth (inches)		/latrix	_ ~	Redox Features		Dlin
	Color (m		%	Color (moist) % Type 1 Loc²	Texture	Remarks
0-3	10YR	3/2	100%		Loam	
3-5	2.5Y	5/1	100%		Sand	
5-12	10YR	4/4	100%		Loamy Sand	_
12+						bedrock
					P	
					-	
					-	
						_
			-			
		Depletio	n. RM=Rec	luced Matrix, CS=Covered or Coated Sand Grains ² Loca		
Hydric Soil					Indicators for Prob	lematic Hydric Soils: 3
Histosol (Polyvalue Below Surface (S8) (LRR R, MLRA 149B)		(LRR K, L, MLRA 149B)
	pedon (A2)			Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Red	ox (A16) (LRR K, L, R)
Black His				Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat	or Peat (S3) (LRR K, L, R)
	Sulfide (A4)			Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L)
	Layers (A5)			Depleted Matrix (F3)	Polyvalue Below	Surface (S8) (LRR K, L)
	Below Dark Su		11)	Redox Dark Surface (F6)	Thin Dark Surface	e (S9) (LRR K, L)
	rk Surface (A12	•		Depleted Dark Surface (F7)	Iron-Manganese	Masses (F12) (LRR K, L, R)
	uck Mineral (S1)			Redox Depressions (F8)		ain Soils (F19) (MLRA 149B)
	eyed Matrix (S4	.)				6) (MLRA 144A, 145, 149B)
Sandy Re	Matrix (S6)				Red Parent Mater	
	face (S7) (LRR	р мірл	1/0R)			
					Other (Explain in	Remarks)
³ Indicators o	f hydrophytic v	egetatio	n and wetla	and hydrology must be present, unless disturbed or probl	ematic.	
Restrictive L	ayer (if obser	ved):				
Type: _be	edrock					
Depth (inc	ches): 12				Hydric Soil Present?	Yes ○ No •
Remarks:						



AN3 Wetland



AN3 Upland

Project/Site: Antrim Wind Project	City/Co	ounty: Antrim		Sampling Date: 10-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH	Sampling Point: AN4 Wet
Investigator(s): AF JG	Sec	tion, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.): Ridgetop		elief (concave, convex, n		
Subregion (LRR or MLRA):	Lat.:	Long		Datum:
			-	
Soil Map Unit Name:		<u> </u>	— INVVI CIASSIII	cation: PFO
Are climatic/hydrologic conditions on the site ty	pical for this time of year?	Yes ● No ○	(If no, explain in	·
Are Vegetation , Soil , or Hydrol	ogy Significantly distur	bed? Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation, Soil, or Hydrol	ogy 🗌 naturally problema	ntic? (If needed, e	explain any answe	ers in Remarks.)
Summary of Findings - Attach site	<u> </u>	ng point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes	No O			
Hydric Soil Present? Yes O	No O	Is the Sampled Area within a Wetland?	Yes ● No ○	
Wetland Hydrology Present? Yes	No O			
Hydrology				
Wetland Hydrology Indicators:			C	() , , , , , , , , , , , , , , , , , ,
Primary Indicators (minimum of one required;	check all that annly)			rs (minimum of 2 required)
Surface Water (A1)	✓ Water-Stained Leaves (B9)		Surface Soil Cr Drainage Patte	
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Line	
✓ Saturation (A3)	Marl Deposits (B15)			ater Table (C2)
☐ Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burro	ws (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres alon	g Living Roots (C3)	Saturation Visi	ble on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stre	essed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Ti	lled Soils (C6)	Geomorphic Po	
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquita	
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)		✓ Microtopograp ✓ FAC-neutral Te	
Sparsery vegetated concave surface (Bo)			▼ FAC-neutral Te	est (D5)
Field Observations: Surface Water Present? Yes No No	Donath (inches)			
	Depth (inches):			
Water Table Present? Yes No •	Depth (inches):	Wetland Hydr	ology Present?	Yes ● No ○
Saturation Present? (includes capillary fringe) Yes No	Depth (inches):0			
Describe Recorded Data (stream gauge, monito	oring well, aerial photos, previ	ous inspections), if avail	able:	
Remarks:				
sphagum carpet				

VEGETATION - Use scientific names of plan	nts		ominant pecies?		Sampling Point: AN4 Wet
Tree Stratum (Plot size: 30')	Absolute % Cover	R	el.Strat.	Indicator Status	Dominance Test worksheet:
1. Acer rubrum	50	~	100.0%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)
2.	0		0.0%		
3.			0.0%		Total Number of Dominant Species Across All Strata: 4 (B)
4.	0		0.0%		Species Across Air Strata.
5.			0.0%		Percent of dominant Species
6.	0		0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
7.	0		0.0%		Prevalence Index worksheet:
(2)	50	= To	otal Cove	r	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15')					0BL species 0 x 1 = 0
1. Acer rubrum	15	✓	33.3%	FAC	FACW species 35 x 2 = 70
2. Vaccinium corymbosum		✓	66.7%	FACW-	FAC species 65 x 3 = 195
3	0		0.0%		FACU species $0 \times 4 = 0$
4	0		0.0%		UPL species $0 \times 5 = 0$
5	0		0.0%		· .
6	0		0.0%		Column Totals:
7	0	Ш	0.0%		Prevalence Index = B/A = 2.650
Herb Stratum (Plot size: 5')	45	= To	otal Cove	r	Hydrophytic Vegetation Indicators:
1.Osmunda cinnamomea	5	~	100.0%	FACW	Rapid Test for Hydrophytic Vegetation
2.	0		0.0%	- 171011	✓ Dominance Test is > 50%
3.	0		0.0%		✓ Prevalence Index is ≤3.0 ¹
4.	0		0.0%		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.	0		0.0%		☐ Problematic Hydrophytic Vegetation ¹ (Explain)
6.	0		0.0%		
7.	0		0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8.	0		0.0%		be present, unless disturbed or problematic.

Definitions of Vegetation Strata: 9. 0.0% 10. 0 0.0% Tree - Woody plants, 3 in. (7.6 cm) or more in diameter 11. 0.0% at breast height (DBH), regardless of height. 12. 0.0% Sapling/shrub - Woody plants less than 3 in. DBH and = Total Cover Woody Vine Stratum (Plot size:_____) greater than 3.28 ft (1m) tall.. 0.0% Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. 0 0.0% 0 0.0% Woody vine - All woody vines greater than 3.28 ft in 0 0.0% height. = Total Cover Hydrophytic Vegetation No \bigcirc Yes 💿 Present? Remarks: (Include photo numbers here or on a separate sheet.)

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN4 Wet

Depth	•	Cribe to Matrix	ine depin	needed to document the	x Features	iirm the a	absence of indicators.)	
(inches)	Color (n		%	Color (moist)	% Type 1	Loc2	Texture	Remarks
0-6	10YR	3/2	100%				Loam	
6-10	2.5Y	4/1	100%				Fine Sandy Loam	
10+								Bedrock
							-	
								_
								_
Type: C=Con	centration. D=	=Depletic	n. RM=Red	uced Matrix, CS=Covered	or Coated Sand Grain	ns ² Loca	tion: PL=Pore Lining, M=	– Matrix
Hydric Soil I		- F		,				lematic Hydric Soils : 3
Histosol (Polyvalue Below S	Surface (S8) (LRR R,			(LRR K, L, MLRA 149B)
Histic Epi	pedon (A2)			MLRA 149B)				o (LRR K, L, MLRA 149B) lox (A16) (LRR K, L, R)
☐ Black Hist	tic (A3)				(S9) (LRR R, MLRA	149B)		t or Peat (S3) (LRR K, L, R)
Hydrogen	Sulfide (A4)				eral (F1) LRR K, L)		Dark Surface (S7	
	Layers (A5)			Loamy Gleyed Ma				Surface (S8) (LRR K, L)
✓ Depleted			(11)	Depleted Matrix (F			Thin Dark Surfac	e (S9) (LRR K, L)
	k Surface (A1	•		Depleted Dark Sur			Iron-Manganese	Masses (F12) (LRR K, L, R)
	ıck Mineral (S			Redox Depression			Piedmont Floodp	lain Soils (F19) (MLRA 149B)
Sandy Ge	eyed Matrix (S	4)						.6) (MLRA 144A, 145, 149B)
	Matrix (S6)						Red Parent Mate	
	ace (S7) (LRR	R, MLRA	A 149B)					rk Surface (TF12)
				and hydrology must be pres	aant unlaas disturba	d or proble	U Other (Explain in	Remarks)
			ni and wella	illa flyarology mast be pres	sent, unless disturbe	a or proble	ematic.	
Restrictive L	•	erved):						
Type: be							Hydric Soil Present?	Yes ● No ○
Depth (inc	nes):_10							
Remarks:								

Project/Site: Antrim Wind Project	City/Count	y: Antrim		Sampling Date: 10-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH	Sampling Point: AN4 Upland
Investigator(s): AF JG	Section	, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.): Ridgetop		(concave, convex, n		Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA):	Lat.:	Long	1.:	Datum:
			NWI classif	
Soil Map Unit Name:			— INVVI CIASSII	
Are climatic/hydrologic conditions on the site ty	pical for this time of year?	Yes No	(If no, explain in	*
Are Vegetation \square , Soil \square , or Hydrol	ogy significantly disturbed	I? Are "Normal	Circumstances" p	oresent? Yes • No O
Are Vegetation, Soil, or Hydrol	ogy naturally problematic?	? (If needed, e	explain any answe	ers in Remarks.)
Summary of Findings - Attach site	map showing sampling	point location	ıs, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes	No •			
Hydric Soil Present? Yes		the Sampled Area thin a Wetland?	Yes ○ No ●)
Wetland Hydrology Present? Yes	No •	timi a Wottana.		
Remarks: (Explain alternative procedures here	or in a separate report)			
Hydrology				
Wetland Hydrology Indicators:			Secondary Indicate	ors (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)		Surface Soil C	•
Surface Water (A1)	Water-Stained Leaves (B9)		Drainage Patte	erns (B10)
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lin	es (B16)
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burro	
Sediment Deposits (B2)	Oxidized Rhizospheres along Liv	ring Roots (C3)		ible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)			essed Plants (D1)
☐ Algal Mat or Crust (B4)☐ Iron Deposits (B5)	Recent Iron Reduction in Tilled	Soils (C6)	Geomorphic P	
Inundation Visible on Aerial Imagery (B7)	Thin Muck Surface (C7)		Shallow Aquita	ara (D3) phic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)		FAC-neutral To	
Field Observations: Surface Water Present? Yes No No	Depth (inches):			
	<u> </u>			
	Depth (inches):	 Wetland Hydr	ology Present?	Yes ○ No •
Saturation Present? (includes capillary fringe) Yes No No	Depth (inches):			
Describe Recorded Data (stream gauge, monito	oring well, aerial photos, previous	inspections), if avail	able:	
Remarks:				

VEGETATION - Use scientific names of p			minant ecies?		Sampling Point: AN4 Upland
Tree Stratum (Plot size: 30')	Absolute % Cover	Rel	I.Strat.	Indicator Status	Dominance Test worksheet:
1 Ougrans ruhra	30	V	37.5%	FACU-	Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)
) Dinus strobus	25	V	31.3%	FACU	That are obt., thew, or the.
Pinus strobus Picea rubens	25	<u></u>	31.3%	FACU	Total Number of Dominant
· ·			0.0%	17100	Species Across All Strata: 7 (B)
		\Box	0.0%		Percent of dominant Species
). 		П	0.0%		That Are OBL, FACW, or FAC: 14.3% (A/B)
7		П	0.0%		Prevalence Index worksheet:
			tal Cove		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15')		= 10	tai cove	!	0BL species 0 x 1 = 0
. Betula papyrifera	5		10.0%	FACU	
Picea rubens	15	✓	30.0%	FACU	
3. Vaccinium angustifolium	25	✓	50.0%	FACU-	FAC species 5 x 3 = 15 FACIL species 135 x 4 = 540
. Fagus grandifolia	5		10.0%	FACU	Thou species x +
5.			0.0%		UPL species $0 \times 5 = 0$
S	0		0.0%	-	Column Totals: 140 (A) 555 (B)
7.	0		0.0%	-	Prevalence Index = $B/A = 3.964$
		= To	tal Cove	r	
Herb Stratum (Plot size: 5')					Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation
1_Lycopodium obscurum	5	V _	50.0%	FACU	Dominance Test is > 50%
2. Ables balsamea	5	V _	50.0%	FAC	Prevalence Index is ≤ 3.0 ¹
3	0		0.0%		I =
4	0		0.0%		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
6	0		0.0%		
7	0		0.0%		¹ Indicators of hydric soil and wetland hydrology must
8.	0		0.0%		be present, unless disturbed or problematic.
9.	0		0.0%		Definitions of Vegetation Strata:
0.	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diamete
1.	0		0.0%		at breast height (DBH), regardless of height.
2.	0		0.0%		
	10	= To	tal Cove	r	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size:)					groater than 6.26 it (1111) tall
1		\sqcup	0.0%		Herb - All herbaceous (non-woody) plants, regardless of
2			0.0%		size, and woody plants less than 3.28 ft tall.
3		\sqcup	0.0%		Woody vine - All woody vines greater than 3.28 ft in
4			0.0%		height.
	0	= To	tal Cove	r	
					Hydrophytic
					Vegetation Present? Yes No •

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN4 Upland

Profile Description: (Des	cribe to	the depth	needed to document the indicator or confirm the	absence of indicators.)	
	Matrix		Redox Features	- T	Dama antos
		1000/	Color (moist) % Type 1 Loc²	Texture	Remarks
0-3 10YR	3/2	100%		Loam	
3-4 2.5Y	5/1	100%		Fine Sand	
4-12 10YR	4/6	100%		Sandy Loam	
12+					Ledge
				-	
¹ Type: C=Concentration. D=	=Depletio	n. RM=Redu	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	ation: PL=Pore Lining. M=I	 Matrix
Hydric Soil Indicators:	•		·		
Histosol (A1)			Polyvalue Below Surface (S8) (LRR R,		lematic Hydric Soils: 3
Histic Epipedon (A2)			MLRA 149B)		(LRR K, L, MLRA 149B)
Black Histic (A3)			☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)		ox (A16) (LRR K, L, R)
Hydrogen Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)		or Peat (S3) (LRR K, L, R)
Stratified Layers (A5)			Loamy Gleyed Matrix (F2)	Dark Surface (S7	Surface (S8) (LRR K, L)
Depleted Below Dark S	urface (A	11)	Depleted Matrix (F3)	Thin Dark Surface	
☐ Thick Dark Surface (A1	2)		Redox Dark Surface (F6)		Masses (F12) (LRR K, L, R)
Sandy Muck Mineral (S	1)		Depleted Dark Surface (F7)	_	ain Soils (F19) (MLRA 149B)
Sandy Gleyed Matrix (S	54)		Redox Depressions (F8)		6) (MLRA 144A, 145, 149B)
Sandy Redox (S5)				Red Parent Mater	
Stripped Matrix (S6)				Very Shallow Dar	
Dark Surface (S7) (LRR	R, MLRA	149B)		Other (Explain in	
³ Indicators of hydrophytic	vegetation	n and wetla	nd hydrology must be present, unless disturbed or probl		•
Restrictive Layer (if obse					
Type: Ledge	a veu).				
Depth (inches): 12				Hydric Soil Present?	Yes O No 💿
Remarks:					



AN4 Wetland



AN4 Upland

Project/Site: Antrim Wind Project	City/Co	ounty: Antrim		Sampling Date: 10-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH	Sampling Point: AN5 Wet
Investigator(s): AF JG	Sec	tion, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.): Ridgetop		elief (concave, convex, n		
Subregion (LRR or MLRA):	Lat.:	Long		Datum:
Soil Map Unit Name:			-	cation: PFO
			_	
Are climatic/hydrologic conditions on the site ty	pical for this time of year?	Yes ● No ○	(If no, explain in	·
Are Vegetation U , Soil U , or Hydro	logy L significantly distur	bed? Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation . , Soil . , or Hydro	logy 🗌 naturally problema	atic? (If needed, e	explain any answe	ers in Remarks.)
Summary of Findings - Attach site		ing point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes	No O			
Hydric Soil Present? Yes	No O	Is the Sampled Area within a Wetland?	Yes $leftharpoons$ No $igcirc$	
Wetland Hydrology Present? Yes	No O			
Hydrology				
				() ()
Wetland Hydrology Indicators: Primary Indicators (minimum of one required;	check all that annly)			rs (minimum of 2 required)
Surface Water (A1)	✓ Water-Stained Leaves (B9)		Surface Soil Cr Drainage Patte	
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Line	
✓ Saturation (A3)	Marl Deposits (B15)			ater Table (C2)
☐ Water Marks (B1)	Hydrogen Sulfide Odor (C1))	Crayfish Burro	ws (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres alon	g Living Roots (C3)	Saturation Visi	ble on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron ((C4)	Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Ti	lled Soils (C6)	Geomorphic Po	
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquita	
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)		✓ Microtopograp ✓ FAC-neutral Te	
operation regulated constant current			TAO HEURIAI TO	351 (00)
Field Observations: Surface Water Present? Yes No •	Depth (inches):			
Water Table Present? Yes No •	Depth (inches):			
Saturation Present? (includes capillary fringe) Yes No		Wetland Hydr	ology Present?	Yes ● No ○
(includes capillary minge)	Depth (inches):			
Describe Recorded Data (stream gauge, monit	oring well, aerial photos, previ	ous inspections), if avail	able:	
Domorko				
Remarks:				
Sphagum carpet				

VEGETATION - Use scientific names of pl	ants	Dominant			Sampling Point: AN5 Wet			
(0)	Absolute	Re		Indicator	Dominance Test worksheet:			
Tree Stratum (Plot size: 30')	% Cover		over	Status	Number of Dominant Species			
1. Acer rubrum	15	✓	100.0%	FAC	That are OBL, FACW, or FAC: 4 (A)			
2	0		0.0%		Total Number of Dominant			
3	0		0.0%		Species Across All Strata: 4 (B)			
4	0_		0.0%		Percent of dominant Species			
5			0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)			
6	0_		0.0%					
7		Ш	0.0%		Prevalence Index worksheet:			
Sapling/Shrub Stratum (Plot size: _15')	15	= To	otal Cove	r	Total % Cover of: Multiply by:			
1. Vaccinium corymbosum	25	~	62.5%	FACW-	0BL species 0 x 1 = 0			
2. Picea mariana	5	\Box	12.5%	FACW-	FACW species $96 \times 2 = 192$			
3. Spiraea latifolia	10	✓	25.0%	FAC+	FAC species 25 x 3 = 75			
4.	0	\Box	0.0%		FACU speci es x 4 =0			
5	0		0.0%		UPL species $0 \times 5 = 0$			
6.	0	\Box	0.0%		Column Totals: 121 (A) 267 (B)			
7	0	\Box	0.0%		Prevalence Index = B/A = 2.207			
	40	 = To	otal Cove	r				
Herb Stratum (Plot size: 5')					Hydrophytic Vegetation Indicators:			
1.Scirpus cyperinus	66	~	100.0%	FACW+	Rapid Test for Hydrophytic Vegetation			
2.	0		0.0%		✓ Dominance Test is > 50%			
3.	0		0.0%		✓ Prevalence Index is ≤3.0 ¹			
4.	0		0.0%		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
5.	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)			
6.	0		0.0%					
7	0		0.0%		¹ Indicators of hydric soil and wetland hydrology must			
8.	0		0.0%		be present, unless disturbed or problematic.			
9.	0		0.0%		Definitions of Vegetation Strata:			
10.	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter			
11.	0		0.0%		at breast height (DBH), regardless of height.			
12.	0		0.0%		Sanling/shrub Woody plants loss than 2 in DRII and			
Woody Vine Stratum (Plot size:)	66	= To	otal Cove	r	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall			
1			0.0%		Herb - All herbaceous (non-woody) plants, regardless of			
2			0.0%		size, and woody plants less than 3.28 ft tall.			
3			0.0%		Manda di nina Allamanda di nasa manatan than 2 00 ft i			
4	0	\Box	0.0%		Woody vine - All woody vines greater than 3.28 ft in height.			
••-					1 - 3			

Remarks: (Include photo numbers here or on a separate sheet.)

0 = Total Cover

Yes ● No ○

Hydrophytic Vegetation

Present?

Soil Sampling Point: AN5 Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)						
Depth Matrix (inches) Color (moist) %	Redox Features Color (moist) % Type 1 Loc²	Touture Demontes				
Total (motor)	Color (moist) % Type 1 Loc2	Texture Remarks				
0-27 10YR 2/1		Peaty Muck bedrock				
27+						
1 Type: C. Concentration D. Donletion DM. Dod	used Matrix CS Covered or Coated Sand Crains 21 and	stion, DL Poro Lining M Matrix				
•	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	-				
Hydric Soil Indicators:		Indicators for Problematic Hydric Soils: 3				
✓ Histosol (A1)	Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)				
Histic Epipedon (A2)	☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)				
Black Histic (A3)	Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)				
☐ Hydrogen Sulfide (A4)		Dark Surface (S7) (LRR K, L)				
Stratified Layers (A5)	Loamy Gleyed Matrix (F2)	Polyvalue Below Surface (S8) (LRR K, L)				
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	☐ Thin Dark Surface (S9) (LRR K, L)				
Thick Dark Surface (A12)	Redox Dark Surface (F6)	Iron-Manganese Masses (F12) (LRR K, L, R)				
Sandy Muck Mineral (S1)	Depleted Dark Surface (F7)	Piedmont Floodplain Soils (F19) (MLRA 149B)				
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)				
Sandy Redox (S5)		Red Parent Material (TF2)				
Stripped Matrix (S6)		Very Shallow Dark Surface (TF12)				
Dark Surface (S7) (LRR R, MLRA 149B)		Other (Explain in Remarks)				
³ Indicators of hydrophytic vegetation and wetla	nd hydrology must be present, unless disturbed or proble					
	The Hydrology Mast be present, diffess distarbed of proble	indic.				
Restrictive Layer (if observed):						
Type: Bedrock		Hydric Soil Present? Yes ● No ○				
Depth (inches): 27		Hydric 30ii Fresent: Yes 😌 NO 🔾				
Remarks:						

Project/Site: Antrim Wind Project			City/County:	Antrim		Sampling Date: 10-Aug-11
Applicant/Owner: Eolian Renewable En	ergy, LLC			Sta	te: NH	Sampling Point: AN5 Upland
Investigator(s): AF JG			Section.	Township, Range:	S. T.	
	Ridgetop		_	concave, convex, r		
Subregion (LRR or MLRA):		Lat.:		Long		Datum:
					-	
Soil Map Unit Name:					NWI classifi	
Are climatic/hydrologic conditions on	the site ty	pical for this time of y	ear? Y	es No	(If no, explain in	· ·
Are Vegetation . , Soil .	, or Hydrolo	ogy 🗌 significant	ly disturbed?	Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation . , Soil .	, or Hydrold	ogy 🗌 naturally p	roblematic?	(If needed,	explain any answe	ers in Remarks.)
Summary of Findings - Att		<u> </u>	ampling p	ooint location	ns, transects,	important features, etc.
Hydrophytic Vegetation Present?		No •		0 1 10		
Hydric Soil Present?	Yes 🔾	No •		ne Sampled Area nin a Wetland?	Yes \bigcirc No $lacktriangle$	
Wetland Hydrology Present?	Yes 🔾	No 💿				
Hydrology						
Hydrology						
Wetland Hydrology Indicators:	roquirod	chack all that apply)				rs (minimum of 2 required)
Primary Indicators (minimum of one Surface Water (A1)	requireu,		(DO)		Surface Soil Cr Drainage Patte	
High Water Table (A2)		Water-Stained Lea Aquatic Fauna (B1	• •		Moss Trim Line	
Saturation (A3)		Marl Deposits (B15				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide (Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosph		ig Roots (C3)		ble on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduc	ed Iron (C4)		Stunted or Stre	essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc	ction in Tilled Sc	oils (C6)	Geomorphic Po	osition (D2)
☐ Iron Deposits (B5)		Thin Muck Surface	(C7)		Shallow Aquita	
Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface		Other (Explain in F	Remarks)		✓ Microtopograp	
Sparsely vegetated concave surface	(B8)				FAC-neutral Te	est (D5)
Field Observations:	(2)					
Surface Water Present? Yes		Depth (inches):	-	_		
Water Table Present? Yes	No 💿	Depth (inches):		_ ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Yes ○ No •
Saturation Present? (includes capillary fringe) Yes	No •	Depth (inches):		Wetland Hydi 	rology Present?	res O No O
Describe Recorded Data (stream gau	uge, monito	oring well, aerial photo	os, previous ir	nspections), if avai	lable:	
Remarks:						

/EGETATION - Use scientific names of p			ominant ecies?		Sa	mpling Po	int: AN	5 Upland	
Free Stratum (Plot size: 30')	Absolute % Cover	Re		Indicator Status	Dominance Test w				
Picea rubens	33	V	39.8%	FACU	Number of Dominant That are OBL, FACW			1	(A)
Pinus strobus		~	60.2%	FACU			-		. ,
			0.0%		Total Number of Dor Species Across All St			6	(B)
			0.0%		Species Across Air St	iata.	-		(D)
			0.0%		Percent of domina			1/ 70/	(4.45)
	0		0.0%		That Are OBL, FAC	CW, or FA	C:	16.7%	(A/B
	0		0.0%		Prevalence Index v	vorksheet	:		
Gapling/Shrub Stratum (Plot size: 15')		= Tc	otal Cove	r	Total % Cov	er of:	Multiply	y by:	_
· · · · · · · · · · · · · · · · · · ·			400.00/	E4 0)4/	OBL species	0	x 1 =	0	
. Vaccinium corymbosum				FACW-	FACW species	5	x 2 =	10	_
<u>. </u>			0.0%		FAC species	0	x 3 =	0	
3			0.0%		FACU species	94	x 4 =	376	
ł	0		0.0%		UPL species	0	x 5 =	0	-
5.	0		0.0%		Column Totals:	99	(A)	386	- (B)
S	0		0.0%		Prevalence In			3.899	-
		 = To	otal Cove	r			-	3.099	
Herb Stratum (Plot size: 5')					Hydrophytic Veget			tation	
1. Gaultheria procumbens	3	V	27.3%	FACU	Dominance Te	•			
2. Vaccinium angustifolium	5	✓	45.5%	FACU-	Prevalence In				
3. Quercus rubra	3	✓	27.3%	FACU-				ovido cupr	ortina
4	0		0.0%			rks or on a	ons (Pr separate	ovide supp e sheet)	orung
5	0		0.0%		Problematic F	lydrophyt	ic Vegeta	tion ¹ (Exp	olain)
6	0		0.0%						
7	0		0.0%		Indicators of hy- be present, unless	dric soil a	nd wetlar	nd hydrolog	gy mus
8	0		0.0%						
9	0		0.0%		Definitions of Ve	egetatio	n Strata	:	
10	0		0.0%		Tree - Woody plan	ts, 3 in. (7	'.6 cm) oı	r more in d	liamete
l1 <u>. </u>	0		0.0%		at breast height (D	BH), rega	rdless of	height.	
12	0		0.0%		 Sapling/shrub - Wo	oody plant	c loce the	on 2 in DE	Ω∐ and
Woody Vine Stratum (Plot size:)	11	= To	otal Cove	r	greater than 3.28 f			ali 3 iii. DL	or i ariu
 1	0		0.0%		Herb - All herbace	ous (non-v	la (vboow	ants. rega	rdless
2		\Box	0.0%		size, and woody pl				
3		$\overline{\Box}$	0.0%		NA/ de - de - Allen				6 1.
4			0.0%		Woody vine - All w height.	oody vine	s greater	tnan 3.28	πın
1.		– To	otal Cove	r					
		-		-					
					Hydrophytic Vegetation Present? Yo	es O M	lo		

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN5 Upland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix Color (moist)	_ %	Redox Features Color (moist) % Type 1 Loc²	Texture	Remarks		
0-4	10YR 3/3		color (moist) /c Type Loo	Loam	Komarko		
4-10	2.5Y 5/1			Fine Loamy Sand			
10-16	10YR 4/4			Fine Sandy Loam			
10 10	1011			Tine Sandy Loan			
				_			
				_			
¹ Type: C=Conc	entration. D=Depletion	n. RM=Redu	ced Matrix, CS=Covered or Coated Sand Grains ² Lc	cation: PL=Pore Lining. M=N	latrix		
Hydric Soil Ir	ndicators:		_	Indicators for Probl	ematic Hydric Soils : 3		
Histosol (A			Polyvalue Below Surface (S8) (LRR R, MLRA 149B)		(LRR K, L, MLRA 149B)		
Histic Epip			Thin Dark Surface (S9) (LRR R, MLRA 149B)		ox (A16) (LRR K, L, R)		
☐ Black Histic			Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat	or Peat (S3) (LRR K, L, R)		
Stratified L	Sulfide (A4)		Loamy Gleyed Matrix (F2)	Dark Surface (S7)			
	Below Dark Surface (A1	1)	Depleted Matrix (F3)		urface (S8) (LRR K, L)		
	Surface (A12)	•	Redox Dark Surface (F6)	☐ Thin Dark Surface	(S9) (LRR K, L) Masses (F12) (LRR K, L, R)		
Sandy Muc	ck Mineral (S1)		Depleted Dark Surface (F7)		nin Soils (F19) (MLRA 149B)		
Sandy Gley	yed Matrix (S4)		Redox Depressions (F8)		o) (MLRA 144A, 145, 149B)		
Sandy Red				Red Parent Materi			
Stripped M		1.100\		Very Shallow Dark	Surface (TF12)		
	ce (S7) (LRR R, MLRA			Other (Explain in I	Remarks)		
³ Indicators of	hydrophytic vegetatior	and wetlan	d hydrology must be present, unless disturbed or pro	blematic.			
Restrictive La	yer (if observed):						
Type:				Hydric Soil Present?	Yes ○ No •		
Depth (inch	es):			nyunc son Fresent:	res ∪ NO ⊕		
Remarks:							



AN5 Upland



AN5 Wetland

Project/Site: Antrim Wind Project	City/Co	ounty: Antrim		Sampling Date: 10-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH	Sampling Point: AN6 Wet
Investigator(s): AF JG	Sec.'	tion, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.): Hillside		elief (concave, convex, n		Slope: 0.0 % / 0.0 °
			-	
Subregion (LRR or MLRA):	Lat.:	Long		Datum:
Soil Map Unit Name:			NWI classif	ication: PFO
Are climatic/hydrologic conditions on the site ty	pical for this time of year?	Yes No	(If no, explain in	
Are Vegetation . , Soil . , or Hydrole	ogy 🗌 significantly distur	bed? Are "Normal	Circumstances" p	oresent? Yes No
Are Vegetation, Soil, or Hydrole	ogy naturally problema	ntic? (If needed, e	explain any answe	ers in Remarks.)
Summary of Findings - Attach site	map showing sampli	ng point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes	No O			
Hydric Soil Present? Yes ●	No O	Is the Sampled Area within a Wetland?	Yes ● No ○)
Wetland Hydrology Present? Yes •	No O			
I hadrada arr				
Hydrology				
Wetland Hydrology Indicators:	check all that apply)			ors (minimum of 2 required)
Primary Indicators (minimum of one required; Surface Water (A1)			Surface Soil C	
High Water Table (A2)	Water-Stained Leaves (B9) Aquatic Fauna (B13)		☐ Drainage Patte	
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burro	
Sediment Deposits (B2)	Oxidized Rhizospheres along			ible on Aerial Imagery (C9)
☐ Drift deposits (B3)	Presence of Reduced Iron (-		essed Plants (D1)
☐ Algal Mat or Crust (B4)	Recent Iron Reduction in Til		✓ Geomorphic P	osition (D2)
Iron Deposits (B5)	☐ Thin Muck Surface (C7)		Shallow Aquita	• •
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		✓ Microtopograp	
Sparsely Vegetated Concave Surface (B8)			✓ FAC-neutral To	est (D5)
Field Observations:				
Surface Water Present? Yes No No	Depth (inches):			
Water Table Present? Yes No •	Depth (inches):			Yes ● No ○
Saturation Present? (includes capillary fringe) Yes • No	Depth (inches):0	Wetland Hydr	ology Present?	res ⊕ No ∪
Describe Recorded Data (stream gauge, monito	oring well, aerial photos, previ	ous inspections), if avail	able:	
Remarks:				
sphagum carpet				
opriaga sarpst				

VEGETATION - Use scientific names of plants Dominant Species?				Sampling Point: AN6 Wet						
Tree Stratum (Plot size: 30')	Absolute % Cover			Indicator Status						
1. Acer rubrum	25	V	50.0%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)					
2. Betula alleghaniensis	25	V	50.0%	FAC	118. 8. 8 6 5 2 7 1 1 6 1 7 6 1 7 6 1					
3.	0		0.0%		Total Number of Dominant Species Across All Strata: 6 (B)					
4.	0		0.0%		Species Across All Strata: 6 (B)					
5.	0		0.0%		Percent of dominant Species					
6.	0		0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)					
7	0		0.0%		Prevalence Index worksheet:					
	50	= To	otal Cove	r	Total % Cover of: Multiply by:					
1 Vacatalum	20	~	36.4%	FACW-	0BL species 15 x 1 = 15					
vaccinium corymbosum Acer rubrum	10		18.2%	FAC FAC	FACW speci es x 2 =					
3. Picea mariana	25	✓	45.5%	FACW-	FAC species80x 3 =240					
	0		0.0%	FACVV-	FACU species $0 \times 4 = 0$					
4			0.0%		UPL species $0 \times 5 = 0$					
5	0		0.0%		Column Totals: 206 (A) 477 (B)					
6			0.0%							
7					Prevalence Index = B/A = 2.316					
Herb Stratum (Plot size: 5')	55		= Total Cover		Hydrophytic Vegetation Indicators:					
1. Iris versicolor	15		14.9%	OBL	Rapid Test for Hydrophytic Vegetation					
2.Coptis trifolia	33	✓	32.7%	FACW	✓ Dominance Test is > 50%					
3. Cornus canadensis	20		19.8%	FAC-	Prevalence Index is ≤3.0 ¹					
4.Osmunda cinnamomea	33	✓	32.7%	FACW	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)					
5.	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)					
6.	0		0.0%							
7.	0		0.0%		¹ Indicators of hydric soil and wetland hydrology must					
8.	0		0.0%		be present, unless disturbed or problematic.					
9.	0		0.0%		Definitions of Vegetation Strata:					
10.	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter					
11	0		0.0%		at breast height (DBH), regardless of height.					
12	0		0.0%		Carling/about Mandy plants loss than 2 in DDI and					
Woody Vine Stratum (Plot size:)	101	= To	otal Cove	r	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall					
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of					
2	0		0.0%		size, and woody plants less than 3.28 ft tall.					
3	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in					
4	0		0.0%		height.					
	0	= To	otal Cove	r						

 $\label{lem:Remarks: (Include photo numbers here or on a separate sheet.)} \\$

Yes ● No ○

Hydrophytic Vegetation Present?

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN6 Wet

	ption: (Des		the depth	needed to document the indicator or confirm the	absence of indicators.)	
Depth (inches)	Color (r	Matrix noist)	- %	Redox Features Color (moist) % Type 1 Loc²	Texture	Remarks
0-4	10YR	3/2	100%		Loam	
4-8	2.5Y	4/1	100%		Sandy Loam	
8-9	2.5Y	6/1	100%		Loamy Sand	
	2.31		10070		Loanly Sand	Bedrock
9+						
					-	
					-	
						_
¹ Type: C=Conc	entration. D	=Depletio	n. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loc	ation: PL=Pore Lining. M=	Matrix
Hydric Soil Ir	ndicators:				Indicators for Prob	lematic Hydric Soils : 3
Histosol (A	1)			Polyvalue Below Surface (S8) (LRR R,		(LRR K, L, MLRA 149B)
Histic Epipe				MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B)	_	lox (A16) (LRR K, L, R)
☐ Black Histic				Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat	or Peat (S3) (LRR K, L, R)
Stratified L	Sulfide (A4)			Loamy Gleyed Matrix (F2)	Dark Surface (S7	
✓ Depleted B		Surface (A	11)	Depleted Matrix (F3)		Surface (S8) (LRR K, L)
_	Surface (A1		,	Redox Dark Surface (F6)		e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
Sandy Muc	k Mineral (S	51)		Depleted Dark Surface (F7)	_	lain Soils (F19) (MLRA 149B)
Sandy Gley	ed Matrix (S	S4)		Redox Depressions (F8)		.6) (MLRA 144A, 145, 149B)
Sandy Red					Red Parent Mate	
Stripped M			4.405)		Very Shallow Dar	k Surface (TF12)
	ce (S7) (LRF				Other (Explain in	Remarks)
³ Indicators of	hydrophytic	vegetatio	n and wetla	nd hydrology must be present, unless disturbed or prob	lematic.	
Restrictive La	yer (if obs	erved):				
Type: bed					Hydric Soil Present?	Yes ● No ○
Depth (inch	es):_9				nyunc son Present?	Yes S No C
Remarks:						

Project/Site: Antrim Wind Project	City	/County: Antrim		Sampling Date: 10-Aug-11
Applicant/Owner: Eolian Renewable Energy, LL	.C	Sta	te: NH	Sampling Point: AN6 Upland
Investigator(s): AF JG	S	Section, Township, Range:	S. T.	R.
Landform (hillslope, terrace, etc.): Hillside		I relief (concave, convex, r		Slope: 8.0 % / 4.6 °
Subregion (LRR or MLRA):	Lat.:	Long		Datum:
Soil Map Unit Name:			NWI classif	ication:
Are climatic/hydrologic conditions on the si	te typical for this time of year?	Yes ● No ○	(If no, explain in	•
Are Vegetation . , Soil . , or Hy	drology 🗌 significantly dis	turbed? Are "Normal	Circumstances" p	oresent? Yes No
Are Vegetation , Soil , or Hy	drology aturally proble	ematic? (If needed,	explain any answe	ers in Remarks.)
Summary of Findings - Attach		pling point location	s, transects,	, important features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? Yes		Is the Sampled Area within a Wetland?	Yes O No 🗨)
Wetland Hydrology Present? Yes	○ No •			
I hadrada ma				
Hydrology				
Wetland Hydrology Indicators:	rad, aback all that apply)			ors (minimum of 2 required)
Primary Indicators (minimum of one required Surface Water (A1)			Surface Soil C	
High Water Table (A2)	Water-Stained Leaves (E☐ Aquatic Fauna (B13)	39)	☐ Drainage Patte	
Saturation (A3)	Marl Deposits (B15)			Vater Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burro	
Sediment Deposits (B2)	Oxidized Rhizospheres a	•		ible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iro	on (C4)	Stunted or Str	ressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in	n Tilled Soils (C6)	Geomorphic P	Position (D2)
☐ Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquita	
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remar	ks)		phic Relief (D4)
Sparsery vegetated concave surface (B8)			FAC-neutral T	est (D5)
Field Observations:				
Surface Water Present? Yes No	· · · · · -			
Water Table Present? Yes No	Depth (inches):	Wotland Hyde	rology Present?	Yes ○ No •
Saturation Present? (includes capillary fringe) Yes No	Depth (inches):	wetiana nyai	ology Present?	
Describe Recorded Data (stream gauge, m	onitoring well, aerial photos, pr	evious inspections), if avai	lable:	
Remarks:				
Remarks.				

VEGETATION - Use scientific names of	.		ominant pecies?		Sampling Point: AN6 Upland
Tree Stratum (Plot size: 30')	Absolute % Cover	Re		Indicator Status	
1. Quercus rubra	45	V	56.3%	FACU-	Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
Acer rubrum	25	V	31.3%	FAC	
Tsuga canadensis			12.5%	FACU	Total Number of Dominant Species Across All Strata: 7 (B)
·			0.0%		Species Across Air Strata.
j			0.0%		Percent of dominant Species
	0		0.0%		That Are OBL, FACW, or FAC: 28.6% (A/
			0.0%		Prevalence Index worksheet:
		= To	otal Cove	r	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15')					OBL species 0 x 1 = 0
. Fagus grandifolia		V	61.5%	FACU	FACW species $0 \times 2 = 0$
Picea rubens		✓	38.5%	FACU	FAC species $30 \times 3 = 90$
	0		0.0%		FACU speci es 73 x 4 = 292
·			0.0%		UPL species $\frac{5}{}$ x 5 = $\frac{25}{}$
·			0.0%		' /
S			0.0%		
7		Ш	0.0%		Prevalence Index = $B/A = 3.769$
Herb Stratum (Plot size: 5')	13	= To	otal Cove	r	Hydrophytic Vegetation Indicators:
1 Triantalla hansalla	F	~	22.20/	FAC	Rapid Test for Hydrophytic Vegetation
1.Trientalis borealis 2.Medeola virginiana			33.3%	FAC	☐ Dominance Test is > 50%
-			33.3%	UPL	Prevalence Index is ≤3.0 ¹
3. Vaccinium angustifolium	3		20.0%	FACU-	☐ Morphological Adaptations ¹ (Provide supporting
4.Aralia nudicaulis 5.			13.3%	FACU	data in Remarks or on a separate sheet)
6			0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
7			0.0%		¹ Indicators of hydric soil and wetland hydrology mu
8.			0.0%		be present, unless disturbed or problematic.
9.			0.0%		Definitions of Vegetation Strata:
0.			0.0%		
1.			0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diame
2.			0.0%		at breast height (DBH), regardless of height.
۷		_	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH an
Noody Vine Stratum (Plot size:)	15	= Tc	otal Cove	r	greater than 3.28 ft (1m) tall
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless
2			0.0%		size, and woody plants less than 3.28 ft tall.
3			0.0%		Monday sing. All was always as a second of the control of the cont
4			0.0%		Woody vine - All woody vines greater than 3.28 ft in height.
1.		 _ T	otal Cove		
		- 10	50VC	•	
					Hydrophytic
					Vegetation Vac O Na 🔊
					Present? Yes V NO V

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN6 Upland

	iption: (Des	cribe to	the depth	needed to document	the indic	ator or cor	nfirm the a	absence of indicators.)	
Depth (inches)		Matrix	_ 04	_	ox Featu			- Tt	Damada
	Color (n		%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-4	10YR	3/2	100%					Loam	
4-6	2.5Y	5/1	100%					Sandy Loam	
6-15	10YR	4/6	100%					Sandy Loam	
¹ Type: C=Cone	centration. D:	=Depletio	n. RM=Red	duced Matrix, CS=Covere	d or Coate	ed Sand Grai	ins ² Loca	tion: PL=Pore Lining. M=Ma	trix
Hydric Soil I		<u>'</u>		<u> </u>				Indicators for Probler	•
Histosol (Polyvalue Belov	Surface ((S8) (LRR R.			natic riguite sons .
	pedon (A2)			MLRA 149B)		,			RR K, L, MLRA 149B)
Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B)							A 149B)	Coast Prairie Redox	
	Sulfide (A4)			Loamy Mucky N	lineral (F1)) LRR K, L)		Dark Surface (S7) (Peat (S3) (LRR K, L, R)
_	Layers (A5)			Loamy Gleyed I	/latrix (F2)				face (S8) (LRR K, L)
Depleted	Below Dark S	urface (A	11)	Depleted Matrix				Thin Dark Surface (
☐ Thick Dar	k Surface (A1	2)		Redox Dark Sur					usses (F12) (LRR K, L, R)
Sandy Mu	ıck Mineral (S	1)		Depleted Dark		7)			n Soils (F19) (MLRA 149B)
Sandy Gle	eyed Matrix (S	54)		Redox Depressi	ons (F8)				(MLRA 144A, 145, 149B)
Sandy Re	dox (S5)							Red Parent Material	
Stripped M	Matrix (S6)							Very Shallow Dark S	
Dark Surfa	ace (S7) (LRR	R R, MLRA	149B)					Other (Explain in Re	
³ Indicators of	f hydrophytic	vegetatio	n and wetla	and hydrology must be p	esent, un	less disturbe	ed or proble		,
				<u> </u>					
Restrictive La	ayer (II obse	erveu):							
Depth (incl	has):							Hydric Soil Present?	Yes ○ No •
Remarks:									



AN6 Wetland



AN6 Upland

Project/Site: Antrim Wind Project		City/County: Antrim		Sampling Date: 11-Aug-11
Applicant/Owner: Eolian Renewable Ener	rgy, LLC	s	tate: NH	Sampling Point: AN7 Wet
Investigator(s): AF JG		Section, Township, Range	e: S. T.	
Landform (hillslope, terrace, etc.): Ri	idgetop	Local relief (concave, convex		sy Slope: 0.0% / 0.0°
Subregion (LRR or MLRA):	Lat	_	ng.:	Datum:
			-	
Soil Map Unit Name:				ication: PFO
Are climatic/hydrologic conditions on t	the site typical for this time o	of year? Yes No	(If no, explain in	
Are Vegetation , Soil ,	or Hydrology Signification	antly disturbed? Are "Norm	al Circumstances" p	oresent? Yes No
Are Vegetation, Soil,	or Hydrology natural	ly problematic? (If needed	l, explain any answe	ers in Remarks.)
Summary of Findings - Atta	-	g sampling point location	ons, transects,	important features, etc.
' ' '	Yes No			
Hydric Soil Present?	Yes ● No ○	Is the Sampled Area within a Wetland?	Yes No)
Wetland Hydrology Present?	Yes ● No ○			
Hydrology				
Wetland Hydrology Indicators: Primary Indicators (minimum of one)	required; check all that apply	.Λ		ors (minimum of 2 required)
Surface Water (A1)			Surface Soil C Drainage Patte	
High Water Table (A2)	✓ Water-Stained☐ Aquatic Fauna	, ,	Moss Trim Lin	
Saturation (A3)	Marl Deposits (dater Table (C2)
Water Marks (B1)	Hydrogen Sulfi		Crayfish Burro	
Sediment Deposits (B2)		spheres along Living Roots (C3)		ible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Re	educed Iron (C4)	Stunted or Str	ressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Re	eduction in Tilled Soils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)	Thin Muck Surf	face (C7)	Shallow Aquita	
Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface (U Other (Explain	in Remarks)	✓ Microtopograp ✓ FAC-neutral To	
Sparsely vegetated concave surface ((88)		▼ FAC-neutral I	est (D5)
Field Observations:				
Surface Water Present? Yes	No Depth (inches	s):		
Water Table Present? Yes	No Oepth (inches	S):	drology Present?	Yes ● No ○
Saturation Present? (includes capillary fringe)	No Depth (inches	s):		
Describe Recorded Data (stream gaug	ge, monitoring well, aerial ph	notos, previous inspections), if av	ailable:	
Remarks:				

VEGETATION - Use scientific names of pla	ınts		ominant		Sampling Point: AN7 Wet
- (Dietsies 20)	Absolute	R	el.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30'	% Cover		over	Status	Number of Dominant Species
1. Acer rubrum	25	✓		FAC	That are OBL, FACW, or FAC: 3 (A)
2			0.0%		Total Number of Dominant
3			0.0%		Species Across All Strata: 4 (B)
4			0.0%		Percent of dominant Species
5			0.0%		That Are OBL, FACW, or FAC: 75.0% (A/B)
6			0.0%		
7		Ш	0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')	25	= To	otal Cove	r	Total % Cover of: Multiply by:
1. Vaccinium corymbosum	50	~	33.1%	FACW-	0BL species 0 x 1 = 0
2. Acer rubrum	25	\Box	16.6%	FAC	FACW species $116 \times 2 = 232$
3. Spiraea latifolia	10	\Box	6.6%	FAC+	FAC species $\phantom{00000000000000000000000000000000000$
4.		<u>✓</u>	43.7%		FACU speci es0 x 4 =0
5	0		0.0%		UPL species x 5 =0
6.	0		0.0%		Column Totals: 176 (A) 412 (B)
7.	0	\Box	0.0%		Prevalence Index = B/A = 2.341
			otal Cove		
Herb Stratum (Plot size: 5')			otal ooto		Hydrophytic Vegetation Indicators:
1.Osmunda cinnamomea	66	✓	100.0%	FACW	Rapid Test for Hydrophytic Vegetation
2.	0		0.0%		✓ Dominance Test is > 50%
3.	0		0.0%		Prevalence Index is ≤3.0 ¹
4.	0		0.0%		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
6.	0		0.0%		
7.	0		0.0%		¹ Indicators of hydric soil and wetland hydrology must
8.	0		0.0%		be present, unless disturbed or problematic.
9.	0		0.0%		Definitions of Vegetation Strata:
10.	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11.	0		0.0%		at breast height (DBH), regardless of height.
12.	0		0.0%		
	66	= To	otal Cove	r	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size:)		_			3.53.5. Hall 5.25 it (111) tall.
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
2	0		0.0%		size, and woody plants less than 3.28 ft tall.
3	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in
Ι Λ	0		0.0%		height.

0 = Total Cover

Hydrophytic Vegetation Present?

Remarks: (Include photo numbers here or on a separate sheet.)

Yes ● No ○

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN7 Wet

	iption: (Des	scribe to	the depth	needed to document the indicator or confirm the a	absence of indicators.)	
Depth (inches)	" Color (Matrix	_ 0,	Redox Features Color (moist) % Type 1 Loc²	Tavtuma	Domonko
	Color (r		100%	Color (moist) % Type 1 Loc2	Texture	Remarks
0-6	10YR	3/2	100%		Loam	
6-7	2.5Y	5/1	100%		Fine Loamy Sand	
7-9	2.5Y	4/2	100%		Very Fine Sandy Loam	
9+						bedrock
					-	
					-	-
					-	
					N-	
¹ Type: C=Con	centration. D	=Depletio	n. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	tion: PL=Pore Lining. M=I	Matrix
Hydric Soil I	ndicators:				Indicators for Prob	lematic Hydric Soils: 3
Histosol (Polyvalue Below Surface (S8) (LRR R,	_	(LRR K, L, MLRA 149B)
	pedon (A2)			MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B)		ox (A16) (LRR K, L, R)
Black Hist				Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat	or Peat (S3) (LRR K, L, R)
	Sulfide (A4)			Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L)
	Layers (A5) Below Dark S	Surface (A:	11)	Depleted Matrix (F3)		Surface (S8) (LRR K, L)
	k Surface (A1		11)	Redox Dark Surface (F6)		e (S9) (LRR K, L)
	ick Mineral (S	•		Depleted Dark Surface (F7)		Masses (F12) (LRR K, L, R)
	eyed Matrix (S			Redox Depressions (F8)		ain Soils (F19) (MLRA 149B)
Sandy Re		,			Red Parent Mater	6) (MLRA 144A, 145, 149B)
	Matrix (S6)				Very Shallow Dar	
Dark Surf	ace (S7) (LRF	R R, MLRA	149B)		Other (Explain in	
³ Indicators of	f hydrophytic	vegetatio	n and wetla	and hydrology must be present, unless disturbed or proble		,
Restrictive L				3 33		
Type: _be	•	erveu).				
Depth (incl					Hydric Soil Present?	Yes No
Remarks:						
Kemarks.						

Project/Site: Antrim Wind Project			City/Count	y: Antrim		Sampling Date: 11-Aug-11
Applicant/Owner: Eolian Renewable Ene	ergy, LLC			Sta	te: NH	Sampling Point: AN7 Upland
Investigator(s): AF JG			Section	, Township, Range:	S. T.	
	Ridgetop		_	(concave, convex, r		Slope: 12.5 % / 7.1°
Subregion (LRR or MLRA):		Lat.:		Long		Datum:
Soil Map Unit Name:					NWI classif	
Are climatic/hydrologic conditions on	the site typ	pical for this time of y	ear?	Yes No	(If no, explain in	*
Are Vegetation . , Soil . ,	or Hydrolo	ogy 🗌 significant	ly disturbed	I? Are "Normal	Circumstances" p	oresent? Yes No
Are Vegetation , Soil ,	or Hydrolo	ogy 🗌 naturally p	oroblematic	? (If needed,	explain any answe	ers in Remarks.)
Summary of Findings - Atta		<u> </u>	ampling	point location	ns, transects,	important features, etc.
Hydrophytic Vegetation Present?		No •				
Hydric Soil Present?		No •		the Sampled Area thin a Wetland?	Yes \bigcirc No $lacktriangle$)
Wetland Hydrology Present?	Yes 🔾	No •				
I hadrada ma						
Hydrology						
Wetland Hydrology Indicators:	roguirod.	abaak all that annly)				ors (minimum of 2 required)
Primary Indicators (minimum of one Surface Water (A1)	required; ((0.0)		Surface Soil C	
High Water Table (A2)		Water-Stained Lea Aquatic Fauna (B1			☐ Drainage Patte	
Saturation (A3)		Marl Deposits (B15				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide (Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosph		ving Roots (C3)		ible on Aerial Imagery (C9)
☐ Drift deposits (B3)		Presence of Reduc	-		Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc	ction in Tilled	Soils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)		Thin Muck Surface	(C7)		Shallow Aquita	
Inundation Visible on Aerial Imagery		Other (Explain in F	Remarks)			phic Relief (D4)
Sparsely Vegetated Concave Surface	(B8)				FAC-neutral To	est (D5)
Field Observations:						
Surface Water Present? Yes	No 💿	Depth (inches):				
Water Table Present? Yes	No 💿	Depth (inches):				Yes ○ No •
Saturation Present? (includes capillary fringe) Yes	No •	Depth (inches):		Wetland Hydi	rology Present?	Yes Uno U
Describe Recorded Data (stream gau	ge, monito	oring well, aerial photo	os, previous	inspections), if avai	lable:	
Remarks:						

Absolute Rel. % Cover Co	20.5% 45.2% 34.2% 0.0% 0.0% 0.0% 0.0% al Cover 76.7% 23.3% 0.0% 0.0% 0.0% 14.3% 14.3% 0.0% 0.0% 0.0% 0.0%	FACU FACU	Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of dominant Species That Are OBL, FACW, or FAC: Total % Cover of: Multiply by: OBL species Ox1 = O FACW species Ox2 = O FAC species 121 x 4 = 484 UPL species Col umn Total s: 151 (A) 584 (B) Prevalence Index = B/A = 3.868 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50% Prevalence Index is ≤3.0 ¹ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain)
1. Betula papyrifera 2. Quercus rubra 3. Acer rubrum 4.	20.5% 45.2% 34.2% 0.0% 0.0% 0.0% 0.0% al Cover 76.7% 0.0% 0.0% 0.0% 14.3% 14.3% 0.0% 0.0% 0.0% 0.0%	FACU FACU FACU FACU FACU FACU	That are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species Across All Strata: 6 (B) Percent of dominant Species That Are OBL, FACW, or FAC: 16.7% (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 0 x 2 = 0 FAC species 121 x 4 = 484 UPL species 151 (A) 1584 (B) Prevalence Index = B/A = 3.868 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50% Prevalence Index is ≤3.0 ¹ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Quercus rubra 3. Acer rubrum 4.	45.2% 34.2% 0.0% 0.0% 0.0% 0.0% al Cover 76.7% 0.0% 0.0% 0.0% 14.3% 14.3% 14.3% 0.0% 0.0% 0.0%	FACU FACU FACU FACU FACU FACU	Total Number of Dominant Species Across All Strata: Percent of dominant Species That Are OBL, FACW, or FAC: Total % Cover of: Multiply by: OBL species O FACW species O FAC species 125 FACU species 121 V FACU species 125 Col umn Total s: 151 (A) 1584 (B) Prevalence Index = B/A = 3.868 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50% Prevalence Index is ≤3.0 ¹ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
3. Acer rubrum	34.2% 0.0% 0.0% 0.0% 0.0% al Cover 76.7% 23.3% 0.0% 0.0% 0.0% 14.3% 14.3% 14.3% 0.0% 0.0% 0.0%	FACU FACU FACU FACU FACU	Percent of dominant Species That Are OBL, FACW, or FAC: Total % Cover of: Multiply by:
	0.0% 0.0% 0.0% 0.0% al Cover 76.7% 23.3% 0.0% 0.0% 0.0% 14.3% 14.3% 14.3% 0.0% 0.0% 0.0%	FACU FACU FACU FACU	Percent of dominant Species That Are OBL, FACW, or FAC: 16.7% 16.7%
5	0.0% 0.0% 0.0% 0.0% al Cover 76.7% 23.3% 0.0% 0.0% 0.0% 14.3% 14.3% 0.0% 0.0% 0.0% 0.0%	FACU FACU FACU FACU- FACU	That Are OBL, FACW, or FAC: 16.7%
Sapling/Shrub Stratum (Plot size: 15')	0.0% 0.0% al Cover 76.7% 23.3% 0.0% 0.0% 0.0% 0.0% 14.3% 14.3% 0.0% 0.0% 0.0%	FACU FACU FACU FACU- FACU	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 0 x 2 = 0 FAC species 25 x 3 = 75 FACU species 121 x 4 = 484 UPL species 5 x 5 = 25 Col umn Total s: 151 (A) 584 (B) Prevalence Index = B/A = 3.868 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50% Prevalence Index is ≤3.0 ¹ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
Sapling/Shrub Stratum (Plot size: 15' 73	0.0% al Cover 76.7% 23.3% 0.0% 0.0% 0.0% 0.0% 14.3% 14.3% 14.3% 0.0% 0.0% 0.0%	FACU FACU FACU FACU- FACU	Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 0 x 2 = 0 FAC species 25 x 3 = 75 FACU species 121 x 4 = 484 UPL species 5 x 5 = 25 Col umn Total s: 151 (A) 584 (B) Prevalence Index = B/A = 3.868 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50% Prevalence Index is ≤3.0 ¹ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
Sapling/Shrub Stratum (Plot size: 15')	76.7% 23.3% 0.0% 0.0% 0.0% 0.0% 414.3% 14.3% 0.0% 0.0% 0.0%	FACU FACU FACU FACU- FACU	Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 0 x 2 = 0 FAC species 25 x 3 = 75 FACU species 121 x 4 = 484 UPL species 5 x 5 = 25 Col umn Total s: 151 (A) 584 (B) Prevalence Index = B/A = 3.868 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50% Prevalence Index is ≤3.0 ¹ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
. Fagus grandifolia 33 ✓ 2. Picea rubens 10 ✓ 3. 0 □ 4. 0 □ 5. 0 □ 6. 0 □ 7. 0 □ 8. 0 □ 9. 0 □ 1. 0 □ 2. 0 □ Moody Vine Stratum (Plot size:) 1. 0 □ 2. 0 □ 0 □ □ 0 □ □ 0 □ □ 0 □ □ 0 □ □ 0 □ □ 0 □ □ 0 □ □ 0 □ □ 0 □ □ 0 □ □ 0 □ □ 0 □ □ 0 □ □	23.3% 0.0% 0.0% 0.0% 0.0% 0.0% al Cover 71.4% 14.3% 0.0% 0.0% 0.0%	FACU-FACU	FACW species 0 x 2 = 0 FAC species 25 x 3 = 75 FACU species 121 x 4 = 484 UPL species 5 x 5 = 25 Col umn Total s: 151 (A) 584 (B) Prevalence Index = B/A = 3.868 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50% Prevalence Index is ≤3.0 ¹ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
Picea rubens	23.3% 0.0% 0.0% 0.0% 0.0% 0.0% al Cover 71.4% 14.3% 0.0% 0.0% 0.0%	FACU-FACU	FAC species 25 x 3 = 75 FACU species 121 x 4 = 484 UPL species 5 x 5 = 25 Col umn Total s: 151 (A) 584 (B) Prevalence Index = B/A = 3.868 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50% Prevalence Index is ≤3.0 ¹ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
1.	0.0% 0.0% 0.0% 0.0% 0.0% al Cover 71.4% 14.3% 0.0% 0.0% 0.0%	FACU- FACU	FACU species 121 x 4 = 484 UPL species 5 x 5 = 25 Col umn Total s: 151 (A) 584 (B) Prevalence Index = B/A = 3.868 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50% Prevalence Index is ≤3.0 ¹ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
	0.0% 0.0% 0.0% 0.0% al Cover 71.4% 14.3% 14.3% 0.0% 0.0%	FACU-	FACU species 121 x 4 = 484 UPL species 5 x 5 = 25 Col umn Total s: 151 (A) 584 (B) Prevalence Index = B/A = 3.868 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50% Prevalence Index is ≤3.0 ¹ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
Solution Solution	0.0% 0.0% 0.0% al Cover 71.4% 14.3% 14.3% 0.0% 0.0%	FACU-	UPL species 5 x 5 = 25 Col umn Total s: 151 (A) 584 (B) Prevalence Index = B/A = 3.868 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50% Prevalence Index is ≤3.0 ¹ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
Solution Solution	0.0% 0.0% al Cover 71.4% 14.3% 0.0% 0.0%	FACU-	Col umn Total s:151 (A)584 (B) Prevalence Index = B/A =3.868 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50% Prevalence Index is ≤3.0 ¹ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
1.	0.0% al Cover 71.4% 14.3% 0.0% 0.0% 0.0%	FACU-	Prevalence Index = B/A = 3.868 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50% Prevalence Index is ≤3.0 ¹ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
1. Vaccinium angustifolium 25 Vaccinium angustifolium 25 Vaccinium angustifolium 25 Vaccinium angustifolium 25 Vaccinium angustifolium 5 Vaccinium obscurum 6 Vaccinium obscurum 6 Vaccinium obscurum 7 Vaccinium obscurum obscurum 7 Vaccinium obscurum 7 Vaccinium obscurum obscurum 7 Vaccinium obscurum obscuru	71.4% 14.3% 14.3% 0.0% 0.0%	FACU-	Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50% Prevalence Index is ≤3.0 ¹ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
1. Vaccinium angustifolium 25	71.4% 14.3% 14.3% 0.0% 0.0%	FACU-	Rapid Test for Hydrophytic Vegetation Dominance Test is > 50% Prevalence Index is ≤3.0 ¹ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Lycopodium obscurum 5 3. Polygonatum pubescens 5 4. 0 5. 0 6. 0 7. 0 8. 0 9. 0 0. 0 1. 0 2. 0 Moody Vine Stratum (Plot size:) 1. 0 2. 0	14.3% 14.3% 0.0% 0.0% 0.0%	FACU	 Dominance Test is > 50% Prevalence Index is ≤3.0 ¹ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Lycopodium obscurum 5 3. Polygonatum pubescens 5 4. 0 5. 0 6. 0 7. 0 8. 0 9. 0 0. 0 1. 0 2. 0 Moody Vine Stratum (Plot size:) 1. 0 2. 0	14.3% 14.3% 0.0% 0.0% 0.0%	FACU	 Prevalence Index is ≤3.0 ¹ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
3. Polygonatum pubescens 4.	14.3% 0.0% 0.0% 0.0%		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4.	0.0% 0.0% 0.0%		data in Remarks or on a separate sheet)
5.	0.0%		
6.			Problematic Hydrophytic Vegetation (Explain)
8.			
9.	0.0%		¹ Indicators of hydric soil and wetland hydrology mus
0.	0.0%		be present, unless disturbed or problematic.
1.	0.0%		Definitions of Vegetation Strata:
2.	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diamete
35 = Total	0.0%		at breast height (DBH), regardless of height.
Woody Vine Stratum (Plot size:)	0.0%		Continue to the Continue to th
1	al Cover		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
2			
	0.0%		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
	0.0%		Size, and woody plants less than 3.20 it tall.
3	0.0%		Woody vine - All woody vines greater than 3.28 ft in
4	0.0%		height.
0 = Tota	al Cover		
			Lludrophytic
			Hydrophytic
			Vegetation Present? Yes ○ No ●

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN7 Upland

	iption: (Des	cribe to t	he depth	needed to document	the indicator or con	ifirm the a	bsence of indicators.)	
Depth (inches)	Color (n	Matrix	- % -	Red Color (moist)	dox Features % Type 1	loc2	Texture	Remarks
0-2	10YR	3/2		Color (moist)		LUC-	Loam	Remarks
2-4	2.5YR	5/1					Fine Loamy Sand	
4-9	10YR	4/4					Fine Sandy Loam	bedrock
9+								
							-	
							-	
		=Depletior	n. RM=Redi	uced Matrix, CS=Covere	ed or Coated Sand Grai	ns ² Locat	tion: PL=Pore Lining. M=I	
Hydric Soil Ir							Indicators for Prob	lematic Hydric Soils: 3
Histosol (A	•			☐ Polyvalue Belov MLRA 149B)	v Surface (S8) (LRR R,		2 cm Muck (A10)	(LRR K, L, MLRA 149B)
Histic Epipe					ace (S9) (LRR R, MLRA	149B)	Coast Prairie Red	ox (A16) (LRR K, L, R)
Black Histic	Sulfide (A4)				Mineral (F1) LRR K, L)	,		or Peat (S3) (LRR K, L, R)
_	Layers (A5)			Loamy Gleyed I			Dark Surface (S7	
	Below Dark S	urface (A1	1)	Depleted Matrix	(F3)			Surface (S8) (LRR K, L)
_	Surface (A1		.,	Redox Dark Sui	rface (F6)		Thin Dark Surface	
	ck Mineral (S			Depleted Dark	Surface (F7)			Masses (F12) (LRR K, L, R) ain Soils (F19) (MLRA 149B)
	yed Matrix (S			Redox Depress	ions (F8)			6) (MLRA 144A, 145, 149B)
☐ Sandy Red	dox (S5)						Red Parent Mater	
Stripped M	Matrix (S6)						Very Shallow Dar	
☐ Dark Surfa	ace (S7) (LRR	R, MLRA	149B)				Other (Explain in	
³ Indicators of	hydrophytic	vegetation	and wetla	nd hydrology must be p	resent, unless disturbe	d or proble		
Restrictive La	ver (if obse	erved):						
Type: _bed	•	,.						
Depth (inch							Hydric Soil Present?	Yes O No 💿
Remarks:								
rtorria no								



AN7 Wetland



AN7 Upland

Project/Site: Antrim Wind Project			City/Count	y : Antrim		Sampling Date: 11-	Aug-11
Applicant/Owner: Eolian Renewable E	nergy, LLC			Sta	te: NH	Sampling Point:	AN8 Wet
Investigator(s): AF JG			Section	, Township, Range:	S. T.	 R.	
Landform (hillslope, terrace, etc.):	Terrace		_	(concave, convex, n		Slope:	5.0 % / 2.9°
Subregion (LRR or MLRA):	Torrado				-		
		Lat.:	-	Long	-	Datur	n:
Soil Map Unit Name:					NWI classif	ication: PFO	
Are climatic/hydrologic conditions o	n the site typ	pical for this time of y	ear?	Yes ● No ○	(If no, explain in	•	
Are Vegetation . , Soil .	, or Hydrold	ogy 🗌 significant	lly disturbed	? Are "Normal	Circumstances" p	oresent? Yes •	No O
Are Vegetation, Soil	, or Hydrold	ogy 🗌 naturally p	oroblematic?	? (If needed, e	explain any answe	ers in Remarks.)	
Summary of Findings - At	tach site	map showing s	sampling				tures, etc.
Hydrophytic Vegetation Present?		No O					
Hydric Soil Present?	Yes 💿	No O		the Sampled Area thin a Wetland?	Yes ● No ○)	
Wetland Hydrology Present?	Yes 💿	No O					
Lludrology							
Hydrology							
Wetland Hydrology Indicators:						ors (minimum of 2 requi	red)
Primary Indicators (minimum of or	ie requirea; o				Surface Soil Ci		
Surface Water (A1) High Water Table (A2)		✓ Water-Stained Lea☐ Aquatic Fauna (B1			✓ Drainage Patte Moss Trim Lin		
Saturation (A3)		Marl Deposits (B1				es (B16) 'ater Table (C2)	
Water Marks (B1)		Hydrogen Sulfide			Crayfish Burro		
Sediment Deposits (B2)		Oxidized Rhizosph		vina Roots (C3)		ible on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduc	-	ing Roots (00)		essed Plants (D1)	07,
Algal Mat or Crust (B4)		Recent Iron Reduc		Soils (C6)	Geomorphic P	` ,	
☐ Iron Deposits (B5)		☐ Thin Muck Surface			Shallow Aquita	• •	
Inundation Visible on Aerial Imager	y (B7)	Other (Explain in F	` '		Microtopograp	phic Relief (D4)	
Sparsely Vegetated Concave Surface	e (B8)				FAC-neutral To	est (D5)	
Field Observations:							
Surface Water Present? Yes		Depth (inches):					
Water Table Present? Yes	No ●	Depth (inches):				Yes ● No ○	
Saturation Present? (includes capillary fringe) Yes	No 🔾	Depth (inches):	0	Wetland Hydr	ology Present?	Yes ♥ No ∪	
Describe Recorded Data (stream ga	auge, monito	ring well, aerial photo	os, previous	inspections), if avail	able:		
Remarks:							

/EGETATION - Use scientific names of p	idillə		ominant ecies?		Sampling Point: AN8 Wet				
Tree Stratum (Plot size: 30')	Absolute % Cover	Re	I.Strat.	Indicator Status	Dominance Test worksheet:				
1 Betula alleghaniensis	25	V	50.0%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: 5	(4)			
) Agar ruhrum	25		50.0%	FAC	That are OBL, FACW, or FAC: 5	(A)			
			0.0%	TAC	Total Number of Dominant				
3			0.0%		Species Across All Strata: 5	(B)			
l		\Box	0.0%		Percent of dominant Species				
5 5		\Box	0.0%		That Are OBL, FACW, or FAC: 100.0%	(A/B)			
7			0.0%		Prevalence Index worksheet:				
		 To	otal Cove	-	Total % Cover of: Multiply by:				
Sapling/Shrub Stratum (Plot size: 15')		_ 10	ital cove		0BL species 0 x 1 = 0	_			
_ Vaccinium corymbosum	5	V	23.8%	FACW-	FACW species 91 x 2 = 182	-			
2. Spiraea latifolia	10	✓	47.6%	FAC+		-			
3. Picea rubens	3		14.3%	FACU		-			
Betula alleghaniensis	3		14.3%	FAC	TACO Species X 4	-			
5	0		0.0%		UPL species x 5 =	-			
5	0		0.0%		Column Totals:	(B)			
7	0		0.0%		Prevalence Index = B/A = 2.439				
Herb Stratum (Plot size: 5')		= To	tal Cove	r	Hydrophytic Vegetation Indicators:				
					Rapid Test for Hydrophytic Vegetation				
1.Impatiens capensis			82.4%	FACW	✓ Dominance Test is > 50%				
2.Osmunda cinnamomea			5.5%	FACW	✓ Prevalence Index is ≤3.0 ¹				
3.Onoclea sensibilis	3	\square	3.3%	FACW	☐ Morphological Adaptations ¹ (Provide supp	ortina			
4.Carex intumescens	3		3.3%	FACW+	data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain)				
5. violet spp.			5.5%						
6	0		0.0%						
7	0		0.0%		Indicators of hydric soil and wetland hydrolog be present, unless disturbed or problematic.	gy must			
8	0		0.0%		Definitions of Vegetation Strata:				
9	0		0.0%		Definitions of Vegetation Strata.				
10	0	\square	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in c	diamete			
1	0		0.0%		at breast height (DBH), regardless of height.				
2.	0	Ш	0.0%		Sapling/shrub - Woody plants less than 3 in. DE	3H and			
Woody Vine Stratum (Plot size:)	91	= To	tal Cove	r	greater than 3.28 ft (1m) tall				
	0		0.0%		Herb - All herbaceous (non-woody) plants, rega	rdloce o			
1			0.0%		size, and woody plants less than 3.28 ft tall.	101033			
2			0.0%						
3 4	0		0.0%		Woody vine - All woody vines greater than 3.28	ft in			
4		т.			height.				
	0	= 10	tal Cove	1					
					Lludraphytic				
					Hydrophytic Vegetation				
					Present? Yes No				

 $\label{lem:Remarks: (Include photo numbers here or on a separate sheet.)} \\$

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN8 Wet

	ription: (De	scribe to	the depth	needed to d	locument	the indic	ator or co	onfirm the	absence of indicators.)		
Depth (inches)	Color (Matrix	_	_ Color (ı		dox Featu %		Loc2	- Texture	Remarks	
				COIOI (I	iioist)	76	Type			Remarks	
0-8	2.5YR	2/1	100%						Loam		
8-10	2.5Y	5/1	100%						Fine Sand		
10-20	2.5Y	4/2	95%	2.5Y	6/1	5%	D	M	Sandy Loam		
									-		
									-		
									-		
									-		
¹ Type: C=Cor	centration. D	=Depletio	n. RM=Red	uced Matrix, (CS=Covere	ed or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=N	latrix	
Hydric Soil	Indicators:								Indicators for Probl	ematic Hydric Soils: 3	
Histosol (v Surface ((S8) (LRR I	₹,		(LRR K, L, MLRA 149B)	
	pedon (A2)				A 149B)	nco (CO) (I	DD D MII	OA 140P)		ox (A16) (LRR K, L, R)	
Black His						ace (S9) (l Mineral (F1)				or Peat (S3) (LRR K, L, R)	
	Sulfide (A4)					Matrix (F2)		,	Dark Surface (S7)	(LRR K, L)	
	Layers (A5) Below Dark S	Curface (A	11)	_	eted Matrix					urface (S8) (LRR K, L)	
	k Surface (A		11)		x Dark Su				Thin Dark Surface (S9) (LRR K, L)		
	uck Mineral (S	•		☐ Deple	eted Dark	Surface (F	7)		☐ Iron-Manganese Masses (F12) (LRR K, L, R)		
	eyed Matrix (Redo	x Depress	ions (F8)			Piedmont Floodplain Soils (F19) (MLRA 149B)		
Sandy Re		,5 .,							✓ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)✓ Red Parent Material (TF2)		
	Matrix (S6)								☐ Very Shallow Dark		
	face (S7) (LR	R R, MLRA	149B)						Other (Explain in		
³ Indicators o	f hydrophytic	vegetatio	n and wetla	nd hydrology	must be n	resent un	less distur	hed or proble		tomarksy	
Restrictive L Type:	ayer (II obs	ervea):									
Depth (inc	hes).								Hydric Soil Present?	Yes No	
•											
Remarks:											

Project/Site: Antrim Wind Project	Ci	ty/County: Antrim		Sampling Date: 11-Aug-11
Applicant/Owner: Eolian Renewable Energy, L	LC	Sta	te: NH	Sampling Point: AN8 Upland
Investigator(s): AF JG		Section, Township, Range:	S. T.	R.
Landform (hillslope, terrace, etc.): Terrac	ce Lo	ocal relief (concave, convex, n		Slope: 7.0 % / 4.0 °
Subregion (LRR or MLRA):	Lat.:	Long		Datum:
			NWI classif	
Soil Map Unit Name:			— INVVI CIASSII	
Are climatic/hydrologic conditions on the s	ite typical for this time of year	·? Yes ● No ○	(If no, explain in	· · · · · · · · · · · · · · · · · · ·
Are Vegetation \square , Soil \square , or H	ydrology 🗌 significantly	disturbed? Are "Normal	Circumstances" p	oresent? Yes • No ·
Are Vegetation, Soil, or H	ydrology naturally pro	blematic? (If needed,	explain any answe	ers in Remarks.)
Summary of Findings - Attach		mpling point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? Yes		Is the Sampled Area within a Wetland?	Yes O No 🗨)
Wetland Hydrology Present? Yes	○ No •			
I hadrada an				
Hydrology				
Wetland Hydrology Indicators:	irod, about all that apply)			ors (minimum of 2 required)
Primary Indicators (minimum of one requ Surface Water (A1)		(DO)	Surface Soil C	
High Water Table (A2)	Water-Stained Leaves☐ Aquatic Fauna (B13)	S (B9)	☐ Drainage Patte ☐ Moss Trim Lin	
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odd	or (C1)	Crayfish Burro	
Sediment Deposits (B2)	_ , ,	s along Living Roots (C3)		ible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced	Iron (C4)	Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reductio	n in Tilled Soils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)	Thin Muck Surface (C	7)	Shallow Aquita	
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	Other (Explain in Ren	narks)		phic Relief (D4)
Sparsely vegetated concave surface (B8)			FAC-neutral T	est (D5)
Field Observations:				
	Depth (inches):			
	Depth (inches):	Wotland Hyde	ology Present?	Yes ○ No •
Saturation Present? (includes capillary fringe) Yes No	Depth (inches):	wetiana nyai	ology Present?	Tes C NO C
Describe Recorded Data (stream gauge, n	nonitoring well, aerial photos,	previous inspections), if avail	able:	
Remarks:				
Remarks:				

VEGETATION - Use scientific names of p			minant ecies?		Sampling Point: AN8 Upland
Tree Stratum (Plot size: 30')	Absolute % Cover	Re	l.Strat.	Indicator Status	Dominance Test worksheet:
1 Ouesaus miles	25	✓	28.4%	FACU-	Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)
2 Dinus etrobus	22	V	37.5%	FACU	That are Obt., FACW, OF FAC.
Datata manustrus			11.4%	FACU	Total Number of Dominant
5. Betula papyrifera 4. Acer rubrum			22.7%	FAC	Species Across All Strata: 6 (B)
5.		\Box	0.0%		Percent of dominant Species
5			0.0%		That Are OBL, FACW, or FAC: 16.7% (A/B)
7.			0.0%		Prevalence Index worksheet:
		= Tc	tal Cove	- ——— r	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15')					0BL species 0 x 1 = 0
Legion Fragus grandifolia			80.0%	FACU	FACW species $0 \times 2 = 0$
2. Picea rubens		V	20.0%	FACU	FAC species 20 x 3 = 60
3			0.0%		FACU speci es 119 x 4 = 476
4			0.0%		UPL speci es $\frac{26}{x}$ x 5 = $\frac{130}{x}$
5	0		0.0%	-	Col umn Total s: 165 (A) 666 (B)
6	0		0.0%		
7			0.0%		Prevalence Index = B/A = 4.036
Herb Stratum (Plot size: 5')	50	= 10	tal Cove	ŗ	Hydrophytic Vegetation Indicators:
1.Aralia nudicaulis	1		3.7%	FACU	Rapid Test for Hydrophytic Vegetation
2. Medeola virginiana			3.7%	UPL	☐ Dominance Test is > 50%
3. Polygonatum pubescens		V	92.6%	UPL	Prevalence Index is ≤3.0 ¹
4.			0.0%		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.			0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
6.	0		0.0%		
7	0		0.0%		¹ Indicators of hydric soil and wetland hydrology must
8	0		0.0%		be present, unless disturbed or problematic.
9	0		0.0%		Definitions of Vegetation Strata:
10	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diamete
l1 <u>. </u>	0		0.0%		at breast height (DBH), regardless of height.
12	0		0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and
Was do Vine Charles (Diet sies)	27	= To	tal Cove	r	greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size:)					
1			0.0%		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
2			0.0%		olze, and weedy plante less than elze it tall.
3			0.0%		Woody vine - All woody vines greater than 3.28 ft in
4		Ш,	0.0%		height.
	0	= Tc	tal Cove	r	
					Hydrophytic
					Vegetation V
					Present? Yes V No 🛡

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN8 Upland

Profile Description: (Describ	e to the depth r	eeded to document the indicator or confirm the	absence of indicators.)	
	trix	Redox Features	- +	5
	<u> </u>	Color (moist) % Type 1 Loc²	Texture	Remarks
0-4 10YR 3	3/2 100%		Loam	
4-6 2.5Y 5	5/1 100%		Loamy Sand	
6-8 10YR 4	1/4 100%		Very Fine Sandy Loam	
8+				Bedrock
			- ·	
¹ Type: C=Concentration. D=De	pletion. RM=Redu	ced Matrix, CS=Covered or Coated Sand Grains 2Loc	cation: PL=Pore Lining. M=M	atrix
Hydric Soil Indicators:			Indicators for Proble	ematic Hydric Soils : 3
Histosol (A1)		Polyvalue Below Surface (S8) (LRR R,		(LRR K, L, MLRA 149B)
Histic Epipedon (A2)		MLRA 149B)		x (A16) (LRR K, L, R)
☐ Black Histic (A3)		☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)		or Peat (S3) (LRR K, L, R)
Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1) LRR K, L)	Dark Surface (S7)	
Stratified Layers (A5)		Loamy Gleyed Matrix (F2)		urface (S8) (LRR K, L)
Depleted Below Dark Surfa	ce (A11)	Depleted Matrix (F3)	Thin Dark Surface	
☐ Thick Dark Surface (A12)		Redox Dark Surface (F6)		lasses (F12) (LRR K, L, R)
Sandy Muck Mineral (S1)		Depleted Dark Surface (F7)		in Soils (F19) (MLRA 149B)
Sandy Gleyed Matrix (S4)		Redox Depressions (F8)) (MLRA 144A, 145, 149B)
Sandy Redox (S5)			Red Parent Materia	
Stripped Matrix (S6)			Very Shallow Dark	
Dark Surface (S7) (LRR R,	MLRA 149B)		Other (Explain in F	
³ Indicators of hydrophytic year	etation and wetlan	d hydrology must be present, unless disturbed or prob		·
Restrictive Layer (if observe Type: Bedrock	·u).			
Depth (inches): 8			Hydric Soil Present?	Yes ○ No ●
Remarks:				



AN8 Upland



AN8 Wetland



AN8 Wetland

Project/Site: Antrim Wind Project	City/County: Antrim Sampling Date: 11-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC	State: NH Sampling Point: AN10 Wet
Investigator(s): AF JG	Section, Township, Range: S. T. R.
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): none Slope: 10.0 % / 5.7 °
	
Subregion (LRR or MLRA):	Lat.: Long.: Datum:
Soil Map Unit Name:	NWI classification: PFO
Are climatic/hydrologic conditions on the site typical for this	
Are Vegetation \square , Soil \square , or Hydrology \square s	ignificantly disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation . , Soil . , or Hydrology . r	aturally problematic? (If needed, explain any answers in Remarks.)
Summary of Findings - Attach site map sho	owing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	
Hydric Soil Present? Yes No	Is the Sampled Area within a Wetland? Yes No
Wetland Hydrology Present? Yes ● No ○	
Hydrology	
Wetland Hydrology Indicators:	Cocondon: Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that	t apply) Secondary Indicators (minimum of 2 required) Surface Soil Cracks (B6)
	Stained Leaves (B9) Stained Leaves (B9) Drainage Patterns (B10)
	Fauna (B13)
	posits (B15) Dry Season Water Table (C2)
Water Marks (B1) Hydrog	en Sulfide Odor (C1) Crayfish Burrows (C8)
Sediment Deposits (B2) Oxidize	d Rhizospheres along Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
	e of Reduced Iron (C4) Stunted or Stressed Plants (D1)
	Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2)
	ick Surface (C7) Shallow Aquitard (D3)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (☐ Sparsely Vegetated Concave Surface (B8)	Explain in Remarks) Microtopographic Relief (D4) FAC-neutral Test (D5)
Sparsery vegetated concave surface (bo)	FAC-neutral Test (D5)
Field Observations: Surface Water Present? Yes No Depth	(instant)
<u> </u>	(inches):1
	(inches): Wetland Hydrology Present? Yes • No •
Saturation Present? (includes capillary fringe) Yes No Depth	(inches):
Describe Recorded Data (stream gauge, monitoring well, as	erial photos, previous inspections), if available:
Remarks:	
drainage patterns saturated to surface, 1" flowing water ne	ar seep

VEGETATION - Use scientific names of plan	nts		ominant pecies?		Sampling Point: AN10 Wet
Tree Stratum (Plot size: 30')	Absolute % Cover	Re		Indicator Status	Dominance Test worksheet:
1. Betula alleghaniensis	15	V	50.0%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)
2. Fraxinus pennsylvanica	15	V	50.0%	FACW	
3.	0		0.0%		Total Number of Dominant Species Across All Strata: 6 (B)
4.	0		0.0%		Species Across Air Strata.
5.	0		0.0%		Percent of dominant Species That Are ORL FACW or FAC: 83.3% (A/B)
6	0		0.0%		That Are OBL, FACW, or FAC: 83.3% (A/B)
7	0		0.0%		Prevalence Index worksheet:
	30	= Tc	otal Cove	r	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15')		_			0BL species 5 x 1 = 5
1. Acer pensylvanicum	50	✓	76.9%	FACU	FACW species 88 x 2 = 176
2. Betula alleghaniensis	15	✓	23.1%	FAC	FAC species $30 \times 3 = 90$
3	0		0.0%		
4	0		0.0%		Theo species x 4
5	0		0.0%		UPL species X 5 =
<u>6</u>	0		0.0%		Column Totals: 173 (A) 471 (B)
7	0		0.0%		Prevalence Index = B/A = 2.723
(01.)	65	= To	otal Cove	r	Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size: 5')					Rapid Test for Hydrophytic Vegetation
1.Osmunda cinnamomea	33	✓	42.3%	FACW	✓ Dominance Test is > 50%
2. Impatiens capensis	40	✓	51.3%	FACW	✓ Prevalence Index is ≤3.0 ¹
3.Carex lurida	5		6.4%	OBL	
4.	0		0.0%		
5	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
6.	0		0.0%		
7.	0		0.0%		1 Indicators of hydric soil and wetland hydrology must
8.	0		0.0%		be present, unless disturbed or problematic.
9.	0		0.0%		Definitions of Vegetation Strata:
10.	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11.	0		0.0%		at breast height (DBH), regardless of height.
12.	0		0.0%		
					Sanling/shrub - Woody plants less than 3 in DRH and

______ = Total Cover

0__

0__

0

0.0%

0 = Total Cover

0.0%

0.0%

0.0%

height.

Hydrophytic Vegetation

Present?

Remarks: (Include photo numbers here or on a separate sheet.)

Woody Vine Stratum (Plot size: _____)

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of

Woody vine - All woody vines greater than 3.28 ft in

Yes ● No ○

size, and woody plants less than 3.28 ft tall.

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN10 Wet

Profile Desc Depth	ription: (Des	scribe to Matrix	the depth	needed to		t the indic		onfirm the	absence of indicators.)	
(inches)	Color (r		- %	Color (%	Type 1	Loc2	Texture	Remarks
0-6	10YR	3/2	100%						Sandy Loam	
6-10	2.5Y	4/2	90%	10YR	5/8	10%	С	M	Fine Sandy Loam	
10+									,	boul dery
									-	
						_				
						_				
										_
										_
										_
¹ Type: C=Cor	ncentration. D	=Depletio	n. RM=Red	luced Matrix,	CS=Cover	ed or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=	
Hydric Soil	Indicators:								Indicators for Prob	olematic Hydric Soils : 3
Histosol	(A1)			Poly	value Belo	w Surface ((S8) (LRR F	R ,) (LRR K, L, MLRA 149B)
	ipedon (A2)				A 149B)	ace (S9) (I	DD D MIE	0A 140D\		lox (A16) (LRR K, L, R)
☐ Black His						Mineral (F1				t or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)					Matrix (F2)			Dark Surface (S7	") (LRR K, L)
	Layers (A5) Below Dark S	Surface (A	11)		eted Matri					Surface (S8) (LRR K, L)
	rk Surface (A1		,			urface (F6)				e (S9) (LRR K, L)
	uck Mineral (S			Depl	eted Dark	Surface (F	7)		_	Masses (F12) (LRR K, L, R)
	eyed Matrix (S			Redo	x Depres	sions (F8)				lain Soils (F19) (MLRA 149B) \(\delta\) (MLRA 144A, 145, 149B)
Sandy Re	edox (S5)								Red Parent Mate	
	Matrix (S6)									rk Surface (TF12)
Dark Sur	face (S7) (LRF	R R, MLRA	149B)						Other (Explain in	Remarks)
³ Indicators o	f hydrophytic	vegetatio	n and wetla	and hydrology	must be	present, un	less disturb	ed or probl	lematic.	
Restrictive L	ayer (if obs	erved):								
Type: b	ouldery									
Depth (inc	ches):_10								Hydric Soil Present?	Yes ● No ○
Remarks:										

Project/Site: Antrim Wind Project			City/County	: Antrim		Sampling Date: 11-Aug-11
Applicant/Owner: Eolian Renewable En	nergy, LLC			Sta	te: NH	Sampling Point: AN10 Upland
Investigator(s): AF JG			Section.	Township, Range:	S. T.	R.
Landform (hillslope, terrace, etc.):	Hillside		_	(concave, convex, r		Slope: 15.0 % / 8.5 °
Subregion (LRR or MLRA):		Lat.:		Long		Datum:
					NWI classif	
Soil Map Unit Name:					— NWI CIASSII	ication:
Are climatic/hydrologic conditions o	n the site ty	pical for this time of y	ear?	res ● No ○	(If no, explain in	•
Are Vegetation, Soil	, or Hydrold	ogy 🗌 significant	ly disturbed?	Are "Normal	Circumstances" p	oresent? Yes No
Are Vegetation, Soil	, or Hydrold	ogy 🗌 naturally p	roblematic?	(If needed,	explain any answe	ers in Remarks.)
Summary of Findings - At		<u> </u>	ampling	point location	ns, transects,	important features, etc.
Hydrophytic Vegetation Present?		No •				
Hydric Soil Present?	Yes 🔾	No •		he Sampled Area hin a Wetland?	Yes O No 🗨	
Wetland Hydrology Present?	Yes 🔾	No •				
Hydrology						
Wetland Hydrology Indicators:	a raquirad.	abaak all that annly)				ors (minimum of 2 required)
Primary Indicators (minimum of on Surface Water (A1)	e requirea;		(DO)		Surface Soil C	
High Water Table (A2)		Water-Stained Lea Aquatic Fauna (B1			☐ Drainage Patte	
Saturation (A3)		Marl Deposits (B15				dater Table (C2)
Water Marks (B1)		Hydrogen Sulfide			Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosph		ng Roots (C3)		ible on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduc	ed Iron (C4)		Stunted or Str	ressed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc	tion in Tilled S	oils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)		Thin Muck Surface	(C7)		Shallow Aquita	
Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surface		Other (Explain in F	Remarks)			ohic Relief (D4)
Sparsely vegetated concave surface	3 (88)				FAC-neutral T	est (D5)
Field Observations:						
Surface Water Present? Yes		Depth (inches):		_		
Water Table Present? Yes	No 💿	Depth (inches):		Wotland Hydr	rology Present?	Yes ○ No •
Saturation Present? (includes capillary fringe) Yes	No 💿	Depth (inches):		wettand Hydi	rology Present?	Tes C NO C
Describe Recorded Data (stream ga	uge, monito	oring well, aerial photo	os, previous i	nspections), if avai	lable:	
Remarks:						

VEGETATION - Use scientific names of p			ominant pecies?		Sampling Point: AN10 Upland
Tree Stratum (Plot size: 30')	Absolute % Cover	Re	el.Strat.	Indicator Status	Dominance Test worksheet:
1 Tours considered	40	✓	42.1%		Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
) Detule menumifore	25	✓	26.3%	FACU FACU	That are OBL, FACW, or FAC: 2 (A)
Caratana a amanda anta	15				Total Number of Dominant
Fraxinus pennsylvanica	15		15.8%	FACW	Species Across All Strata: 6 (B)
Picea rubens			15.8%	FACU	Percent of dominant Species
5			0.0%		That Are OBL, FACW, or FAC: 33.3% (A/B)
5			0.0%		
·		Ш	0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')	95	= To	otal Cove	r	Total % Cover of: Multiply by:
. Acer rubrum	50	V	76.9%	FAC	0BL species 0 x 1 = 0
Diego ruhana	15	✓	23.1%	FACU	FACW species 15 x 2 = 30
. Ficea Tuberis			0.0%	17.00	FAC species $70 \times 3 = 210$
·			0.0%		FACU species x 4 = 620
l			0.0%		UPL species $0 \times 5 = 0$
•	0		0.0%		Column Totals: 240 (A) 860 (B)
S	0		0.0%		
		 = To	otal Cove		
Herb Stratum (Plot size: 5')			otal oove	•	Hydrophytic Vegetation Indicators:
1. Trientalis borealis	20	✓	25.0%	FAC	Rapid Test for Hydrophytic Vegetation
2. Aralia nudicaulis	50	✓	62.5%	FACU	☐ Dominance Test is > 50%
3. Dryopteris intermedia	10		12.5%	FACU	Prevalence Index is ≤3.0 ¹
4.	0		0.0%		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
6.	0		0.0%		
7.	0		0.0%		¹ Indicators of hydric soil and wetland hydrology mus
8.	0		0.0%		be present, unless disturbed or problematic.
9.			0.0%		Definitions of Vegetation Strata:
0.	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
1.			0.0%		at breast height (DBH), regardless of height.
2.	0		0.0%		
	80	= To	otal Cove	r	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size:)					
1			0.0%		Herb - All herbaceous (non-woody) plants, regardless
2			0.0%		size, and woody plants less than 3.28 ft tall.
3			0.0%		Woody vine - All woody vines greater than 3.28 ft in
4		Ш	0.0%		height.
	0	= To	otal Cove	r	
					Hydrophytic Vegetation
					Present? Yes No •

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN10 Upland

Depth (inches)	Color (n	Matrix	- %	Red Color (moist)	dox Features % Type 1	Loc2	- Texture	Remarks
			100%	Color (moist)	- 76 Type	LOC-		Remarks
0-5	10YR	3/2					Loam	_
5-7	2.5Y	5/1	100%				Fine Loamy Sand	
7-13	10YR	4/3	100%				Very Fine Loamy Sand	hand dame
13+								boul dery
							-	
							-	
							-	
								_
Type: C=Cor	ncentration. D:	=Depletio	n. RM=Redu	iced Matrix, CS=Covere	d or Coated Sand Gra	ins ² Loca	ation: PL=Pore Lining. M=	Matrix
Hydric Soil								olematic Hydric Soils: 3
Histosol	(A1)				v Surface (S8) (LRR R	ı		
Histic Epi	pedon (A2)			MLRA 149B)) (LRR K, L, MLRA 149B) dox (A16) (LRR K, L, R)
☐ Black His	tic (A3)				ice (S9) (LRR R, MLR	A 149B)		t or Peat (S3) (LRR K, L, R)
Hydrogei	n Sulfide (A4)				Mineral (F1) LRR K, L)		Dark Surface (S7	
Stratified	Layers (A5)			Loamy Gleyed N				Surface (S8) (LRR K, L)
	Below Dark S		11)	Depleted Matrix				e (S9) (LRR K, L)
	rk Surface (A1	•		Redox Dark Sur	, ,		Iron-Manganese	Masses (F12) (LRR K, L, R)
	uck Mineral (S			Depleted Dark S Redox Depressi			Piedmont Floodp	olain Soils (F19) (MLRA 149B)
	eyed Matrix (S	64)		☐ Redox Depressi	0113 (1 0)		Mesic Spodic (TA	A6) (MLRA 144A, 145, 149B)
Sandy Re							Red Parent Mate	rial (TF2)
	Matrix (S6) face (S7) (LRR	א א א א א	\ 140D\					rk Surface (TF12)
							Other (Explain in	Remarks)
³ Indicators of	f hydrophytic	vegetatio	n and wetla	nd hydrology must be p	resent, unless disturb	ed or probl	ematic.	
Restrictive L	ayer (if obse	erved):						
Type: b	ouldery							
Depth (inc	ches): 13						Hydric Soil Present?	Yes ○ No •
Remarks:								



AN10 Upland



AN10 Wetland

Project/Site: Antrim Wind Project	City/County: Antrim	Sampling Date: 12-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC	State	e: NH Sampling Point: AN11 Wet
Investigator(s): AF JG	Section, Township, Range: S	5. T. R.
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, no	
<u></u>		
Subregion (LRR or MLRA):	Lat.: Long.	
Soil Map Unit Name:		NWI classification: PSS
Are climatic/hydrologic conditions on the site typical f	or this time of year? Yes No	(If no, explain in Remarks.)
Are Vegetation . , Soil . , or Hydrology	significantly disturbed? Are "Normal (Circumstances" present? Yes ● No ○
Are Vegetation , Soil , or Hydrology	naturally problematic? (If needed, e.	xplain any answers in Remarks.)
Summary of Findings - Attach site ma		
Hydrophytic Vegetation Present? Yes No		
Hydric Soil Present? Yes • No	Is the Sampled Area within a Wetland?	Yes ● No ○
Wetland Hydrology Present? Yes No		
Hydrology		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check	-	Secondary mulcators (minimum of 2 required) Surface Soil Cracks (B6)
	Water-Stained Leaves (B9)	✓ Drainage Patterns (B10)
	Aquatic Fauna (B13)	Moss Trim Lines (B16)
✓ Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)	
Field Observations: Surface Water Present? Yes No No		
	Depth (inches):	
Water Table Present? Yes No •	Depth (inches): Wetland Hydro	ology Present? Yes No
Saturation Present? (includes capillary fringe) Yes No	Depth (inches): 0	
Describe Recorded Data (stream gauge, monitoring value) Remarks:	ell, aerial photos, previous inspections), if availa	ible:

VEGETATION - Use scientific names of plants	

VEGETATION - Use scientific names of plants		DominantSpecies?			Sampling Point: AN11 Wet		
Tree Stratum (Plot size: 30')	Absolute % Cover	Re	_	Indicator Status	Dominance Test worksheet:		
1	70 00 00		0.0%	Jiaius	Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)		
2.	0		0.0%				
3.	0		0.0%		Total Number of Dominant Species Across All Strata: 5 (B)		
4.	0		0.0%		Species Across All Strata: 5 (B)		
5	0	\Box	0.0%		Percent of dominant Species		
6.	0	\Box	0.0%		That Are OBL, FACW, or FAC:100.0% (A/B)		
7	0	\Box	0.0%		Prevalence Index worksheet:		
7					Total % Cover of: Multiply by:		
Sapling/Shrub Stratum (Plot size: 15')		= 10	otal Cover		0BL species 25 x 1 = 25		
1. Spiraea tomentosa	15	~	75.0%	FACW			
2. Betula alleghaniensis	5	V	25.0%	FAC	FACW species 63 x 2 = 126		
3.			0.0%		FAC species $5 \times 3 = 15$		
4.	0	\Box	0.0%		FACU speci es0 x 4 =0		
5	0	\Box	0.0%		UPL species $0 \times 5 = 0$		
6	0		0.0%		Column Totals: 93 (A) 166 (B)		
7	0		0.0%				
7		Ш,			Prevalence Index = B/A = 1.785		
Herb Stratum (Plot size: 5')		= To	otal Cover	•	Hydrophytic Vegetation Indicators:		
1. Onoclea sensibilis	20	~	27.4%	FACW	☐ Rapid Test for Hydrophytic Vegetation		
2.Scirpus cyperinus	20	V	27.4%	FACW+	✓ Dominance Test is > 50%		
3 Caray arinita	25		34.2%	OBL	✓ Prevalence Index is ≤3.0 ¹		
A Comunida alamamana		\Box	6.8%	FACW	Morphological Adaptations ¹ (Provide supporting		
5 0-1			4.1%	FACW+	data in Remarks or on a separate sheet)		
6.		\Box	0.0%	TACVV+	Problematic Hydrophytic Vegetation ¹ (Explain)		
7.		\Box			¹ Indicators of hydric soil and wetland hydrology must		
	0	\Box	0.0%		be present, unless disturbed or problematic.		
8		\vdash	0.0%		Definitions of Vegetation Strata:		
9			0.0%		Definitions of Vegetation Strata.		
10	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter		
11			0.0%		at breast height (DBH), regardless of height.		
12	0	Ш	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and		
Woody Vine Stratum (Plot size:)		= To	otal Cover		greater than 3.28 ft (1m) tall		
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of		
2	0		0.0%		size, and woody plants less than 3.28 ft tall.		
3	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in		
4	0		0.0%		height.		
···	0 :	= Tc	otal Cover				
			, tui 0010i				
					Hydrophytic		
					Vegetation Present? Yes No		
Remarks: (Include photo numbers here or on a separate she	eet.)						
' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '	-						

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN11 Wet

Profile Descripe	•	cribe to Matrix	the depth	needed to		t the indic		firm the	absence of indicators.)	
(inches)	Color (m		_ %	Color (%	Type 1	Loc2	Texture	Remarks
0-6	10YR	3/2	100%						Loam	
6-7	2.5Y	4/1	100%						Fine Sandy Loam	
7-9	2.5Y	4/2	90%	10YR	4/6	10%	С		Fine Sandy Loam	
9+										rocky
									-	
1 Type: C=Cor		-Denletio	n RM=Red	uced Matrix	CS=Cover	ed or Coate	ed Sand Grain	ns 2l nca	ation: PL=Pore Lining. M=	– Matrix
Hydric Soil		Sobietio	KWI-KGU		20-00ver	Sa or ovall	Ju Juliu Oldli	.5		
Histosol (Poly	value Belo	w Surface ((S8) (LRR R,			lematic Hydric Soils : 3
	pedon (A2)			MLR	A 149B)					(LRR K, L, MLRA 149B) ox (A16) (LRR K, L, R)
☐ Black His	tic (A3)						LRR R, MLRA	149B)		or Peat (S3) (LRR K, L, R)
Hydroger	Sulfide (A4)) LRR K, L)		Dark Surface (S7	
	Layers (A5)					Matrix (F2)				Surface (S8) (LRR K, L)
	Below Dark Su		11)		leted Matri					e (S9) (LRR K, L)
	k Surface (A12					ırface (F6)	7)			Masses (F12) (LRR K, L, R)
	uck Mineral (S1				ox Depress	Surface (F	/)		Piedmont Floodp	lain Soils (F19) (MLRA 149B)
	eyed Matrix (S	4)		∟ Keu	ox Depress	SIONS (F8)			Mesic Spodic (TA	6) (MLRA 144A, 145, 149B)
Sandy Re									Red Parent Mate	rial (TF2)
	Matrix (S6)								Very Shallow Dar	k Surface (TF12)
	face (S7) (LRR								Other (Explain in	Remarks)
³ Indicators o	f hydrophytic \	vegetatio	n and wetla	and hydrology	must be p	present, un	less disturbe	d or probl	ematic.	
Restrictive L	ayer (if obse	rved):								
Type: <u>rc</u>	ocks									
Depth (inc	thes): 9								Hydric Soil Present?	Yes ● No ○
Remarks:										

Project/Site: Antrim Wind Project	City/County	: Antrim		Sampling Date: 12	-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH	Sampling Point:	AN11 Up
Investigator(s): AF JG	Section,	Township, Range:	S. T.	 R.	
Landform (hillslope, terrace, etc.): Hillside		(concave, convex, n			 20.0 % / 11.3 °
Subregion (LRR or MLRA):	 Lat.:	Long	-	· Datu	
Soil Map Unit Name:			NWI classif		
	- · · · · · · · · · · · · · · · · · · ·	′es ● No ○	_		
Are climatic/hydrologic conditions on the site t	,,,		(If no, explain in		No O
Are Vegetation, Soil, or Hydro		Are "Normal	Circumstances" p	oresent?	NO U
Are Vegetation, Soil, or Hydro	ology naturally problematic?	(If needed, e	explain any answe	ers in Remarks.)	
Summary of Findings - Attach sit		point location	s, transects,	important fea	itures, etc.
Hydrophytic Vegetation Present? Yes	No •				
Hydric Soil Present? Yes	with	he Sampled Area nin a Wetland?	Yes \bigcirc No $lacktriangle$)	
Wetland Hydrology Present? Yes	No •				
Remarks: (Explain alternative procedures he	re or in a separate report.)				
I					
Hydrology					
Wetland Hydrology Indicators:				ors (minimum of 2 requ	ired)
Primary Indicators (minimum of one required			Surface Soil Ci		
Surface Water (A1)	Water-Stained Leaves (B9)		Drainage Patte		
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lin		
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burro		
Sediment Deposits (B2)	Oxidized Rhizospheres along Livi	ng Roots (C3)		ible on Aerial Imagery	(C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)			essed Plants (D1)	
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled S	oils (C6)	Geomorphic P		
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)		Shallow Aquita		
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		_	ohic Relief (D4)	
Sparsely Vegetated Concave Surface (B8)			FAC-neutral To	est (D5)	
Field Observations:					
Surface Water Present? Yes No No	Depth (inches):	_			
Water Table Present? Yes O No •	Depth (inches):				
Saturation Present? (includes capillary frings) Yes No	Depth (inches):	Wetland Hydr	ology Present?	Yes ○ No ●	
(includes capillary fringe) Describe Recorded Data (stream gauge, moni		nspections) if avail	ahle:		
Describe Recorded Data (Stream gauge, mon	toring well, derial priotos, previous i	rispections), ii avaii	able.		
Remarks:					

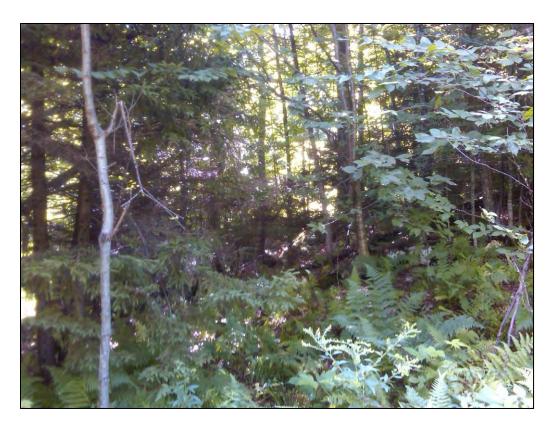
/EGETATION - Use scientific names of p	riairts		ominant ecies?		Sampling Point: AN11 Up
Tree Stratum (Plot size: 30')	Absolute % Cover	Re	l.Strat.	Indicator Status	Dominance Test worksheet:
Section 1 - Section 2 - Sectio	20	V	22.2%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)
2. Acer saccharum	60		66.7%	FACU-	That are OBL, FACW, OF FAC.
Ouerous rubre			11.1%	FACU-	Total Number of Dominant
		\Box	0.0%	TACO	Species Across All Strata: 7 (B)
l		\Box	0.0%		Percent of dominant Species
). 			0.0%		That Are OBL, FACW, or FAC:14.3% (A/
7.			0.0%		Prevalence Index worksheet:
			otal Cove		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15')		= 10	nai cove		$\begin{array}{cccccccccccccccccccccccccccccccccccc$
. Quercus rubra	20	V	23.5%	FACU-	
Picea rubens	20	\checkmark	23.5%	FACU	X
B. Betula alleghaniensis	15		17.6%	FAC	1/0 3000103
. Acer saccharum	10		11.8%	FACU-	FACU species $\frac{160}{10}$ x 4 = $\frac{640}{50}$
Ostrya virginiana	20	✓	23.5%	FACU-	UPL species $\frac{10}{2}$ x 5 = $\frac{50}{2}$
S	0		0.0%		Column Totals: 188 (A) 744 (I
· .	0		0.0%		Prevalence Index = B/A = 3.957
Herb Stratum (Plot size: 5')		= To	tal Cove	r	Hydrophytic Vegetation Indicators:
	10	~	7/ 00/	LIDI	Rapid Test for Hydrophytic Vegetation
1. Dennstaedtia punctilobula			76.9%	UPL	☐ Dominance Test is > 50%
2.Trientalis borealis 3.			23.1%	FAC	Prevalence Index is ≤3.0 ¹
1			0.0%		Morphological Adaptations ¹ (Provide supportin
4			0.0%		data in Remarks or on a separate sheet)
5.			0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
6			0.0%		¹ Indicators of hydric soil and wetland hydrology mu
7		\vdash	0.0%		be present, unless disturbed or problematic.
8			0.0%		Definitions of Vegetation Strata:
9			0.0%		Definitions of Vegetation Strata.
0.	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diame
1		\square	0.0%		at breast height (DBH), regardless of height.
2		Ш	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH an
Woody Vine Stratum (Plot size:)	13	= To	tal Cove	r	greater than 3.28 ft (1m) tall
 1	0	П	0.0%		Herb - All herbaceous (non-woody) plants, regardless
2			0.0%		size, and woody plants less than 3.28 ft tall.
2 3		\Box	0.0%		
3 4			0.0%		Woody vine - All woody vines greater than 3.28 ft in height.
⊤.		 	otal Cove		, noight
		- 10	a. cove	•	
					Hydrophytic Vegetation

 $\label{lem:Remarks: (Include photo numbers here or on a separate sheet.)} \\$

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN11 Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)		Matrix		Redox Features			
	Color (I		<u>%</u>	Color (moist) % Type 1 Loc ²	Texture Remarks		
0-4	10YR	3/2	100%		Loam		
4-5	2.5Y	4/1	100%		Fine Sandy Loam		
5-9	10YR	4/3	100%		Very Fine Sandy Loam		
9-15	10YR	4/6	100%		Very Fine Sandy Loam		
¹ Type: C=Con	centration. D	=Depletio	n. RM=Rec	luced Matrix, CS=Covered or Coated Sand Grains ² Loca	tion: PL=Pore Lining. M=Matrix		
Hydric Soil I	Indicators:				Indicators for Problematic Hydric Soils: 3		
Histosol ((A1)			Polyvalue Below Surface (S8) (LRR R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)		
	pedon (A2)			MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)		
Black Hist				Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)		
	Sulfide (A4)			Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L)		
	Layers (A5) Below Dark S	Surface (A	11\	Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)		
	k Surface (A		11)	Redox Dark Surface (F6)	☐ Thin Dark Surface (S9) (LRR K, L)		
	uck Mineral (S			☐ Depleted Dark Surface (F7)	☐ Iron-Manganese Masses (F12) (LRR K, L, R)		
	eyed Matrix (Redox Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B)		
Sandy Re					☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B) ☐ Red Parent Material (TF2)		
	Matrix (S6)				Very Shallow Dark Surface (TF12)		
☐ Dark Surf	face (S7) (LRI	R R, MLRA	149B)		Other (Explain in Remarks)		
³ Indicators o	f hydrophytic	vegetatio	n and wetla	and hydrology must be present, unless disturbed or proble			
Restrictive L				, , , , , , , , , , , , , , , , , , , ,			
Type: _Bo	-	erveu).					
	thes): 15+				Hydric Soil Present? Yes ○ No ●		
Remarks:	,						
Nemarks.							



AN11 Upland



AN11 Wetland

VEGETATION -	Use scientific	names of	plants
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/EGETATION - Use scientific names of p	lants		ominant oecies?		Sampling Point: an12 wetland
Tree Stratum (Plot size:)	Absolute % Cover	R		Indicator Status	Dominance Test worksheet:
				Status	Number of Dominant Species
1			0.0%		That are OBL, FACW, or FAC: 5 (A)
2.			0.0%		Total Number of Dominant
3			0.0%		Species Across All Strata: 5 (B)
4			0.0%		
5	0	Щ	0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
S	0	Ш	0.0%		That Are Obe, FACW, of FAC.
7	0	Ш	0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')	0	= T	otal Cove	r	Total % Cover of: Multiply by:
1. Spiraea alba	25	✓	33.3%	FACW+	0BL speci es 15 x 1 = 15
2. Spiraea tomentosa	50	<u>✓</u>	66.7%	FACW	FACW species 125 x 2 = 250
3.	0		0.0%		FAC species $0 \times 3 = 0$
4			0.0%		FACU species $0 \times 4 = 0$
			0.0%		UPL species $0 \times 5 = 0$
5			0.0%		Column Totals: 140 (A) 265 (B)
6 7.	0		0.0%		Prevalence Index = B/A = 1.893
		= T	otal Cove		
Herb Stratum (Plot size: 5')					Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation
1 Carex crinita	15	✓	23.1%	OBL	
2. Onoclea sensibilis	25	✓	38.5%	FACW	✓ Dominance Test is > 50%
3. Scirpus cyperinus	5		7.7%	FACW+	Prevalence Index is ≤3.0 ¹
4. Rubus hispidus	20	V	30.8%	FACW	☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.			0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
6.			0.0%		Problematic Trydrophytic vegetation (Explain)
7.	0	\Box	0.0%		¹ Indicators of hydric soil and wetland hydrology must
8.		\Box	0.0%		be present, unless disturbed or problematic.
9.		\Box	0.0%		Definitions of Vegetation Strata:
0.		П	0.0%		
		\Box	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
12.			0.0%		at broadt Holght (BBH), regardiess of Holght.
			otal Cove		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:)		_ ''	otal Cove		greater than 3.28 ft (1m) tall
 1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
2	0		0.0%		size, and woody plants less than 3.28 ft tall.
3	0		0.0%		Monday sing. All woody sings greater than 2.20 ft in
4			0.0%		Woody vine - All woody vines greater than 3.28 ft in height.
T•,		 = T	otal Cove	·	
					Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an12 wetland

Dect					_			minim the	absence of indicators.)		
Depth (inches)	. Color (ı	Matrix noist)	_ % -	_ Color (m		dox Featu %	ires Type 1	Loc²	Texture	Remarks	
0-3	10YR	3/2	100%		,		. 780		Loam		
3-12	2.5Y	4/2	95%	10YR	4/6	5%	С	PL	Fine Sandy Loam		
12-16	2.5Y	4/1	95%	10YR	4/6	5%		M	Fine Sandy Loam		
12-10	2.31		7370		4/0	370		101	Tille Salidy Loan		
¹ Type: C=Con	centration. D	=Depletio	n. RM=Red	uced Matrix, CS	=Covere	ed or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=M	latrix	
Hydric Soil I	ndicators:								Indicators for Proble	ematic Hydric Soils : 3	
Histosol (A				Polyva MLRA	lue Belov	v Surface	(S8) (LRR F	₹,		(LRR K, L, MLRA 149B)	
	pedon (A2)				,	nca (SQ) (LRR R, MLF	οΛ 1/OR)		x (A16) (LRR K, L, R)	
☐ Black Hist) LRR K, L)		5 cm Mucky Peat	or Peat (S3) (LRR K, L, R)	
_	Sulfide (A4) Layers (A5)			_	-	Matrix (F2)			Dark Surface (S7) (LRR K, L)		
	Below Dark S	Surface (A	11)	☐ Deplet	ed Matri:	k (F3)			Polyvalue Below Surface (S8) (LRR K, L)		
	k Surface (A1		,	Redox	Dark Su	rface (F6)			☐ Thin Dark Surface (S9) (LRR K, L) ☐ Iron-Manganese Masses (F12) (LRR K, L, R) ☐ Piedmont Floodplain Soils (F19) (MLRA 149B) ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
Sandy Mu	ıck Mineral (S	1)				Surface (F	7)				
	eyed Matrix (Redox	Depress	ions (F8)					
Sandy Re	dox (S5)								Red Parent Material (TF2)		
	Matrix (S6)								Very Shallow Dark Surface (TF12)		
Dark Surf	ace (S7) (LRI	R R, MLRA	149B)						Other (Explain in F	Remarks)	
³ Indicators of	f hydrophytic	vegetatio	n and wetla	nd hydrology n	nust be p	resent, ur	less disturb	ed or probl	ematic.		
Restrictive La	ayer (if obs	erved):									
Туре:											
Depth (incl	hes):								Hydric Soil Present?	Yes ● No ○	
Remarks:											

Project/Site: Antrim Wind Project			City/Count	:y: Antrim		Sampling Date: 12-Aug-11
Applicant/Owner: Eolian Renewable E	nergy, LLC			Sta	te: NH	Sampling Point: an12 upland
Investigator(s): AF JG			Section	, Township, Range:	S. T.	 R.
Landform (hillslope, terrace, etc.):	Hillside		-	f (concave, convex, r		Slope: 5.0 % / 2.9 °
Subregion (LRR or MLRA):		Lat.:		Long		Datum:
Soil Map Unit Name:					NWI classif	ication:
Are climatic/hydrologic conditions of	n the site ty	pical for this time of ye	ear?	Yes No	(If no, explain in	•
Are Vegetation, Soil	, or Hydrold	ogy 🗌 significant	ly disturbed	I? Are "Normal	Circumstances" p	oresent? Yes No
Are Vegetation, Soil	, or Hydrold	ogy 🗌 naturally p	roblematic	? (If needed,	explain any answe	ers in Remarks.)
Summary of Findings - At			ampling	point location	ns, transects,	important features, etc.
Hydrophytic Vegetation Present?	Yes 🔾	No •				
Hydric Soil Present?	Yes 🔾	No •		the Sampled Area thin a Wetland?	Yes \bigcirc No $lacktriangle$)
Wetland Hydrology Present?	Yes 🔾	No •				
Hydrology						
Wetland Hydrology Indicators:						ors (minimum of 2 required)
Primary Indicators (minimum of or	e required;				Surface Soil Ci	
Surface Water (A1) High Water Table (A2)		Water-Stained Lea Aquatic Fauna (B1)			☐ Drainage Patte	
Saturation (A3)		Marl Deposits (B15				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide (Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosphe		ving Roots (C3)		ible on Aerial Imagery (C9)
☐ Drift deposits (B3)		Presence of Reduc	-	3		essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc	tion in Tilled	Soils (C6)	Geomorphic P	osition (D2)
Iron Deposits (B5)		☐ Thin Muck Surface	(C7)		Shallow Aquita	ard (D3)
Inundation Visible on Aerial Imager		Other (Explain in R	emarks)			phic Relief (D4)
Sparsely Vegetated Concave Surface	e (B8)				FAC-neutral To	est (D5)
Field Observations:						
Surface Water Present? Yes		Depth (inches):				
Water Table Present? Yes	No 💿	Depth (inches):				Yes ○ No •
Saturation Present? (includes capillary fringe) Yes	No •	Depth (inches):		Wetland Hydi —	rology Present?	Yes ○ NO ⑤
Describe Recorded Data (stream ga	iuge, monito	oring well, aerial photo	s, previous	inspections), if avai	lable:	
Remarks:						

VEGETATION - Use scientific names of pla	ints		minant ecies?		Sampling Point: an12 upland
Tree Stratum (Plot size: 30')	Absolute % Cover	Re	I.Strat.	Indicator Status	Dominance Test worksheet:
1. Quercus rubra	15	V	60.0%	FACU-	Number of Dominant Species That are OBL, FACW, or FAC:1(A)
2. Tsuga canadensis 3	0 0		40.0% 0.0% 0.0%	FACU	Total Number of Dominant Species Across All Strata: 6 (B)
5	0		0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 16.7% (A/B)
7		 = To	0.0% tal Cove	r	Prevalence Index worksheet: Total % Cover of: Multiply by:
Acer pensylvanicum Betula alleghaniensis Acer saccharum 4.	10	Y Y O O O O O O O O O O	44.4% 22.2% 33.3% 0.0%	FACU FAC FACU-	OBL species0x 1 =0FACW species0x 2 =0FAC species10x 3 =30FACU species88x 4 = $\frac{352}{450}$
5	0		0.0% 0.0% 0.0%		UPL species 90 x 5 = 450 Column Totals: 188 (A) 832 (B) Prevalence Index = B/A = 4.426
Herb Stratum (Plot size: 5') 1.Dennstaedtla punctilobula 2.Solidago canadensis	90	= To	76.3% 8.5%	r UPL FACU	Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50%
3. Rubus alumnus 4. Dryopteris intermedia 5. Aralia nudicaulis			8.5% 8.5% 4.2%	FACU- FACU-	 □ Prevalence Index is ≤3.0 ¹ □ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

= Total Cover

= Total Cover

0

0

0

0

0

118

0

0

0

0

Remarks: (Include photo numbers here or on a separate sheet.)

8.

Woody Vine Stratum (Plot size:_____)

9.

10.

11.

12.

¹ Indicators of hydric soil and wetland hydrology must

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter

Sapling/shrub - Woody plants less than 3 in. DBH and

Herb - All herbaceous (non-woody) plants, regardless of

No 💿

Woody vine - All woody vines greater than 3.28 ft in

be present, unless disturbed or problematic.

at breast height (DBH), regardless of height.

size, and woody plants less than 3.28 ft tall.

Yes 🔾

Definitions of Vegetation Strata:

greater than 3.28 ft (1m) tall..

height.

Hydrophytic Vegetation

Present?

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an12 upland

	iption: (Des	scribe to	the depth	needed to document the indicator or confirm the a	absence of indicators.)		
Depth (inches)		Matrix	_ %	Redox Features Color (moist) % Type 1 Loc²	Touture Demonte		
	Color (r			Color (moist) % Type 1 Loc2	Texture Remarks		
0-4	10YR	3/2	100%		Loam		
4-5	2.5Y	5/1	100%		Fine Sandy Loam		
5-12	10YR	4/3	100%		Fine Sandy Loam		
		=Depletio	n. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	<u> </u>		
Hydric Soil I					Indicators for Problematic Hydric Soils: 3		
Histosol (•			Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)		
Black Hist	pedon (A2)			Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)		
	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)		
_	Layers (A5)			Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L)		
	Below Dark S	Surface (A	11)	Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)		
_	k Surface (A1			Redox Dark Surface (F6)	☐ Thin Dark Surface (S9) (LRR K, L) ☐ Iron-Manganese Masses (F12) (LRR K, L, R)		
Sandy Mu	ıck Mineral (S	51)		☐ Depleted Dark Surface (F7)	Piedmont Floodplain Soils (F19) (MLRA 149B)		
Sandy Gle	eyed Matrix (S	S4)		Redox Depressions (F8)	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
Sandy Re					Red Parent Material (TF2)		
	Matrix (S6)				Very Shallow Dark Surface (TF12)		
Dark Surf	ace (S7) (LRF	R R, MLRA	149B)		Other (Explain in Remarks)		
³ Indicators of	f hydrophytic	vegetatio	n and wetla	and hydrology must be present, unless disturbed or proble	ematic.		
Restrictive L	ayer (if obso	erved):					
Type:							
Depth (inc	hes):				Hydric Soil Present? Yes ○ No •		
Remarks:							



AN12 Upland



AN12 Wetland

Project/Site: Antrim Wind Project		City/County: Antrim		Sampling Date: 12-Aug-11
Applicant/Owner: Eolian Renewable Ene	ergy, LLC	Sta	te: NH	Sampling Point: an13 wetland
Investigator(s): AF JG		Section, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.): For	notslone	Local relief (concave, convex, r		Slope: 3.0 % / 1.7 °
-				
Subregion (LRR or MLRA):	Lat.:	Lono	-	Datum:
Soil Map Unit Name:			NWI classif	cation: PSS
Are climatic/hydrologic conditions on	the site typical for this time of y	year? Yes ● No ○	(If no, explain in	·
Are Vegetation . , Soil . ,	, or Hydrology 🔲 significant	tly disturbed? Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation, Soil,	, or Hydrology 🔲 naturally į	problematic? (If needed.)	explain any answe	ers in Remarks.)
Summary of Findings - Atta				
J	Yes No			
Hydric Soil Present?	Yes ● No ○	Is the Sampled Area within a Wetland?	Yes ● No ○	
Wetland Hydrology Present?	Yes ● No ○			
Hydrology				
Hydrology				
Wetland Hydrology Indicators:	required, about all that apply)			rs (minimum of 2 required)
Primary Indicators (minimum of one Surface Water (A1)		(7-2)	Surface Soil Ci	
High Water Table (A2)	Water-Stained Lea☐ Aquatic Fauna (B1	• •	✓ Drainage Patte Moss Trim Lin	
Saturation (A3)	Marl Deposits (B1			ater Table (C2)
Water Marks (B1)	Hydrogen Sulfide		Crayfish Burro	
Sediment Deposits (B2)		neres along Living Roots (C3)		ble on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduc			essed Plants (D1)
Algal Mat or Crust (B4)		ction in Tilled Soils (C6)	Geomorphic P	
☐ Iron Deposits (B5)	☐ Thin Muck Surface	• •	Shallow Aquita	
Inundation Visible on Aerial Imagery	(B7) Other (Explain in I	Remarks)	Microtopograp	hic Relief (D4)
Sparsely Vegetated Concave Surface		,	FAC-neutral To	est (D5)
Field Observations:				
Surface Water Present? Yes	No Depth (inches):			
Water Table Present? Yes	No Depth (inches):			
Saturation Present? (includes capillary fringe) Yes	No O Depth (inches):	Wetland Hydi	rology Present?	Yes ● No ○
Describe Recorded Data (stream gau Remarks:	ge, monitoring well, aerial photo	os, previous inspections), if avai	lable:	

VEGETATION -	Use scientific	names of	plants
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Dominant	
Species?	

- O. (Diet size)	Absolute			Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover		over	Status	Number of Dominant Species
1	0		0.0%		That are OBL, FACW, or FAC: 3 (A)
2		Ц	0.0%		Total Number of Dominant
3	0	Ш	0.0%		Species Across All Strata:3(B)
4	0		0.0%		
5			0.0%		Percent of dominant Species That Are OBL, FACW, or FAC:100.0% (A/B)
6	0	Ш	0.0%		That are obt, facw, or fac.
7	0		0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')	0	= To	otal Cove	r	Total % Cover of: Multiply by:
1. Spiraea tomentosa	66	~	72.5%	FACW	0BL speci es 53 x 1 = 53
2 Appr rubrum	10		11.0%	FAC	FACW species 107 x 2 = 214
0 0 1 11	15		16.5%	FACW+	FAC species 10 x 3 = 30
			0.0%	FACVV+	FACU speci es0 x 4 =0
4 5.			0.0%		UPL species x 5 =0
					Column Totals: 170 (A) 297 (B)
			0.0%		(1)
7	0	\Box	0.0%		Prevalence Index = B/A = 1.747
Herb Stratum (Plot size: 5')	91	= To	otal Cove	r	Hydrophytic Vegetation Indicators:
1.Carex lurida	8		10.1%	OBL	Rapid Test for Hydrophytic Vegetation
2 Oncolos conclidito	_	\Box	-		✓ Dominance Test is > 50%
2		Н	6.3%	FACW	✓ Prevalence Index is ≤3.0 ¹
3. Eupatorium perfoliatum			3.8%	FACW+	☐ Morphological Adaptations ¹ (Provide supporting
4. Rubus hispidus	15		19.0%	FACW	data in Remarks or on a separate sheet)
5. Carex crinita		✓	31.6%	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
6. Scirpus cyperinus	3		3.8%	FACW+	1 Indicators of hydric sail and wathout hydrology much
7.Carex trisperma		✓	25.3%	OBL	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8	0		0.0%		Definitions of Vegetation Strata:
9	0		0.0%		Definitions of Vegetation Strata.
10	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0		0.0%		at breast height (DBH), regardless of height.
12	0		0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:)		= To	otal Cove	r	greater than 3.28 ft (1m) tall
	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
1 2.	0		0.0%		size, and woody plants less than 3.28 ft tall.
	0	\Box	0.0%		
3 4.	0	\Box	0.0%		Woody vine - All woody vines greater than 3.28 ft in height.
4			otal Cove		noight.
	0	= 10	otal Cove	r	
					Hydrophytic
					Vegetation Vac A Na O
					Present? Yes No V
Remarks: (Include photo numbers here or on a separate she	et.)				

Sampling Point: an13 wetland

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an13 wetland

Depth (inches)	. 0-1 (Matrix	_ %	- 0-1		dox Featu				Damante	
	Color (r		100%	Color ((moist)	%	Type 1	Loc ²	Texture	Remarks	
0-5	10YR	3/2							Loam		
5-6	2.5Y	4/1	100%						Fine Sandy Loam		
6-16	2.5Y	4/2	90%	10YR	5/8	10%	C	M	Fine Sandy Loam		
Type: C=Cor	ncentration. D	=Depletio	n. RM=Redu		CS=Cover	ed or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=Ma	ıtrix	
Hydric Soil	Indicators:								Indicators for Proble	matic Hydric Soils : 3	
Histosol	(A1)					w Surface ((S8) (LRR F	₹,		_RR K, L, MLRA 149B)	
	ipedon (A2)				A 149B)	(CO) (I		NA 140D)		(A16) (LRR K, L, R)	
☐ Black His	` '					ace (S9) (I				r Peat (S3) (LRR K, L, R)	
	n Sulfide (A4)					Mineral (F1		1	Dark Surface (S7) (
	□ Stratified Layers (A5) □ Loamy Gleyed Matrix (F2) □ Depleted Below Dark Surface (A11) □ Depleted Matrix (F3)						Polyvalue Below Surface (S8) (LRR K, L)				
	Below Dark S rk Surface (A1		111)		ox Dark Su				Thin Dark Surface ((S9) (LRR K, L)	
	•	•				Surface (F	7)			asses (F12) (LRR K, L, R)	
	uck Mineral (S eyed Matrix (S				ox Depress				Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Ped Report Metarial (TF2)		
	edox (S5)	34)									
	Matrix (S6)								Red Parent Material		
_	face (S7) (LRF	R R, MLRA	A 149B)						Very Shallow Dark S		
	of hydrophytic			nd hydrology	ı must he r	resent un	lass disturi	ned or probl	Other (Explain in Re	erriai ks)	
			on and wetta	id Hydrolog	y mast be p	oresent, un	icaa diaturi	oca or probl	ematic.		
Restrictive L Type: b	-	ervea):									
Depth (inc									Hydric Soil Present?	Yes ● No ○	
	10										
Remarks:											

Project/Site: Antrim Wind Project	City/Count	ty: Antrim		Sampling Date: 12-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH	Sampling Point: an13 upland
Investigator(s): AF JG	Section	n, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.): Footslope		f (concave, convex, n		Slope: 4.0 % / 2.3 °
Subregion (LRR or MLRA):	Lat.:	Long	 .:	Datum:
Soil Map Unit Name:			NWI classifi	
			_	
Are climatic/hydrologic conditions on the site ty	pical for this time of year?	Yes No	(If no, explain in	*
Are Vegetation U , Soil U , or Hydrol	ogy Significantly disturbed	d? Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation $\ \ \Box$, Soil $\ \ \Box$, or Hydrol	ogy naturally problematic	? (If needed, e	explain any answe	ers in Remarks.)
Summary of Findings - Attach site		point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes	No •			
Hydric Soil Present? Yes		the Sampled Area ithin a Wetland?	Yes ○ No ●	
Wetland Hydrology Present? Yes	No •			
Remarks: (Explain alternative procedures here	e or in a senarate report)			
Hydrology				
Wetland Hydrology Indicators:			Secondary Indicato	rs (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)		Surface Soil Cr	racks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)		Drainage Patte	erns (B10)
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Line	es (B16)
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)
Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)		Crayfish Burro	
Sediment Deposits (B2)	Oxidized Rhizospheres along Liv	ving Roots (C3)		ble on Aerial Imagery (C9)
☐ Drift deposits (B3) ☐ Algal Mat or Crust (B4)	Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled	C-il- (C()	Geomorphic P	essed Plants (D1)
Iron Deposits (B5)		SOIIS (C6)	Shallow Aquita	
Inundation Visible on Aerial Imagery (B7)	☐ Thin Muck Surface (C7) ☐ Other (Explain in Remarks)		Microtopograp	
Sparsely Vegetated Concave Surface (B8)	Unter (Explain in Remarks)		FAC-neutral Te	
Field Observations				
Field Observations: Surface Water Present? Yes No No	Depth (inches):			
Water Table Present? Yes No •	Depth (inches):			
	· · · · · · · · · · · · · · · · · · ·	Wetland Hydr	ology Present?	Yes ○ No •
(includes capillary fringe) Yes V No S	Depth (inches):			
Describe Recorded Data (stream gauge, monitor	oring well, aerial photos, previous	inspections), if avail	able:	
Demonto				
Remarks:				

VEGETATION - Use scientific names of pla	ants		ominant pecies?		Sampling Point: an13 upland
Tree Stratum (Plot size: 30')	Absolute % Cover		el.Strat. over	Indicator Status	Dominance Test worksheet:
1 Acer saccharum	10	V	66.7%	FACU-	Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)
2. Picea rubens		V	33.3%	FACU	That are obt, facw, of fac.
3.		\Box	0.0%		Total Number of Dominant Species Across All Strata: 6 (B)
4.	0	\Box	0.0%		Species Across All Strata: 6 (B)
5.	0	\Box	0.0%		Percent of dominant Species
6.	0		0.0%		That Are OBL, FACW, or FAC: 16.7% (A/B)
7	0		0.0%		Prevalence Index worksheet:
	15	= Tc	otal Cove	r	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15')		_		•	0BL speci es 0 x 1 = 0
1. Acer pensylvanicum	33	✓	32.0%	FACU	FACW species 20 x 2 = 40
2. Prunus serotina	10		9.7%	FACU	FAC species
3. Acer saccharum	50	✓	48.5%	FACU-	FACU species 193 x 4 = 772
4. Populus tremula	10		9.7%	FACU	Thou species x 4
5	0		0.0%		UPL species X 5 =
6	0		0.0%		Column Totals: 218 (A) 837 (B)
7	0	Ш	0.0%		Prevalence Index = B/A = 3.839
Herb Stratum (Plot size: 5')	103	= To	otal Cove	r	Hydrophytic Vegetation Indicators:
1.Aralia nudicaulis	75	✓	75.0%	FACU	Rapid Test for Hydrophytic Vegetation
2. Rubus hispidus	20	✓	20.0%	FACW	☐ Dominance Test is > 50%
3. Dennstaedtia punctilobula	5		5.0%	UPL	Prevalence Index is ≤3.0 ¹
4	0		0.0%		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
6	0		0.0%		
7	0		0.0%		¹ Indicators of hydric soil and wetland hydrology must
8	0		0.0%		be present, unless disturbed or problematic.
9	0		0.0%		Definitions of Vegetation Strata:
10	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0		0.0%		at breast height (DBH), regardless of height.
12	0		0.0%		Conling/objub Woody plants loss than 2 in DDL and
	100	= To	otal Cove		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size:)					
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
2	0	\Box	0.0%		SIZE, AND WOODY PIANTS IESS MAIT S.ZO IT TAIL.

0.0%

height.

Hydrophytic Vegetation

Present?

0.0%

0 = Total Cover

___0

Remarks: (Include photo numbers here or on a separate sheet.)

Woody vine - All woody vines greater than 3.28 ft in

Yes ○ No ●

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an13 upland

Profile Descr	ription: (Desc	ribe to	the depth	needed to document the indicator or confirm the	absence of indicators.)		
Depth (inches)		/latrix		Redox Features		B	
	Color (m		%	Color (moist) % Type 1 Loc²	Texture	Remarks	
0-6	10YR	3/2	100%	·	Loam		
6-7	2.5Y	5/1	100%		Fine Loamy Sand		
7-17	10YR	4/3	100%		Fine Sandy Loam		
			-	·			
¹ Type: C=Con	centration. D=	Depletio	n. RM=Red	luced Matrix, CS=Covered or Coated Sand Grains ² Loc	ation: PL=Pore Lining. M=N		
Hydric Soil I	Indicators:				Indicators for Drobl	ematic Hydric Soils : 3	
Histosol (Polyvalue Below Surface (S8) (LRR R,			
	pedon (A2)			MLRA 149B)		(LRR K, L, MLRA 149B)	
Black Hist				☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)		ox (A16) (LRR K, L, R)	
	n Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)		or Peat (S3) (LRR K, L, R)	
	Layers (A5)			Loamy Gleyed Matrix (F2)	Dark Surface (S7)		
	Below Dark Su	rface (Δ	11)	Depleted Matrix (F3)		Surface (S8) (LRR K, L)	
	rk Surface (A12		11)	Redox Dark Surface (F6)	Thin Dark Surface		
	,	•		Depleted Dark Surface (F7)	Iron-Manganese Masses (F12) (LRR K, L, R)		
	uck Mineral (S1			Redox Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B)		
	eyed Matrix (S4	ł)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
Sandy Re					Red Parent Material (TF2)		
	Matrix (S6)				Very Shallow Dark	Surface (TF12)	
☐ ☐ Dark Surf	face (S7) (LRR	R, MLRA	. 149B)		Other (Explain in	Remarks)	
³ Indicators o	f hydrophytic v	egetatio	n and wetla	and hydrology must be present, unless disturbed or prob	lematic.		
Restrictive I	ayer (if obse	ved).					
Type:	.a.yo. (o.zoo.	,.					
Depth (inc	has).				Hydric Soil Present?	Yes ○ No •	
Remarks:							



AN13 Upland



AN13 Wetland

Project/Site: Antrim Wind Project	City/C	County: Antrim		Sampling Date: 16-Aug-11
Applicant/Owner: Eolian Renewable Energy,	LLC	Stat	te: NH	Sampling Point: an14 wetland
Investigator(s): AF JG	Se	ction, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.): Hillsig		relief (concave, convex, n		Slope: 10.0 % / 5.7 °
· · · · · · · · · · · · · · · · · · ·			-	
Subregion (LRR or MLRA):	Lat.:	Long		Datum:
Soil Map Unit Name:			NWI classif	cation: PSS
Are climatic/hydrologic conditions on the	site typical for this time of year?	Yes 💿 No 🔾	(If no, explain in	*
Are Vegetation . , Soil . , or H	Hydrology 🔲 significantly dist	urbed? Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation, Soil, or F	Hydrology	natic? (If needed, e	explain any answe	ers in Remarks.)
Summary of Findings - Attach	site map showing samp		•	
3 3	, O No			
Hydric Soil Present? Yes	s ● No ○	Is the Sampled Area within a Wetland?	Yes ● No ○	
Wetland Hydrology Present? Yes	s ● No ○			
Hydrology				
Wetland Hydrology Indicators: Primary Indicators (minimum of one requ	uirod: chock all that apply)			rs (minimum of 2 required)
Surface Water (A1)	Water-Stained Leaves (B9	`	Surface Soil Co	
High Water Table (A2)	Aquatic Fauna (B13))	Moss Trim Lin	
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C	1)	Crayfish Burro	
Sediment Deposits (B2)	Oxidized Rhizospheres ald			ble on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron	(C4)	Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)		Shallow Aquita	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks	5)	Microtopograp	
Sparsely Vegetated Concave Surface (B8)			✓ FAC-neutral To	est (D5)
Field Observations:				
Curiaco Mater Frederiti	O Depth (inches):			
	o O Depth (inches):	Watland Hide	ology Present?	Yes ● No ○
Saturation Present? (includes capillary fringe) Yes No.	Depth (inches):	0 Wetland Hydr	ology Present?	res ⊕ ino ⊖
Describe Recorded Data (stream gauge,	monitoring well, aerial photos, pre-	vious inspections), if avail	able:	
Remarks:				
sphagnum 25% cover				

VEGETATIO	N - Use	scientific na	mes of plan	nts	Dominant Species?		Sampling Point:
Tree Stratum	(Plot size:	,		Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
rree stratum	(1 100 3120.			70 COVE	COVCI	Status	N I CD I CO

vegeration - use scientific names of plan	nıs		ominant pecies?		Sampling Point: an14 wetland			
75.	Absolute	Re	el.Strat.	Indicator	Dominance Test worksheet:			
Tree Stratum (Plot size:)	% Cover	Co	over	Status	Number of Dominant Species			
1	0		0.0%		That are OBL, FACW, or FAC: 4 (A)			
2	0		0.0%		Total Number of Dominant			
3	0		0.0%		Species Across All Strata: 4 (B)			
4	0		0.0%		Dercent of deminent Charles			
5			0.0%		Percent of dominant Species That Are OBL, FACW, or FAC:100.0% (A/B)			
6			0.0%					
7		Ш	0.0%		Prevalence Index worksheet:			
Sapling/Shrub Stratum (Plot size: 15')		= To	otal Cove	r	Total % Cover of: Multiply by:			
1. Spiraea tomentosa	20	V	57.1%	FACW	08L species 15 x 1 = 15			
2. Acer rubrum	10	V	28.6%	FAC	FACW species $\frac{88}{10}$ x 2 = $\frac{176}{54}$			
3. Fraxinus pennsylvanica	5		14.3%	FACW	FAC species $\frac{18}{2}$ x 3 = $\frac{54}{2}$			
4			0.0%		FACU species $0 \times 4 = 0$			
5.	0		0.0%		UPL species 0 x 5 = 0			
6.			0.0%		Column Total s: 121 (A) 245 (B)			
7.	0		0.0%		Prevalence Index = B/A = 2.025			
	35	= To	otal Cove	r	Hydrophytic Vegetation Indicators:			
Herb Stratum (Plot size: 5')		_			Rapid Test for Hydrophytic Vegetation			
1 .Onoclea sensibilis	40	✓	46.5%	FACW	✓ Dominance Test is > 50%			
2.Osmunda cinnamomea	10		11.6%	FACW	✓ Prevalence Index is ≤3.0 ¹			
3. Eupatoriadelphus maculatus	. 8		9.3%	FACW	Morphological Adaptations ¹ (Provide supporting			
4. Scirpus cyperinus	5		5.8%	FACW+	data in Remarks or on a separate sheet)			
5. Carex lurida	15	V	17.4%	OBL	☐ Problematic Hydrophytic Vegetation ¹ (Explain)			
6.Rubus idaeus	8		9.3%	FAC-				
7	0	Ц	0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
8	0	Ц	0.0%					
9	0		0.0%		Definitions of Vegetation Strata:			
10			0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter			
11			0.0%		at breast height (DBH), regardless of height.			
12	0	Ш	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and			
Woody Vine Stratum (Plot size:)	86	= To	otal Cove	r	greater than 3.28 ft (1m) tall			
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of			
2	0	\Box	0.0%		size, and woody plants less than 3.28 ft tall.			
3	0		0.0%		Manda di Cina Alla con di Cina			
4	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in height.			
	0 :	= T	otal Cove	r				
		,	otal 0010					
					Hydrophytic Vegetation Present? Yes No			
Remarks: (Include photo numbers here or on a separate she	eet.)							

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an14 wetland

Depth (inches)	* 0.1 1	Matrix			dox Features	-	- -	Day of Lo		
	Color (r		%	Color (moist)	% Туре	e 1 Loc²	Texture	Remarks		
0-8	10YR	3/2	100%			_	Sandy Loam			
8-11	2.5Y	5/1	100%				Sandy Loam			
								_		
							-			
							-			
							-			
								<u> </u>		
								_		
Type: C=Cor	centration D	=Depletic	n RM=Redi		ed or Coated Sand	Grains 21 oca	ation: PL=Pore Lining. M=	— =Matrix		
Hydric Soil		- Воріскі	711. TUVI—TUGUE	acca matrix, co-covere	or course sure	Ordins Look				
Histosol (Polyvalue Belov	v Surface (S8) (LR	PR R		blematic Hydric Soils : 3		
	pedon (A2)			MLRA 149B)	V Sarrace (SO) (Er			D) (LRR K, L, MLRA 149B)		
Black His				☐ Thin Dark Surfa	ace (S9) (LRR R, I	MLRA 149B)		edox (A16) (LRR K, L, R)		
	Sulfide (A4)			Loamy Mucky N	Mineral (F1) LRR K	., L)		at or Peat (S3) (LRR K, L, R)		
	Layers (A5)			Loamy Gleyed	Matrix (F2)		Dark Surface (S	V Surface (S8) (LRR K, L)		
✓ Depleted	Below Dark S	Surface (A	11)	Depleted Matrix				ce (S9) (LRR K, L)		
☐ Thick Dar	k Surface (A1	2)		Redox Dark Sui				, , , , , ,		
Sandy Mu	ıck Mineral (S	1)		Depleted Dark			☐ Iron-Manganese Masses (F12) (LRR K, L, R) ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)			
Sandy Gl	eyed Matrix (S	54)		Redox Depress	ions (F8)			A6) (MLRA 144A, 145, 149B)		
Sandy Re	dox (S5)						Red Parent Mate			
	Matrix (S6)							ark Surface (TF12)		
Dark Surf	ace (S7) (LRF	R R, MLRA	A 149B)				Other (Explain i	n Remarks)		
³ Indicators o	f hydrophytic	vegetatio	n and wetla	nd hydrology must be p	resent, unless dis	turbed or probl	ematic.			
Restrictive L	aver (if obs	erved):								
Type: b	•									
Depth (inc							Hydric Soil Present?	? Yes ● No ○		
Remarks:										
Remarks.										

Project/Site: Antrim Wind Project	City/County	: Antrim		Sampling Date: 16-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH	Sampling Point: AN14 Upland
Investigator(s): AF JG	Section.	Township, Range:	S. T.	 R.
Landform (hillslope, terrace, etc.): Hillside		(concave, convex, n		Slope: 10.0 % / 5.7 °
Subregion (LRR or MLRA):	Lat.:	Long	 .:	Datum:
Soil Map Unit Name:			NWI classifi	ication:
		/es ● No ○	_	
Are climatic/hydrologic conditions on the site ty			(If no, explain in	
Are Vegetation . , Soil . , or Hydrol	ogy Significantly disturbed?	Are "Normal	Circumstances" p	oresent? Yes S NO C
Are Vegetation, Soil, or Hydrol	ogy naturally problematic?	(If needed, e	explain any answe	ers in Remarks.)
Summary of Findings - Attach site		point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes	No •	h - CII A		
Hydric Soil Present? Yes	NO with	he Sampled Area hin a Wetland?	Yes \bigcirc No $lacktriangle$)
Wetland Hydrology Present? Yes	No •			
Remarks: (Explain alternative procedures here	or in a separate report.)			
logged upland				
Hydrology				
Wetland Hydrology Indicators:			Secondary Indicato	ors (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)		Surface Soil Cr	
Surface Water (A1)	Water-Stained Leaves (B9)		Drainage Patte	
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Line	• •
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burro	ws (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Livir	ng Roots (C3)	Saturation Visi	ible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)		Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Se	oils (C6)	Geomorphic P	osition (D2)
Iron Deposits (B5)	☐ Thin Muck Surface (C7)		Shallow Aquita	ard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		Microtopograp	phic Relief (D4)
Sparsely Vegetated Concave Surface (B8)			FAC-neutral Te	est (D5)
Field Observations				
Field Observations: Surface Water Present? Yes No No	Depth (inches):			
Water Table Present? Yes No •	Depth (inches):	_		
	· · · · · · · · · · · · · · · · · · ·	Wetland Hydr	ology Present?	Yes ○ No •
(includes capillary fringe) Yes V No V	Depth (inches):			
Describe Recorded Data (stream gauge, monitor	oring well, aerial photos, previous in	nspections), if avail	able:	
Remarks:				
Remarks:				

	lants		ominant ecies?			mpling Po	int: AN	14 Upland	<u> </u>
ree Stratum (Plot size: 30')	Absolute % Cover	Re		Indicator Status	Dominance Test w				
Picea rubens	20	✓	50.0%	FACU	Number of Dominant That are OBL, FACW			1	(A)
Populus tremula	00	V	50.0%	FACU		,	-		()
			0.0%		Total Number of Don			4	(D)
	0		0.0%		Species Across All St	rata:	-		(B)
	0		0.0%		Percent of domina			25.00/	
	0		0.0%		That Are OBL, FAC	CW, or FA	C:	25.0%	(A/B
	0		0.0%		Prevalence Index v	vorksheet	:		
		= Tc	otal Cove	er	Total % Cov		Multiply	y by:	
Sapling/Shrub Stratum (Plot size: 15')					OBL speci es	0	x 1 =	0	
Acer pensylvanicum	40	✓	83.3%	FACU	FACW species	0	x 2 =	0	
Acer saccharum			16.7%	FACU-	FAC species	30	x 3 =	90	
3	0		0.0%		FACU species	93	x 4 =	372	-
·			0.0%		UPL species	0	x 5 =	0	
·			0.0%		Column Totals:	123	(A)	462	- (B)
). 	0		0.0%					-	_
·		 _ Te			Prevalence Index = B/A = 3.756				
lerb Stratum (Plot size: 5')	48	= Total Cover		; i	Hydrophytic Vegeta				
1.Thelypteris noveboracensis	25	✓	71.4%	FAC	Rapid Test for	•		tation	
2.Aralia nudicaulis			14.3%	FACU	 Dominance Test is > 50% Prevalence Index is ≤3.0 ¹ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain) 				
3. Trientalis borealis			14.3%	FAC					
4.			0.0%						
5.	0		0.0%						lain)
6.			0.0%			iyaropiiyt	ic vegeta	tion (Exp	,iaiii,
7.			0.0%		1 Indicators of hy	dric soil a	nd wetlar	nd hydrolog	gy mus
8.	0		0.0%		be present, unless	disturbed	or probl	ematic.	
9.	0		0.0%		Definitions of Ve	egetatio	n Strata	:	
0.	0		0.0%		Tree - Woody plan	te 3 in <i>(</i> 7	' 6 cm) oi	r more in d	liamete
1.	0		0.0%		at breast height (D				iiaiiict
2.	0		0.0%		<u> </u>				
Noody Vine Stratum (Plot size:)	35	= Tc	otal Cove	er	Sapling/shrub - Wo greater than 3.28 f			an 3 in. DE	3H and
	0		0.0%		Herb - All herbace	oue (non-	woody) ni	ante rega	rdlace
1			0.0%		size, and woody pl				uitss
2			0.0%						
3			0.0%		Woody vine - All w height.	oody vine	s greater	than 3.28	ft in
4		ا - - _	otal Cove		neight.				
	0	- 10	nai COVE	; I					
					Hydrophytic Vegetation Present? Ye	es O	lo		

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN14 Upland

Depth (inches) Color (moist) % Color (moist) % Type Loc² Texture Remarks	
0-5 10YR 3/2 100% Sandy Loam	
5-10 2.5Y 5/3 100% Loamy Sand	
¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining. M=Matrix	
	3
Historia (A1) Debuglio Polow Surface (S9) (LDD D	
High Feinodon (A2) MLRA 149B)	
□ Plack Histic (A2) □ Thin Dark Surface (S9) (LRR R, MLRA 149B) □ Coast Prairie Redux (A16) (LRR R, L, R, R)	
Loamy Mucky Mineral (F1) LRR K, L)	₹)
Dark Surface (S7) (LRR K, L)	
Depleted Matrix (F3) Depleted Matrix (F3)	
Thin Dark Surface (A12) Redox Dark Surface (F6) Thin Dark Surface (S9) (LRR K, L)	
☐ Popleted Park Surface (F12) ☐ Iron-Manganese Masses (F12) (LRR K, L, I	₹)
Peday Personians (F0) Piedmont Floodplain Soils (F19) (MLRA 14'	9B)
☐ Sailuy Geyed Malitx (34) ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149	B)
Sandy Redox (S5) Red Parent Material (TF2)	
☐ Stripped Matrix (S6) ☐ Very Shallow Dark Surface (TF12)	
☐ Dark Surface (S7) (LRR R, MLRA 149B) ☐ Other (Explain in Remarks)	
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
Postrictive Laver (if observed)	
Restrictive Layer (if observed):	
Type: Hudrig Soil Procent? No	
Type: Hydric Soil Present? Yes O No •	
Type: Hudrig Sail Procent? No	
Type: Hydric Soil Present? Yes O No •	
Type: Hydric Soil Present? Yes O No •	
Type: Hydric Soil Present? Yes O No •	
Type: Hydric Soil Present? Yes O No •	
Type: Hydric Soil Present? Yes O No •	
Type: Hydric Soil Present? Yes O No •	
Type: Hydric Soil Present? Yes O No •	
Type: Hydric Soil Present? Yes O No •	
Type: Hydric Soil Present? Yes O No •	
Type: Hydric Soil Present? Yes O No •	
Type: Hydric Soil Present? Yes O No •	
Type: Hydric Soil Present? Yes O No •	
Type: Hydric Soil Present? Yes O No •	
Type: Hydric Soil Present? Yes O No •	
Type: Hydric Soil Present? Yes O No •	
Type: Hydric Soil Present? Yes O No •	
Type: Hydric Soil Present? Yes O No •	
Type: Hydric Soil Present? Yes O No •	
Type: Hydric Soil Present? Yes O No •	



AN14 Wetland



AN14 Upland

Project/Site: Antrim Wind Project		City/County: Antrim	!	Sampling Date: 16-Aug-11
Applicant/Owner: Eolian Renewable Energ	gy, LLC	Sta	te: NH	Sampling Point: an15 wetland
Investigator(s): AF JG		Section, Township, Range:		 R.
Landform (hillslope, terrace, etc.): Hill	 Ilside	Local relief (concave, convex, r		Slope: 8.0 % / 4.6 °
Subregion (LRR or MLRA):	Lat.:	Long	-	Datum:
	Lat	Long		
Soil Map Unit Name:			NWI classific	ation: PSS
Are climatic/hydrologic conditions on the	he site typical for this time of y	ear? Yes No	(If no, explain in F	*
Are Vegetation \square , Soil \square , α	or Hydrology $\ \square$ significant	ly disturbed? Are "Normal	Circumstances" pr	esent? Yes No
Are Vegetation, Soil, o	or Hydrology 🗌 naturally p	oroblematic? (If needed,	explain any answer	s in Remarks.)
Summary of Findings - Atta	ch site map showing s	sampling point location	s, transects,	important features, etc.
	Yes No			
3	Yes O No O	Is the Sampled Area within a Wetland?	Yes ● No ○	
Wetland Hydrology Present?	Yes No			
Hydrology				
Wetland Hydrology Indicators:			Coopedany Indicator	(minimum of 2 required)
Primary Indicators (minimum of one r	required: check all that apply)		Surface Soil Cra	s (minimum of 2 required)
Surface Water (A1)	Water-Stained Lea	aves (B9)	Drainage Patter	
✓ High Water Table (A2)	Aquatic Fauna (B1	, ,	Moss Trim Line	
✓ Saturation (A3)	Marl Deposits (B15		Dry Season Wa	
Water Marks (B1)	Hydrogen Sulfide (Odor (C1)	Crayfish Burrow	rs (C8)
Sediment Deposits (B2)	Oxidized Rhizosph	eres along Living Roots (C3)	Saturation Visib	le on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduc	ced Iron (C4)		ssed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduc	ction in Tilled Soils (C6)	Geomorphic Po	
☐ Iron Deposits (B5)☐ Inundation Visible on Aerial Imagery (E	☐ Thin Muck Surface	` '	Shallow Aquitar	
Sparsely Vegetated Concave Surface (E		Remarks)	✓ Microtopograph ✓ FAC-neutral Tes	
Field Observations: Surface Water Present? Yes	No Depth (inches):			
	-			
Water Table Present? Yes Yes	No Depth (inches):	5Wetland Hydr	ology Present?	Yes ● No ○
Saturation Present? (includes capillary fringe) Yes	No Depth (inches):	0	ology Fresent:	103 0 110 0
Describe Recorded Data (stream gaug Remarks:	je, monitoring well, aerial photo	os, previous inspections), if avai	able:	

VEGETATION -	Use scientific	names of	plants
---------------------	----------------	----------	--------

Dominant
Species?

- O. (Diet size)	Absolute			Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover		over	Status	Number of Dominant Species
1	0		0.0%		That are OBL, FACW, or FAC: 3 (A)
2	0	Ц	0.0%		Total Number of Dominant
3	0	Ц	0.0%		Species Across All Strata: 3 (B)
4	0	Ш	0.0%		
5	0	Ш	0.0%		Percent of dominant Species That Are OBL, FACW, or FAC:100.0% (A/B)
6	0	Ш	0.0%		That are OBL, FACW, or FAC.
7	0		0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')	0 :	= To	otal Cover	r	Total % Cover of: Multiply by:
4	66	~	81.5%	FACW	0BL species28 x 1 =28
2 Appr rubrum	10		12.3%	FAC	FACW species 104 x 2 = 208
0		\Box	6.2%	FACW	FAC speci es
			0.0%	TACW	FACU species $0 \times 4 = 0$
4	0		0.0%		UPL speci es x 5 =0
5 6.			0.0%		Column Totals: 142 (A) 266 (B)
-	0		-		
7		_	0.0%	-	Prevalence Index = B/A = 1.873
Herb Stratum (Plot size: 5')	81:	= 10	otal Cover	ſ	Hydrophytic Vegetation Indicators:
1.Carex lurida	20	V	32.8%	OBL	Rapid Test for Hydrophytic Vegetation
2. Eupatoriadelphus dubius	5		8.2%	FACW	✓ Dominance Test is > 50%
2		\Box	4.9%	FACW+	✓ Prevalence Index is ≤3.0 ¹
Scirpus cyperinus A.Onoclea sensibilis			41.0%	FACW	☐ Morphological Adaptations ¹ (Provide supporting
5. Carex crinita					data in Remarks or on a separate sheet)
6.			13.1%	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
		Н	0.0%		¹ Indicators of hydric soil and wetland hydrology must
7		Н	0.0%		be present, unless disturbed or problematic.
8 9.			0.0%		Definitions of Vegetation Strata:
10.			0.0%		
11.			0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
12.			0.0%		at breast height (DBH), regardless of height.
12.		\Box	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:)	61 :	= To	otal Cover	٢	greater than 3.28 ft (1m) tall
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
2.	0	\Box	0.0%		size, and woody plants less than 3.28 ft tall.
3	0		0.0%		Was duving Allows of wines greater their 2.00 ft in
4.	0	\Box	0.0%		Woody vine - All woody vines greater than 3.28 ft in height.
	0 :	– To	tal Cover		
		- '`	otal cover		
					Hydrophytic
					Vegetation Present? Yes No
					Present? Yes No
Remarks: (Include photo numbers here or on a separate she	et.)				

Sampling Point: an15 wetland

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an15 wetland

	ription: (Des		the depth	needed to d				nfirm the	absence of indicators.)				
Depth (inches)	. Color (ı	Matrix moist)	_ %	_ Color (ı		dox Featu %	res Type 1	Loc²	Texture	Remarks			
0-8	10YR	3/2	100%	33/01 (1					Loam				
8-12	2.5Y	4/1	90%	10YR	4/6	10%	C		Sandy Loam				
8-12	2.51	4/1	90%	TUTK	4/0	10%		IVI	Sandy Loam				
										_			
										_			
									-				
									-				
¹ Type: C=Con	ncentration. D	=Depletio	on. RM=Red	uced Matrix, (CS=Covere	ed or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=	Matrix			
Hydric Soil	Indicators:								Indicators for Prof	elematic Hydric Soils: 3			
Histosol ((A1)			Poly	alue Belov	w Surface ((S8) (LRR F	₹,) (LRR K, L, MLRA 149B)			
Histic Epi	pedon (A2)				A 149B)	(00) (1				lox (A16) (LRR K, L, R)			
Black His	tic (A3)					ace (S9) (I				t or Peat (S3) (LRR K, L, R)			
_	n Sulfide (A4)					Mineral (F1			Dark Surface (S7				
	Layers (A5)				eted Matri	Matrix (F2)			Polyvalue Below Surface (S8) (LRR K, L)				
_	Below Dark S		(11)			rface (F6)			☐ Thin Dark Surface (S9) (LRR K, L)				
_	rk Surface (A					Surface (F	7)		Iron-Manganese Masses (F12) (LRR K, L, R)				
	uck Mineral (S				x Depress		,		Piedmont Floodplain Soils (F19) (MLRA 149B)				
Sandy Re	eyed Matrix (54)				,			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)				
	Matrix (S6)								Red Parent Material (TF2)				
	face (S7) (LRI	RR MIRA	\ 149R)							rk Surface (TF12)			
									Other (Explain in	Remarks)			
³ Indicators o	f hydrophytic	vegetatio	on and wetla	nd hydrology	must be p	resent, un	less disturl	ed or probl	ematic.				
Restrictive L	-	erved):											
Type: R									Hydric Soil Present?	Yes ● No ○			
Depth (inc	thes):_12								Hydric Soil Present?	Yes S No C			
Remarks:													

Project/Site: Antrim Wind Project	City/Coun	ty: Antrim		Sampling Date: 16-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH	Sampling Point: an15 upland
Investigator(s): AF JG	Section	n, Township, Range:	S. T.	 R.
Landform (hillslope, terrace, etc.): Hillside		ef (concave, convex, r		Slope: 8.0 % / 4.6 °
Subregion (LRR or MLRA):	Lat.:	Long	 1.:	Datum:
Soil Map Unit Name:			NWI classifi	
		Yes No		
Are climatic/hydrologic conditions on the site t			(If no, explain in	•
Are Vegetation , Soil , or Hydro	logy significantly disturbe	d? Are "Normal	Circumstances" p	oresent? Yes No
Are Vegetation, Soil, or Hydro	logy 🗌 naturally problemation	? (If needed,	explain any answe	ers in Remarks.)
Summary of Findings - Attach sit		g point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes	No •			
Hydric Soil Present? Yes	NO S	s the Sampled Area vithin a Wetland?	Yes O No 🗨)
Wetland Hydrology Present? Yes	No •			
Remarks: (Explain alternative procedures he	re or in a separate report.)			
Hydrology				
Wetland Hydrology Indicators:			Secondary Indicato	ors (minimum of 2 required)
Primary Indicators (minimum of one required	; check all that apply)		Surface Soil Ci	racks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)		Drainage Patte	erns (B10)
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lin	es (B16)
Saturation (A3)	Marl Deposits (B15)		Dry Season W	ater Table (C2)
Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)		Crayfish Burro	ws (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along L	iving Roots (C3)	Saturation Visi	ible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4))	Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled	Soils (C6)	Geomorphic P	osition (D2)
Iron Deposits (B5)	☐ Thin Muck Surface (C7)		Shallow Aquita	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		_	phic Relief (D4)
Sparsely Vegetated Concave Surface (B8)			FAC-neutral To	est (D5)
Field Observations:				
Surface Water Present? Yes No	Depth (inches):			
Water Table Present? Yes O No •	Depth (inches):			
Saturation Present? (includes capillary frings) Yes No	Depth (inches):	Wetland Hydi	ology Present?	Yes O No 🗨
(includes capillally fringe)				
Describe Recorded Data (stream gauge, moni	toring well, aerial photos, previous	s inspections), if avai	able:	
Remarks:				
romano.				

VEGETATION - Use scientific names of plan	ants _{Dominant}				Sampling Point: an15 upland
	Absolute		ecies?	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')	% Cover		over	Status	
1. Fagus grandifolia	25	V	41.7%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)
2. Fraxinus americana	25	~	41.7%	FACU	
3. Betula alleghaniensis	10		16.7%	FAC	Total Number of Dominant Species Across All Strata: 4 (B)
4.	0		0.0%		Species Noress All Strata.
5.	0		0.0%		Percent of dominant Species That Are ORL FACW or FAC: 25.0% (A/B)
6	0		0.0%		That Are OBL, FACW, or FAC: 25.0% (A/B)
7	0		0.0%		Prevalence Index worksheet:
	60	= To	Total % Cover of: Multiply by:		
Sapling/Shrub Stratum (Plot size: 15')					0BL species 0 x 1 = 0
1. Acer pensylvanicum	50	✓	83.3%	FACU	FACW species $0 \times 2 = 0$
2. Fagus grandifolia	5		8.3%	FACU	FAC species 15 x 3 = 45
3. Picea rubens	5		8.3%	FACU	FACU speci es 112 x 4 = 448
4			0.0%		UPL species $\frac{1}{1}$ x 5 = $\frac{5}{1}$
5			0.0%		(0)
6			0.0%		Column Totals: (A)
7		Ш	0.0%		Prevalence Index = B/A = 3.891
Herb Stratum (Plot size: 5')	60	= To	otal Cove	r	Hydrophytic Vegetation Indicators:
1.Fraxinus americana	1		12.5%	FACIL	Rapid Test for Hydrophytic Vegetation
2. Acer saccharum	_ <u>'</u>		12.5%	FACU-	☐ Dominance Test is > 50%
3. Malanthemum canadense	_ 5	✓	62.5%	FAC-	Prevalence Index is ≤3.0 ¹
A			12.5%	UPL	☐ Morphological Adaptations ¹ (Provide supporting
4.Polygonatum pubescens 5.	0		0.0%	UPL	data in Remarks or on a separate sheet)
6.	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
7.	0		0.0%		¹ Indicators of hydric soil and wetland hydrology must
8.	0		0.0%		be present, unless disturbed or problematic.
9.	0		0.0%		Definitions of Vegetation Strata:
10.	0		0.0%		
11.	0	\Box	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
12.	0		0.0%		at 5.040t Holght (55H), Togardioss of Holght.
· - ·		 _ т∕	otal Cove	- ———	Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:)		- 10	Jiai Cove	1	greater than 3.28 ft (1m) tall
1	0_		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
2	0		0.0%		size, and woody plants less than 3.28 ft tall.
3	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in
4	0		0.0%		height.

____0 = Total Cover

Hydrophytic Vegetation Present?

Remarks: (Include photo numbers here or on a separate sheet.)

Yes ○ No ●

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an15 upland

	ription: (Des	scribe to	the depth	needed to document the indicator or confirm the a	absence of indicators.)
Depth (inches)	. Color (ı	Matrix	_ %	Redox Features Color (moist) % Type 1 Loc2	. Texture Remarks
0-8	10YR	3/2	100%	Color (moist) % Type 1 Loc2	Loam Remarks
8-16	10YR	4/3	100%		Fine Sandy Loam
¹ Type: C=Con	centration. D	=Depletion	n. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	tion: PL=Pore Lining. M=Matrix
Hydric Soil I	Indicators:				Indicators for Problematic Hydric Soils: 3
Histosol ((A1)			Polyvalue Below Surface (S8) (LRR R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic Epi	pedon (A2)			MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
Black Hist				☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
_	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)Loamy Gleyed Matrix (F2)	☐ Dark Surface (S7) (LRR K, L)
	Layers (A5)			Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)
_	Below Dark S		11)	Redox Dark Surface (F6)	Thin Dark Surface (S9) (LRR K, L)
I Tilick Dark Surface (A12)				Depleted Dark Surface (F7)	Iron-Manganese Masses (F12) (LRR K, L, R)
	eyed Matrix (Redox Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B)
Sandy Re		54)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Matrix (S6)				Red Parent Material (TF2)
	face (S7) (LRI	R R, MLRA	149B)		✓ Very Shallow Dark Surface (TF12)✓ Other (Explain in Remarks)
3 Indicators of	f hydronhytic	voqotation	a and wotla	and hydrology must be present, unless disturbed or proble	
			i and wella	ind frydrology flidst be present, dilless disturbed of proble	manc.
Restrictive L	-	erved):			
Type: R					Hydric Soil Present? Yes ○ No ●
Depth (inc	:nes):_16				7 100 1 110 1
Remarks:					



AN15 Wetland



AN15 Upland

Project/Site: Antrim Wind Project			City/County	y: Antrim		Sampling Date: 16-Aug-11
Applicant/Owner: Eolian Renewable	Energy, LLC			Sta	te: NH	Sampling Point: an16 wetland
Investigator(s): AF JG			Section	, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.):	Terrace		_	(concave, convex, r		Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA):		Lat.:		Long		Datum:
					-	
Soil Map Unit Name:					INVVI CIASSIII	cation: PEM
Are climatic/hydrologic conditions	on the site ty	pical for this time of y	ear?	Yes ● No ○	(If no, explain in	*
Are Vegetation . , Soil .	, or Hydrold	ogy 🗌 significant	ly disturbed	? Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation, Soil	, or Hydrold	ogy 🗌 naturally p	roblematic?	(If needed,	explain any answe	ers in Remarks.)
Summary of Findings - A	ttach site	map showing s	ampling	point location	ıs, transects,	important features, etc.
Hydrophytic Vegetation Present?	Yes	No O				
Hydric Soil Present?	Yes 💿	No O		the Sampled Area thin a Wetland?	Yes ● No C	
Wetland Hydrology Present?	Yes 💿	No O				
Lludrolomy						
Hydrology						
Wetland Hydrology Indicators:	no roquirod.	abaak all that annly)				rs (minimum of 2 required)
Primary Indicators (minimum of c	ne requireu;		(00)		Surface Soil Co	
✓ High Water Table (A2)		Water-Stained Lea Aquatic Fauna (B1			☐ Drainage Patte	
Saturation (A3)		Marl Deposits (B15				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide			Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosph		ring Roots (C3)		ble on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduc	-		Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc	tion in Tilled	Soils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)		☐ Thin Muck Surface	(C7)		Shallow Aquita	
Inundation Visible on Aerial Image		Other (Explain in F	Remarks)		Microtopograp	
Sparsely Vegetated Concave Surfa	ice (B8)				✓ FAC-neutral To	est (D5)
Field Observations:	<u> </u>					
Surface Water Present? Yes		Depth (inches):				
Water Table Present? Yes		Depth (inches):	0	Wotland Hyde	rology Present?	Yes ● No ○
Saturation Present? (includes capillary fringe) Yes	● No ○	Depth (inches):	0		ology Present?	Tes C NO C
Describe Recorded Data (stream of	gauge, monito	oring well, aerial photo	os, previous	inspections), if avai	lable:	
Remarks:						

VEGETATION - Use scientific names of plan	Dominant
	Cmaaiaa?

Absolute Rel Stratu Monte Rel Stratu Monte Rel Stratu Monte Rel Stratu Robert Robe	VEGETATION - Use scientific fiames of pia	21115		minant ecies? _		Sampling Point: an16 wetland
	Total Characters (Plot size:		Rel	I.Strat.		Dominance Test worksheet:
0					status	
0	1		Н-			That are OBL, FACW, or FAC: 4 (A)
0	2		Н-			Total Number of Dominant
0	3		Н-			Species Across All Strata: 4 (B)
0	4		Н-			Percent of dominant Species
apling/Shrub Stratum (Plot size: 15')	•	0	Η-			
apling/shrub Stratum (Plot size: 15') 0 = Total Cover			H-			
Spriese alba	1		Ш_			
Spirace albe	Sapling/Shrub Stratum (Plot size: 15')		= To	tal Cover		133
Spirace tomentose	1. Spiraea alba	15	✓	50.0%	FACW+	· — —
0	O 6minus tomorphism	15	V	50.0%	FACW	
0				0.0%		1
0	4.	0		0.0%		raco species
O	5.	0		0.0%		UPL speci es x 5 =
Prevalence Index = B/A = 1.513 Prevalence Ind				0.0%		Column Totals: 113 (A) 171 (B)
Stratum (Plot size: 5') 30				0.0%		Prevalence Index = B/A = 1.513
Carex crinita			= To	tal Cover		
1. care crinita	Herb Stratum (PIOT SIZE: 5					
2. Scirpus cyperinus 3. Scirpus atrovirens 5	1_Carex crinita	50	V _	60.2%	OBL	
1. Scipus arrovirens	2. Scirpus cyperinus	5		6.0%	FACW+	
data in Remarks or on a separate sheet) 5. Impatiens capensis 6.	3. Scirpus atrovirens	5		6.0%	OBL	l <u> </u>
0	4. Onoclea sensibilis		✓ _	24.1%	FACW	data in Remarks or on a separate sheet)
7.	5. Impatiens capensis	3		3.6%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
be present, unless disturbed or problematic. Definitions of Vegetation Strata: Tree - Woody plants, 3 in. (7.6 cm) 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 (1m) tall Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Definitions of Vegetation Strata: Tree - Woody plants, 3 in. (7.6 cm) 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 (1m) tall Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine - All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes No		0		0.0%		
Definitions of Vegetation Strata: Tree - Woody plants, 3 in. (7.6 cm) 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 (1m) tall Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine - All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes No		0		0.0%		Indicators of hydric soil and wetland hydrology must
1.		0		0.0%		
1.	9	0		0.0%		Definitions of Vegetation Strata:
1.	10	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine - All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes • No • N		0		0.0%		at breast height (DBH), regardless of height.
Sa	12	0		0.0%		Sanling/shrub - Woody plants less than 3 in DRH and
Under the control of	Weady Vine Stratum (Plot size)	83	= To	tal Cover		greater than 3.28 ft (1m) tall
Size, and woody plants less than 3.28 ft tall. O		•		0.007		Hart All barbaras (consult of a last a consult of a
Woody vine - All woody vines greater than 3.28 ft in height. O = Total Cover Hydrophytic Vegetation Present? Yes No						Herb - All nerbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
D = Total Cover Hydrophytic Vegetation Present? Hydrophytic Vegetation Present? Yes No						
O = Total Cover Hydrophytic Vegetation Present? Yes • No •	3					, , ,
Hydrophytic Vegetation Present? Yes No	4					neight.
Vegetation Present? Yes No			= To	tal Cover		
Vegetation Present? Yes No						
Vegetation Present? Yes No						
Tresent.						Vegetation V
emarks: (Include photo numbers here or on a separate sheet.)						Present? Yes S NO C
entains. (Include prioto numbers nere of on a separate sneet.)	Demarks: (Include photo numbers here or on a separate sh	neet)				
	Remarks. (Hierare prioto hambers here of off a separate si	icet. <i>j</i>				

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an16 wetland

Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains **Location: PL=Pore Lining, M=Matrix Pydric Soil Indicators:		-	Matrix	_ %	Color (dox Featu		- 1002	- Toyture	Domestre	
Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains **Location: PL=Pore Lining, M=Matrix** **Pydric Soil Indicators:** Histosoi (A1)					Color (r	noist)		Type	LOC2	-	Remarks	
Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains PL=Pore Lining. M=Matrix												
Hydric Soil Indicators: Histosol (A1)	7-16	2.5Y	4/2	95%	10YR	4/6	5%	C	M	Fine Sandy Loam	<u> </u>	
Hydric Soil Indicators: Histosol (A1)												
Hydric Soil Indicators: Histosol (A1)												
Hydric Soil Indicators: Histosol (A1)												
Hydric Soil Indicators: Histosol (A1)										-		
Hydric Soil Indicators: Histosol (A1)												
Hydric Soil Indicators: Histosol (A1)												
Hydric Soil Indicators: Histosol (A1)												
Hydric Soil Indicators: Histosol (A1)												
Hydric Soil Indicators: Histosol (A1) Histo Epipedon (A2) Histo Epipedon (A10) Hist												
Hydric Soil Indicators: Histosol (A1) Histo Epipedon (A2) Histo Epipedon (A10) Hist												
Hydric Soil Indicators: Histosol (A1) Histo Epipedon (A2) Histo Epipedon (A10) Hist												
Hydric Soil Indicators: Histosol (A1)								_				
Histosol (A1)	Type: C=Con	centration. D	=Depletio	n. RM=Redu	iced Matrix, (CS=Cover	ed or Coat	ed Sand Gr	ins ² Loc	ation: PL=Pore Lining. M	=Matrix	
Histosol (A1)			<u> </u>									
Histic Epipedon (A2) MLRA 149B) □ Coast Prairie Redox (A16) (LRR K, L, R) □ Black Histic (A3) □ Thin Dark Surface (S9) (LRR R, MLRA 149B) □ Stratified Layers (A5) □ Depleted Below Dark Surface (A11) □ Thick Dark Surface (A12) □ Depleted Dark Surface (F6) □ Sandy Muck Mineral (S1) □ Sandy Gleyed Matrix (S4) □ Sandy Redox (S5) □ Stripped Matrix (S6) □ Dark Surface (S7) (LRR K, L) □ Depleted Matrix (S6) □ Depleted Dark Surface (F8) □ Depleted Dark Surface (F8) □ Redox Depressions (F8) □ Red	_				Polyv	value Belo	w Surface	(S8) (LRR F				
Black Histic (A3)		•						() (•			
Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Muck Mineral (S1) Sandy Muck Mineral (S1) Sandy Redox Depressions (F8) Sandy Redox (S5) Extripped Matrix (S6) Depleted Matrix (S6) Depleted Dark Surface (S7) Redox Depressions (F8) Sandy Redox (S5) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Red Parent Material (TF2) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No ○					Thin	Dark Surf	ace (S9) (LRR R, MLF	A 149B)			
Stratified Layers (A5) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Thick Dark Surface (A12) Sandy Muck Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No					Loam	ny Mucky I	Mineral (F1) LRR K, L)				
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Muck Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Dark Surface (S7) (LRR R, MLRA 149B) Thin Dark Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Peldmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Redox Depressions (F8) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Type: Depth (inches): Hydric Soil Present? Yes No										Dark Surface (S	67) (LRR K, L)	
Thick Dark Surface (A12) Thick Dark Surface (A12) Sandy Muck Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Type: Depth (inches): Hydric Soil Present? Yes No				11\				,		Polyvalue Belov	v Surface (S8) (LRR K, L)	
Iron-Manganese Masses (F12) (LRR K, L, R)	_ '			111)								
Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	_	•	•					7)		☐ Iron-Manganes	e Masses (F12) (LRR K, L, R)	
Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No		Sality Witch Willieral (31)							Piedmont Flood	plain Soils (F19) (MLRA 149B)		
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No			54)		□ Redo	ix Depress	SIULIS (FO)			Mesic Spodic (7	A6) (MLRA 144A, 145, 149B)	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No		dox (S5)								Red Parent Mat	erial (TF2)	
Dark Surface (S7) (LRR R, MLRA 149B) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Depth (inches): Type: Depth (inches): Type: Depth (inches): Type: Depth (inches): Depth (inches): Type: Type: Depth (inches): Type: Depth (inches	Sandy Re	uon (00)										
Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Type: Depth (inches): Type: Depth (inches):												
Restrictive Layer (if observed): Type: Depth (inches): Type: Depth (inches): Type: Depth (inches): Type: Depth (inches):	Stripped N	Matrix (S6)	R, MLRA	\ 149B)								
Type:	Stripped M Dark Surfa	Matrix (S6) ace (S7) (LRR			nd hydrology	must be a	present. ur	ıless disturk	ed or probl	Other (Explain		
Depth (inches): Hydric Soil Present? Yes No	Stripped M Dark Surfa 3Indicators of	Matrix (S6) ace (S7) (LRR f hydrophytic	vegetatio		nd hydrology	must be j	present, ur	ıless disturk	ed or probl	Other (Explain		
Depth (manes).	Stripped M Dark Surfa 3Indicators of Restrictive La	Matrix (S6) ace (S7) (LRR f hydrophytic	vegetatio		nd hydrology	must be p	present, ur	ıless disturt	ed or probl	Other (Explain		
Remarks:	Stripped M Dark Surfi 3Indicators of Restrictive La Type:	Matrix (S6) face (S7) (LRR f hydrophytic ayer (if obse	vegetatio		nd hydrology	must be p	present, ur	ıless disturk	ed or probl	Other (Explain lematic.	in Remarks)	
	Stripped M Dark Surfi 3Indicators of Restrictive La Type:	Matrix (S6) face (S7) (LRR f hydrophytic ayer (if obse	vegetatio		nd hydrology	must be j	present, ur	iless disturk	ed or prob	Other (Explain lematic.	in Remarks)	
	Stripped M Dark Surfi 3Indicators of Restrictive La Type:	Matrix (S6) face (S7) (LRR f hydrophytic ayer (if obse	vegetatio		nd hydrology	must be p	present, ur	oless disturb	ed or probl	Other (Explain lematic.	in Remarks)	
	Stripped M Dark Surfa Indicators of Restrictive La Type: Depth (incl	Matrix (S6) face (S7) (LRR f hydrophytic ayer (if obse	vegetatio		nd hydrology	must be p	present, ur	iless disturb	ed or probl	Other (Explain lematic.	in Remarks)	
	Stripped M Dark Surfa 3Indicators of Restrictive La Type: Depth (incl	Matrix (S6) face (S7) (LRR f hydrophytic ayer (if obse	vegetatio		nd hydrology	must be p	present, ur	ıless disturk	ed or probl	Other (Explain lematic.	in Remarks)	
	Stripped M Dark Surfa 3Indicators of Restrictive La Type: Depth (incl	Matrix (S6) face (S7) (LRR f hydrophytic ayer (if obse	vegetatio		nd hydrology	must be p	present, ur	ıless disturk	ed or probl	Other (Explain lematic.	in Remarks)	
	Stripped M Dark Surfa 3Indicators of Restrictive La Type: Depth (incl	Matrix (S6) face (S7) (LRR f hydrophytic ayer (if obse	vegetatio		nd hydrology	must be p	present, ur	ıless disturk	ed or probl	Other (Explain lematic.	in Remarks)	
	Stripped M Dark Surfa Indicators of Sestrictive La Type: Depth (incl	Matrix (S6) face (S7) (LRR f hydrophytic ayer (if obse	vegetatio		nd hydrology	must be p	present, ur	oless disturb	ed or probl	Other (Explain lematic.	in Remarks)	
	Stripped M Dark Surfa Indicators of Sestrictive La Type: Depth (incl	Matrix (S6) face (S7) (LRR f hydrophytic ayer (if obse	vegetatio		nd hydrology	must be p	present, ur	oless disturb	ed or probl	Other (Explain lematic.	in Remarks)	
	Stripped M Dark Surfa Indicators of Sestrictive La Type: Depth (incl	Matrix (S6) face (S7) (LRR f hydrophytic ayer (if obse	vegetatio		nd hydrology	must be p	present, ur	oless disturb	ed or probl	Other (Explain lematic.	in Remarks)	
	Stripped M Dark Surfa Indicators of estrictive La Type: Depth (incl	Matrix (S6) face (S7) (LRR f hydrophytic ayer (if obse	vegetatio		nd hydrology	must be p	present, ur	oless disturb	ed or probl	Other (Explain lematic.	in Remarks)	
	Stripped M Dark Surfa Indicators of Sestrictive La Type: Depth (incl	Matrix (S6) face (S7) (LRR f hydrophytic ayer (if obse	vegetatio		nd hydrology	must be p	present, ur	oless disturb	ed or probl	Other (Explain lematic.	in Remarks)	
	Stripped M Dark Surfa Indicators of Sestrictive La Type: Depth (incl	Matrix (S6) face (S7) (LRR f hydrophytic ayer (if obse	vegetatio		nd hydrology	must be p	present, ur	oless disturb	ed or probl	Other (Explain lematic.	in Remarks)	
	Stripped M Dark Surfa Indicators of Sestrictive La Type: Depth (incl	Matrix (S6) face (S7) (LRR f hydrophytic ayer (if obse	vegetatio		nd hydrology	must be p	present, ur	oless disturb	ed or probl	Other (Explain lematic.	in Remarks)	
	Stripped M Dark Surfa Indicators of Restrictive La Type: Depth (incl	Matrix (S6) face (S7) (LRR f hydrophytic ayer (if obse	vegetatio		nd hydrology	must be p	present, ur	oless disturb	ed or probl	Other (Explain lematic.	in Remarks)	
	Stripped M Dark Surfa Indicators of Restrictive La Type: Depth (incl	Matrix (S6) face (S7) (LRR f hydrophytic ayer (if obse	vegetatio		nd hydrology	must be p	present, ur	oless disturb	ed or probl	Other (Explain lematic.	in Remarks)	
	Stripped M Dark Surfa Indicators of Restrictive La Type: Depth (incl	Matrix (S6) face (S7) (LRR f hydrophytic ayer (if obse	vegetatio		nd hydrology	must be p	present, ur	oless disturb	ed or probl	Other (Explain lematic.	in Remarks)	
	Stripped M Dark Surfa Indicators of Restrictive La Type: Depth (incl	Matrix (S6) face (S7) (LRR f hydrophytic ayer (if obse	vegetatio		nd hydrology	must be p	present, ur	oless disturb	ed or probl	Other (Explain lematic.	in Remarks)	
	Stripped M Dark Surfa 3Indicators of Restrictive La Type: Depth (incl	Matrix (S6) face (S7) (LRR f hydrophytic ayer (if obse	vegetatio		nd hydrology	must be p	present, ur	oless disturb	ed or probl	Other (Explain lematic.	in Remarks)	
	Stripped M Dark Surfa 3Indicators of Restrictive La Type: Depth (incl	Matrix (S6) face (S7) (LRR f hydrophytic ayer (if obse	vegetatio		nd hydrology	must be p	present, ur	oless disturb	ed or probl	Other (Explain lematic.	in Remarks)	
	Stripped M Dark Surfa 3Indicators of Restrictive La Type: Depth (incl	Matrix (S6) face (S7) (LRR f hydrophytic ayer (if obse	vegetatio		nd hydrology	must be p	present, ur	oless disturb	ed or probl	Other (Explain lematic.	in Remarks)	
	Stripped M Dark Surfa Indicators of estrictive La Type: Depth (incl	Matrix (S6) face (S7) (LRR f hydrophytic ayer (if obse	vegetatio		nd hydrology	must be p	present, ur	oless disturb	ed or probl	Other (Explain lematic.	in Remarks)	

Project/Site: Antrim Wind Project	City/C	ounty: Antrim		Sampling Date: 16-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te:	Sampling Point: an16 upland
Investigator(s): AF JG	Sec	ction, Township, Range:	S. T.	R.
Landform (hillslope, terrace, etc.): Hillside		elief (concave, convex, r		Slope: 10.0 % / 5.7 °
Subregion (LRR or MLRA):	Lat.:	Long	-	Datum:
Soil Map Unit Name:			NWI classif	ication:
Are climatic/hydrologic conditions on the site	typical for this time of year?	Yes 💿 No 🔾	(If no, explain in	•
Are Vegetation \square , Soil \square , or Hyd	ology	rbed? Are "Normal	Circumstances" p	oresent? Yes • No ·
Are Vegetation, Soil, or Hyd	ology aturally problem	atic? (If needed,	explain any answe	ers in Remarks.)
Summary of Findings - Attach si		ing point location	ıs, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? Yes		Is the Sampled Area within a Wetland?	Yes ○ No •)
Wetland Hydrology Present? Yes	No 💿			
Hydrology				
Wetland Hydrology Indicators:	d. abaak all that apply)			ors (minimum of 2 required)
Primary Indicators (minimum of one require Surface Water (A1)			Surface Soil C	
High Water Table (A2)	Water-Stained Leaves (B9)☐ Aquatic Fauna (B13)		☐ Drainage Patte ☐ Moss Trim Lin	
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burro	
Sediment Deposits (B2)	Oxidized Rhizospheres alor			ible on Aerial Imagery (C9)
☐ Drift deposits (B3)	Presence of Reduced Iron		Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in T	illed Soils (C6)	Geomorphic P	osition (D2)
Iron Deposits (B5)	☐ Thin Muck Surface (C7)		Shallow Aquita	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks))		phic Relief (D4)
Sparsely Vegetated Concave Surface (B8)			FAC-neutral T	est (D5)
Field Observations:				
Surface Water Present? Yes No				
Water Table Present? Yes No	Depth (inches):	Wattand Had		Yes ○ No •
Saturation Present? (includes capillary fringe) Yes No	Depth (inches):	wetland Hydi	ology Present?	res Unu U
Describe Recorded Data (stream gauge, mod	nitoring well, aerial photos, prev	ious inspections), if avai	able:	
Remarks:				
remarks.				

		minant ecies?		Sampling Point: an16 upland
	Re	I.Strat.		Dominance Test worksheet:
				Number of Dominant Species
				That are OBL, FACW, or FAC: O (A)
	<u>V</u>		FACU	Total Number of Dominant
	Н-			Species Across All Strata: 4 (B)
	Н.			Descent of dominant Species
	Η.			Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)
	片.			
	Ш_	0.0%		Prevalence Index worksheet:
30	= To	tal Cove	r	Total % Cover of: Multiply by:
10		19.6%	FACU	0BL species 0 x 1 = 0
33	V	64.7%	FACU	FACW species $0 \times 2 = 0$
	\Box			FAC speci es5 x 3 =15
	\Box			FACU speci es x 4 =
	\Box			UPL species $\frac{80}{}$ x 5 = $\frac{400}{}$
	\Box			Column Totals: 191 (A) 839 (B)
	\Box			Prevalence Index = B/A = 4.393
	 = To		 r	
	- 10	(d. 0000)	-	Hydrophytic Vegetation Indicators:
10		9.1%	FACU-	Rapid Test for Hydrophytic Vegetation
90	V	72.7%	UPL	☐ Dominance Test is > 50%
		4.5%	FACU-	Prevalence Index is ≤3.0 ¹
		13.6%	FACU	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
		0.0%		Problematic Hydrophytic vegetation (Explain)
		0.0%		¹ Indicators of hydric soil and wetland hydrology must
		0.0%		be present, unless disturbed or problematic.
		0.0%		Definitions of Vegetation Strata:
	\Box	0.0%		The Mank plants 2 in (7.0 cm) as some in discussion
	\Box	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
	$\overline{\Box}$			
	 = To		r	Sapling/shrub - Woody plants less than 3 in. DBH and
	- 10	tai oove	•	greater than 3.28 ft (1m) tall
0		0.0%		Herb - All herbaceous (non-woody) plants, regardless o
0		0.0%		size, and woody plants less than 3.28 ft tall.
0		0.0%		Woody vine - All woody vines greater than 3.28 ft in
0		0.0%		height.
	= To	tal Cove	r	
				Hydrophytic
				Hydrophytic Vegetation Present? Yes No No
	% Cover 20 10 0 0 0 0 30 10 33 5 3 0 0 0 51 10 80 5 15 0 0 0 0 0 0 0 110 0 0 0 0 0 0 0 0	% Cover Co 20 10 0 0 0 0 30 To 10 33 5 3 0 0 0 51 To 10 80 7 15 0 0 0 0 0 0 110 To 0 0 0 0 0 0 0 0 0 0 0 0 0	% Cover Cover 20 ✓ 66.7% 10 ✓ 33.3% 0 0.0% 0 0.0% 0 0.0% 0 0.0% 0 0.0% 0 0.0% 30 = Total Cove 10 19.6% 33 ✓ 64.7% 5 9.8% 3 5.9% 0 0.0% 0 0.0% 0 0.0% 0 0 0.0% 0 0.0% 0 0.0%	% Cover Cover Status 20 ✓ 66.7% FACU 10 ✓ 33.3% FACU 0 0.0% 0 0.0% 0 0.0% 0 0.0% 0 0.0% 0 0.0% 0 0.0% FACU 33 ✓ 64.7% FACU 3 5.9% FACU 0 0.0% 0 0.0% 0 0.0% 0 0.0% 51 = Total Cover Incompany of the part of t

Remarks: (Include photo numbers here or on a separate sheet.)

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an16 upland

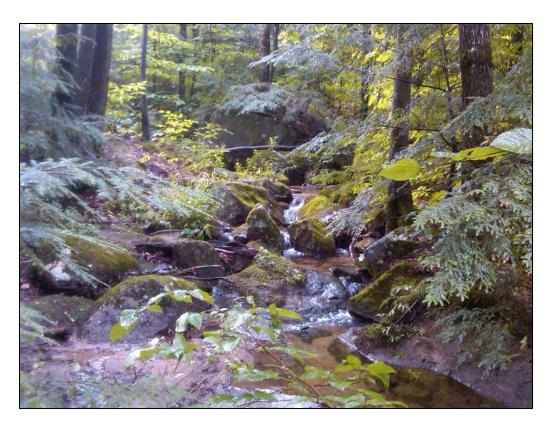
Profile Desc	cription: (Desc	ribe to	the depth	needed to document the indicator or confirm the	absence of indicators.)	
Depth (inches)		Matrix	_ 0,	Redox Features	- T : Demonto	
	Color (m		%	Color (moist) % Type 1 Loc²	Texture Remarks	
0-4	10YR	3/2	100%		Loam	
4-6	10YR	5/8	100%		Fine Sandy Loam	
			-			
			-			
				. — — — — — — — — — — — — — — — — — — —		
			- ———	· ————————		
¹ Type: C=Co	ncentration. D=	Depletio	n. RM=Rec	duced Matrix, CS=Covered or Coated Sand Grains ² Loca	ation: PL=Pore Lining. M=Matrix	
	Indicators:	•			•	
Histosol				Polyvalue Below Surface (S8) (LRR R,	Indicators for Problematic Hydric Soils: 3	
	oipedon (A2)			MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)	
Black His				☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)	
	en Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
	d Layers (A5)			Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L)	
		urfoos (A	11\	Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)	
	d Below Dark Su		11)	Redox Dark Surface (F6)	Thin Dark Surface (S9) (LRR K, L)	
	ark Surface (A12	•		Depleted Dark Surface (F7)	Iron-Manganese Masses (F12) (LRR K, L, R)	
	luck Mineral (S1			Redox Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B	·)
	Sleyed Matrix (S	1)		Redux Depressions (10)	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	ı
	edox (S5)				Red Parent Material (TF2)	
	Matrix (S6)				☐ Very Shallow Dark Surface (TF12)	
☐ Dark Sui	rface (S7) (LRR	R, MLRA	(149B)		Other (Explain in Remarks)	
³ Indicators	of hydrophytic v	egetatio	n and wetla	and hydrology must be present, unless disturbed or proble	ematic.	
	Layer (if obse					
	stone refusal	veu).				
					Hydric Soil Present? Yes No •	
Depth (in	icnes): 6				7	
Remarks:						



AN16 Wetland



AN16 Wetland



AN17 Stream (associated with AN18 Wetland)

Project/Site: Antrim Wind Project	City/County: Antrim	Sampling Date: 16-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		State: NH Sampling Point: an18a wetland
Investigator(s): AF JG	Section, Township	, Range: S. T. R.
Landform (hillslope, terrace, etc.): Gulch or		convex, none): concave Slope: 12.0 % / 6.8 °
Subregion (LRR or MLRA):	Lat.:	Long.: Datum:
Soil Map Unit Name:		NWI classification: PSS
Are climatic/hydrologic conditions on the site	typical for this time of year? Yes N	(ii iie) explain iii iteliiai iie)
Are Vegetation , Soil , or Hyd	ology significantly disturbed? Are	* "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydronic	ology naturally problematic? (If	needed, explain any answers in Remarks.)
	<u> </u>	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes		
Hydric Soil Present? Yes Yes	within a weti	
Wetland Hydrology Present? Yes	No O	
Remarks: (Explain alternative procedures h	ere or in a separate report.)	
Hydrology		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one require	d; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
✓ High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
✓ Saturation (A3)	☐ Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C	
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4) Iron Deposits (B5)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	☐ Thin Muck Surface (C7)	Shallow Aquitard (D3)
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)	✓ Microtopographic Relief (D4)✓ FAC-neutral Test (D5)
Sparsery Vegetated conteave surface (Bb)		TAC-fiedulal Test (D3)
Field Observations: Surface Water Present? Yes No		
Water Table Present? Yes No	Wot	land Hydrology Present? Yes No
Saturation Present? (includes capillary fringe) Yes No	Depth (inches):0	land Hydrology Present? Tes C No C
Describe Recorded Data (stream gauge, mor	nitoring well, aerial photos, previous inspections	s), if available:
Remarks:		

VEGETATION - Use scientific names of pla	nte				
		ominant pecies?		Sampling Point: an18a wetland	
Tree Stratum (Plot size:)	Absolute % Cover		el.Strat. over	Indicator Status	Dominance Test worksheet:
1	0		0.0%	Status	Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)
		\Box	0.0%		That are Obt, FACW, or FAC.
2	0	\Box	0.0%		Total Number of Dominant
3	0		0.0%		Species Across All Strata: 4 (B)
4			0.0%		Percent of dominant Species
5 6	0	\Box	0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
		\Box	0.0%		Prevalence Index worksheet:
7		т.			Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15')	0	= 10	otal Cover		0BL species 20 x 1 = 20
1. Salix nigra	_10_	✓	76.9%	FACW+	
2. Fraxinus pennsylvanica	0		0.0%	FACW	x
3. Cornus stolonifera	3	~	23.1%	FACW+	1 no species x s =
4.	0		0.0%		FACU speci es $0 \times 4 = 0$
5.	0		0.0%		UPL speci es x 5 =
6	0		0.0%		Column Totals: 99 (A) 178 (B)
7.	0		0.0%		Prevalence Index = B/A = 1.798
Herb Stratum (Plot size: 5')		= To	otal Cover	7	Hydrophytic Vegetation Indicators:
Herb Stratum (Plot Size:)					Rapid Test for Hydrophytic Vegetation
1.Eupatoriadelphus dubius	0	Ш	0.0%	FACW	✓ Dominance Test is > 50%
2.Onoclea sensibilis	33	✓	38.4%	FACW	✓ Prevalence Index is ≤3.0 ¹
3. Scirpus cyperinus	8		9.3%	FACW+	Morphological Adaptations ¹ (Provide supporting
4.Carex crinita	10		11.6%	OBL	data in Remarks or on a separate sheet)
5.Osmunda cinnamomea	25	✓	29.1%	FACW	☐ Problematic Hydrophytic Vegetation ¹ (Explain)
6.Carex lurida	10		11.6%	OBL	
7	0		0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8	0		0.0%		<u> </u>
9	0		0.0%		Definitions of Vegetation Strata:
10	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11.	0		0.0%		at breast height (DBH), regardless of height.

0.0%

0.0%

0.0%

0.0%

0.0%

0 = Total Cover

= Total Cover

86

0

0

0

Remarks: (Include photo numbers here or on a separate sheet.)

Woody Vine Stratum (Plot size: _____)

Sapling/shrub - Woody plants less than 3 in. DBH and

Herb - All herbaceous (non-woody) plants, regardless of

No O

Woody vine - All woody vines greater than 3.28 ft in

size, and woody plants less than 3.28 ft tall.

Yes 💿

greater than 3.28 ft (1m) tall..

height.

Hydrophytic Vegetation

Present?

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an18a wetland

ype: C=Concentration. ydric Soil Indicators Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (Sandy Muck Mineral Sandy Gleyed Matrix Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (L	:) : Surface (,		Color (moist) % Type Ty	RR R, MLRA 149B)	Indicators for Pr 2 cm Muck (A Coast Prairie I 5 cm Mucky P Dark Surface Polyvalue Beld Thin Dark Sur	Remarks alTuvial soils alTuv
ype: C=Concentration. ydric Soil Indicators Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (Sandy Muck Mineral Sandy Gleyed Matrix Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (L Indicators of hydrophytestrictive Layer (if okator) Type: Depth (inches):	D=Depleti:	tion. RM=Redu	Polyvalue Below Surface (S8) (LMLRA 149B) Thin Dark Surface (S9) (LRR R, Loamy Mucky Mineral (F1) LRR Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	RR R, MLRA 149B)	gravelly sand gravelly sand Indicators for Pr 2 cm Muck (A Coast Prairie I 5 cm Mucky P Dark Surface Polyvalue Beld Thin Dark Sur	M=Matrix roblematic Hydric Soils: 3 10) (LRR K, L, MLRA 149B) Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) (S7) (LRR K, L) ow Surface (S8) (LRR K, L) face (S9) (LRR K, L) ese Masses (F12) (LRR K, L, R)
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Stratified Layers (A5) Depleted Below Dark Thick Dark Surface (Sandy Muck Mineral Sandy Gleyed Matrix Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Landicators of hydrophytestrictive Layer (if obtype: Depth (inches):) : Surface (/ A12)	(A11)	Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	K, L)	Dark Surface Polyvalue Belo Thin Dark Sur Iron-Mangane	(S7) (LRR K, L) DW Surface (S8) (LRR K, L) face (S9) (LRR K, L) ese Masses (F12) (LRR K, L, R)
Depleted Below Dark Thick Dark Surface (Sandy Muck Mineral Sandy Gleyed Matrix Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Landicators of hydrophytestrictive Layer (if obtogened)	Surface (A A12)	(A11)	Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)		Polyvalue Beld Thin Dark Sur Iron-Mangane	ow Surface (S8) (LRR K, L) face (S9) (LRR K, L) ese Masses (F12) (LRR K, L, R)
Thick Dark Surface () Sandy Muck Mineral Sandy Gleyed Matrix Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (L Indicators of hydrophyt estrictive Layer (if ob Type: Depth (inches):	A12)	(A11)	Redox Dark Surface (F6) Depleted Dark Surface (F7)		☐ Thin Dark Sur ☐ Iron-Mangane	face (S9) (LRR K, L) ese Masses (F12) (LRR K, L, R)
Sandy Muck Mineral Sandy Gleyed Matrix Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (L Indicators of hydrophyt strictive Layer (if ob Type: Depth (inches):	•		Depleted Dark Surface (F7)		Iron-Mangane	ese Masses (F12) (LRR K, L, R)
Sandy Gleyed Matrix Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (L ndicators of hydrophyt strictive Layer (if ob Type: Depth (inches):	(S1)				_	
Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (Lindicators of hydrophytestrictive Layer (if obtype: Depth (inches):	(31)		☐ Redox Depressions (F8)			Jupiani Julis (1 17) (MERA 1470)
Stripped Matrix (S6) Dark Surface (S7) (L Indicators of hydrophyt estrictive Layer (if ob Type: Depth (inches):	(S4)				Mesic Spodic	(TA6) (MLRA 144A, 145, 149B)
Dark Surface (S7) (L Indicators of hydrophyt estrictive Layer (if ob Type: Depth (inches):					Red Parent Ma	
Indicators of hydrophytestrictive Layer (if ob Type: Depth (inches):					Very Shallow	Dark Surface (TF12)
estrictive Layer (if ob Type: Depth (inches):	RR R, MLR	RA 149B)			Other (Explain	n in Remarks)
Type: Depth (inches):	ic vegetati	tion and wetlan	nd hydrology must be present, unless di	sturbed or proble	ematic.	
Type: Depth (inches):	served):	:				
	•					
					Hydric Soil Presen	nt? Yes 💿 No 🔾
Citia K3.						

	City/County: Antrim	Sampling Date: 16-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC	St	ate: NH Sampling Point: an18a upland
Investigator(s): AF JG	Section, Township, Range:	
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex,	
Subregion (LRR or MLRA): Lat.:	Lor	
Soil Map Unit Name:		NWI classification:
Are climatic/hydrologic conditions on the site typical for this time of	year? Yes 🍑 No 🔾	(If no, explain in Remarks.)
Are Vegetation \square , Soil \square , or Hydrology \square significan	tly disturbed? Are "Norma	ıl Circumstances" present? Yes ● No ○
Are Vegetation $\ \ \Box \ \ $, Soil $\ \ \Box \ \ $, or Hydrology $\ \ \Box \ \ $ naturally	problematic? (If needed,	explain any answers in Remarks.)
Summary of Findings - Attach site map showing	sampling point locatio	ns, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No •		
Hydric Soil Present? Yes No •	Is the Sampled Area within a Wetland?	Yes ○ No •
Wetland Hydrology Present? Yes ○ No ●		
Hydrology		
Hydrology		
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
Surface Water (A1) Water-Stained Le	aves (DO)	Surface Soil Cracks (B6) Drainage Patterns (B10)
High Water Table (A2) Aquatic Fauna (B	• •	Moss Trim Lines (B16)
Saturation (A3) Marl Deposits (B1		Dry Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide		Crayfish Burrows (C8)
	• •	Saturation Visible on Aerial Imagery (C9)
Sediment Deposits (B2) Oxidized Rhizospl	neres along Living Roots (C3)	
☐ Sediment Deposits (B2) ☐ Oxidized Rhizospl☐ Drift deposits (B3) ☐ Presence of Redu		Stunted or Stressed Plants (D1)
☐ Drift deposits (B3) ☐ Presence of Redu		Stunted or Stressed Plants (D1) Geomorphic Position (D2)
□ Drift deposits (B3) □ Presence of Redu □ Algal Mat or Crust (B4) □ Recent Iron Redu □ Iron Deposits (B5) □ Thin Muck Surfac	iced Iron (C4) action in Tilled Soils (C6)	Geomorphic Position (D2) Shallow Aquitard (D3)
□ Drift deposits (B3) □ Presence of Redu □ Algal Mat or Crust (B4) □ Recent Iron Redu □ Iron Deposits (B5) □ Thin Muck Surfac □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in	iced Iron (C4) iction in Tilled Soils (C6) e (C7)	Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
□ Drift deposits (B3) □ Presence of Redu □ Algal Mat or Crust (B4) □ Recent Iron Redu □ Iron Deposits (B5) □ Thin Muck Surfac	iced Iron (C4) iction in Tilled Soils (C6) e (C7)	Geomorphic Position (D2) Shallow Aquitard (D3)
Drift deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Presence of Redu Recent Iron Redu Thin Muck Surface Other (Explain in	oced Iron (C4) action in Tilled Soils (C6) e (C7) Remarks)	Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
□ Drift deposits (B3) □ Presence of Redu □ Algal Mat or Crust (B4) □ Recent Iron Redu □ Iron Deposits (B5) □ Thin Muck Surfac □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No ● Depth (inches):	oced Iron (C4) action in Tilled Soils (C6) e (C7) Remarks)	Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
□ Drift deposits (B3) □ Presence of Redu □ Algal Mat or Crust (B4) □ Recent Iron Redu □ Iron Deposits (B5) □ Thin Muck Surfac □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes □ No □ Depth (inches): Water Table Present? Yes □ No □ Depth (inches):	ced Iron (C4) action in Tilled Soils (C6) e (C7) Remarks)	Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-neutral Test (D5)
□ Drift deposits (B3) □ Presence of Redu □ Algal Mat or Crust (B4) □ Recent Iron Redu □ Iron Deposits (B5) □ Thin Muck Surface □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes ○ No ○ Depth (inches):	ced Iron (C4) Iction in Tilled Soils (C6) e (C7) Remarks) Wetland Hyd	Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
□ Drift deposits (B3) □ Presence of Redu □ Algal Mat or Crust (B4) □ Recent Iron Redu □ Iron Deposits (B5) □ Thin Muck Surface □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes ○ No ○ Depth (inches): Water Table Present? Yes ○ No ○ Depth (inches): Saturation Present?	ced Iron (C4) Iction in Tilled Soils (C6) Iction in Tilled	Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-neutral Test (D5) drology Present? Yes No
□ Drift deposits (B3) □ Presence of Redu □ Algal Mat or Crust (B4) □ Recent Iron Redu □ Iron Deposits (B5) □ Thin Muck Surface □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes ○ No ○ Depth (inches): Water Table Present? Yes ○ No ○ Depth (inches): Saturation Present? Yes ○ No ○ Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photon	ced Iron (C4) Iction in Tilled Soils (C6) Iction in Tilled	Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-neutral Test (D5) drology Present? Yes No
□ Drift deposits (B3) □ Presence of Redu □ Algal Mat or Crust (B4) □ Recent Iron Redu □ Iron Deposits (B5) □ Thin Muck Surface □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes ○ No ○ Depth (inches): Water Table Present? Yes ○ No ○ Depth (inches): Saturation Present? Yes ○ No ○ Depth (inches):	ced Iron (C4) Iction in Tilled Soils (C6) Iction in Tilled	Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-neutral Test (D5) drology Present? Yes No
□ Drift deposits (B3) □ Presence of Redu □ Algal Mat or Crust (B4) □ Recent Iron Redu □ Iron Deposits (B5) □ Thin Muck Surface □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes ○ No ○ Depth (inches): Water Table Present? Yes ○ No ○ Depth (inches): Saturation Present? Yes ○ No ○ Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photon)	ced Iron (C4) Iction in Tilled Soils (C6) Iction in Tilled	Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-neutral Test (D5) drology Present? Yes No
□ Drift deposits (B3) □ Presence of Redu □ Algal Mat or Crust (B4) □ Recent Iron Redu □ Iron Deposits (B5) □ Thin Muck Surface □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes ○ No ○ Depth (inches): Water Table Present? Yes ○ No ○ Depth (inches): Saturation Present? Yes ○ No ○ Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photon)	ced Iron (C4) Iction in Tilled Soils (C6) Iction in Tilled	Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-neutral Test (D5) drology Present? Yes No
□ Drift deposits (B3) □ Presence of Redu □ Algal Mat or Crust (B4) □ Recent Iron Redu □ Iron Deposits (B5) □ Thin Muck Surface □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes ○ No ○ Depth (inches): Water Table Present? Yes ○ No ○ Depth (inches): Saturation Present? Yes ○ No ○ Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photon)	ced Iron (C4) Iction in Tilled Soils (C6) Iction in Tilled	Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-neutral Test (D5) drology Present? Yes No
□ Drift deposits (B3) □ Presence of Redu □ Algal Mat or Crust (B4) □ Recent Iron Redu □ Iron Deposits (B5) □ Thin Muck Surface □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes ○ No ○ Depth (inches): Water Table Present? Yes ○ No ○ Depth (inches): Saturation Present? Yes ○ No ○ Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photon)	ced Iron (C4) Iction in Tilled Soils (C6) Iction in Tilled	Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-neutral Test (D5) drology Present? Yes No

VEGETATION - Use scientific names of plants	Dominant Species?		Sampling Point:	an18a u
Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:	

Dominant Species?						Sampling Point: an18a upland				
Tree Stratum (Plot size:)	Absolute % Cover	Re	-	Indicator Status	Don	ninance Test v	worksheet:			
			· ·	Status		ber of Dominar			1	(4)
1	0 0		0.0%		That	are OBL, FACV	V, or FAC:	-	1	(A)
2		Н	0.0%			I Number of Do			_	
3		\Box	0.0%		Spec	cies Across All S	strata:	-	2	(B)
4 5	0	Н	0.0%		Perd	cent of domin	ant Specie	S		
6	0	\Box	0.0%			t Are OBL, FA			50.0%	(A/B)
7	0	П	0.0%		Drev	alence Index	worksheet			
		 = To	otal Cover		'''	Total % Co		Multiply	bv:	
Sapling/Shrub Stratum (Plot size:)			otal cover		OBL	speci es	0	x 1 =	0	_
1	0		0.0%		l	speci es	50	x 2 =	100	
2	0		0.0%		1	speci es	0	x 3 =	0	
3	0		0.0%		1	speci es	8		32	
4	0		0.0%		l	speci es	50	x 5 =	250	
5			0.0%		l	-	108		382	(B)
6			0.0%		Coru	mn Totals:		(A)		(6)
7	0	Ш	0.0%			Prevalence II	ndex = B/A	· = _	3.537	
Herb Stratum (Plot size: 5')		= To	otal Cover	Ē	Hydr	rophytic Vege	tation Indi	cators:		
1 Mariana	50	~	46.3%	FACW+		Rapid Test fo	or Hydroph	ytic Veget	ation	
2. Dennstaedtia punctilobula	50	V	46.3%	UPL		Dominance 1	Test is > 50)%		
3. Solidago canadensis	8		7.4%	FACU		Prevalence I	ndex is ≤3	. 0 ¹		
4.	0	\Box	0.0%			Morphologic data in Rema	al Adaptati	ons ¹ (Pro	ovide supp	orting
5.	0		0.0%		lп	Problematic				lain)
6.	0		0.0%			Problematic	пушорпус	c vegetat	поп (Ехр	iaiii)
7.	0		0.0%		¹ Ir	ndicators of h	ydric soil a	nd wetlan	d hydrolog	y must
8.	0		0.0%		be p	oresent, unles	s disturbed	or proble	ematic.	
9.	0		0.0%		Defi	initions of V	egetatio	n Strata:		
10.	0		0.0%		Tree	e - Woody pla	nts. 3 in. (7	7.6 cm) or	more in di	ameter
11	0		0.0%			east height (I				
12	0		0.0%		Sanl	ing/shrub - W	loody plan	te loce the	n 2 in DB	∐ and
Woods Vino Strature / Diet size	108	= To	otal Cover	-		ter than 3.28			an 3 m. DD	i i and
Woody Vine Stratum (Plot size:)	0		0.00/		Llamba	All barbase		ام (براہ مورب		dlaga of
1			0.0%			o - All herbace , and woody p				aless of
2 3	0		0.0%							
4	0	\Box	0.0%		Woo	ody vine - All \ ht	woody vine	s greater	than 3.28	rt in
т		 = To	otal Cover							
			otal cover							
						Irophytic				
						etation sent?	res 🔾 🗈 l	1o 💿		
Remarks: (Include photo numbers here or on a separate she	et)				•					
remarks. (morade prioto nambors here of on a separate she	,									

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an18a upland

	ription: (Des	scribe to	the depth	needed to document the indicator or confirm the a	absence of indicators.)
Depth (inches)	" Color (Matrix	_ %	Redox Features Color (moist) % Type 1 Loc²	Taytura
	Color (I			Color (moist) % Type 1 Loc2	Texture Remarks
0-10	10YR	3/2	100%		Sandy Loam
10-20	10YR	4/4	100%		Sandy Loam
¹ Type: C=Con	centration. D	=Depletio	n. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	tion: PL=Pore Lining. M=Matrix
Hydric Soil I	Indicators:				Indicators for Problematic Hydric Soils: 3
Histosol ((A1)			Polyvalue Below Surface (S8) (LRR R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic Epi	pedon (A2)			MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
Black Hist	tic (A3)			☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)	Dark Surface (S7) (LRR K, L)
	Layers (A5)			Loamy Gleyed Matrix (F2)☐ Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)
	Below Dark S		11)	Redox Dark Surface (F6)	☐ Thin Dark Surface (S9) (LRR K, L)
	k Surface (A			Depleted Dark Surface (F7)	☐ Iron-Manganese Masses (F12) (LRR K, L, R)
	uck Mineral (S			Redox Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B)
	eyed Matrix (S4)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Re	Matrix (S6)				Red Parent Material (TF2)
	face (S7) (LRI	R MIRA	149R)		☐ Very Shallow Dark Surface (TF12)
					Other (Explain in Remarks)
Indicators o	f hydrophytic	vegetatio	n and wetla	and hydrology must be present, unless disturbed or proble	ematic.
Restrictive L	ayer (if obs	erved):			
Type:					Hydric Soil Present? Yes ○ No ●
Depth (inc	hes):				Hydric 3011 Fresent: Yes C NO G
Remarks:					



AN18a Wetland



AN18a Upland

Project/Site: Antrim Wind Project			City/County:	Antrim		Sampling Date: 17-Aug-11
Applicant/Owner: Eolian Renewable E	nergy, LLC			Sta	te: NH	Sampling Point: an18b wetland
Investigator(s): AF JG			Section.	Γownship, Range:	S. T.	
Landform (hillslope, terrace, etc.):	Hillside		_	concave, convex, n		
Subregion (LRR or MLRA):		Lat.:		Long	<u></u>	Datum:
						-
Soil Map Unit Name:					— INWI CIASSIII	cation: PSS
Are climatic/hydrologic conditions of	on the site typ	pical for this time of y	ear? Y	es No	(If no, explain in	
Are Vegetation, Soil	, or Hydrolo	ogy 🗌 significant	ly disturbed?	Are "Normal	Circumstances" p	resent? Yes • No C
Are Vegetation, Soil	, or Hydrolo	ogy 🗌 naturally p	problematic?	(If needed,	explain any answe	ers in Remarks.)
Summary of Findings - At	tach site	map showing s	sampling p	ooint location	ıs, transects,	important features, etc.
Hydrophytic Vegetation Present?		No O				
Hydric Soil Present?		No O		ne Sampled Area nin a Wetland?	Yes 💿 No 🔾	
Wetland Hydrology Present?	Yes 💿	No O				
Lludrology						
Hydrology						
Wetland Hydrology Indicators:		المراسمة فمطلع الممارية				rs (minimum of 2 required)
Primary Indicators (minimum of or Surface Water (A1)	ie requirea; o		(20)		Surface Soil Cr	
High Water Table (A2)		✓ Water-Stained Lea☐ Aquatic Fauna (B1			✓ Drainage Patte Moss Trim Line	
Saturation (A3)		Marl Deposits (B15				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide			Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosph		a Roots (C3)		ble on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduc	-	ig 1.0013 (03)		essed Plants (D1)
☐ Algal Mat or Crust (B4)		Recent Iron Reduc		oils (C6)	Geomorphic Po	osition (D2)
☐ Iron Deposits (B5)		☐ Thin Muck Surface	e (C7)		Shallow Aquita	rd (D3)
Inundation Visible on Aerial Image	•	Other (Explain in F	Remarks)		Microtopograp	
Sparsely Vegetated Concave Surface	:e (B8)				✓ FAC-neutral Te	est (D5)
Field Observations:						
Surface Water Present? Yes		Depth (inches):	-	_		
Water Table Present? Yes	No ●	Depth (inches):				Yes No
Saturation Present? (includes capillary fringe) Yes	No O	Depth (inches):	0	Wetland Hydr	ology Present?	Yes ♥ NO ∪
Describe Recorded Data (stream g	auge, monito	ring well, aerial photo	os, previous ir	nspections), if avail	lable:	
Danie and a						
Remarks:						

VEGETATIO	ON - Use scie	entific names of	plants	Dominant Species?		Sampling Point:	an18b wetland
			Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:	
Troc Stratum	(Plot size:	1	% Cover	Cover	Ctatue		

	Absolute		pecies? _ el.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover			Status	Dominance rest worksneet.
		$\overline{\Box}$	1		Number of Dominant Species
1	0		0.0%		That are OBL, FACW, or FAC: 4 (A)
2	0	Ш	0.0%		Total Number of Dominant
3	0		0.0%		Species Across All Strata: 4 (B)
4	0		0.0%		
5.	0		0.0%		Percent of dominant Species
<u> </u>	0	\Box	0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
	0				
7		Ш	0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')	0	= T	otal Cover		Total % Cover of: Multiply by:
	0.0	✓	1 ,,,,,,,,	EA 014/	OBL species 35 x 1 = 35
1. Spiraea tomentosa	33			FACW	FACW species 148 x 2 = 296
2. Fraxinus pennsylvanica	15	✓	31.3%	FACW	FAC species $0 \times 3 = 0$
3			0.0%		
4	0		0.0%		
5			0.0%		UPL speci es x 5 =0
6.			0.0%		Column Totals: 183 (A) 331 (B)
7	0		0.0%		1,000
·		_			Prevalence Index = B/A = 1.809
Herb Stratum (Plot size: 5')	48	= T	otal Cover	,	Hydrophytic Vegetation Indicators:
			1		Rapid Test for Hydrophytic Vegetation
1 .Onoclea sensibilis	20	Ш	14.8%	FACW	✓ Dominance Test is > 50%
2.Osmunda cinnamomea	5		3.7%	FACW	✓ Prevalence Index is ≤3.0 ¹
3.Carex trisperma	15		11.1%	OBL	
4.Carex lurida	20		14.8%	OBL	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5 Dubus bisnidus	50	✓		FACW	l <u> </u>
6 4-4		✓			☐ Problematic Hydrophytic Vegetation ¹ (Explain)
	25		1	FACW	1
7	0	Ц	0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8	0	Ш	0.0%		
9	0		0.0%		Definitions of Vegetation Strata:
10.	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11.	0		0.0%		at breast height (DBH), regardless of height.
12.	0	\Box	0.0%		3 \ // 3
12.		_			Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:)	135	= 10	otal Cover		greater than 3.28 ft (1m) tall
4	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
1					size, and woody plants less than 3.28 ft tall.
2	0		0.0%		0.25, and 1.553, planto 1555 than 5.25 it tam
3			0.0%		Woody vine - All woody vines greater than 3.28 ft in
4	0	Ш	0.0%		height.
	0	= T	otal Cover		
					Hydrophytic Vegetation
					Present? Yes • No
D					
Remarks: (Include photo numbers here or on a separate she	et.)				

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an18b wetland

Depth (inches)	. Color (r	Matrix	- %	Color (ı		dox Featu %	res Type 1	_ Loc²	Texture	Remarks		
			70	Color (i	noist)		- Type	LOC-		Remarks		
0-9	10YR	3/2							Fine Sandy Loam			
9-13	2.5Y	4/2	85%	10YR	5/8	15%	С	М	Fine Sandy Loam			
									-			
									-			
									-			
									-			
Type: C=Con	centration. D	=Depletic	n. RM=Redu		CS=Cover	ed or Coate	ed Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=N			
Hydric Soil										ematic Hydric Soils : 3		
Histosol (Poly	alue Belo	w Surface ((S8) (LRR F	2,				
Histic Epi	pedon (A2)			MLRA	A 149B)					(LRR K, L, MLRA 149B) ox (A16) (LRR K, L, R)		
Black His	ic (A3)					ace (S9) (I				or Peat (S3) (LRR K, L, R)		
Hydroger	Sulfide (A4)					Mineral (F1			Dark Surface (S7)			
Stratified	Layers (A5)					Matrix (F2)				Surface (S8) (LRR K, L)		
	Below Dark S		11)		eted Matri				☐ Thin Dark Surface (S9) (LRR K, L)			
	k Surface (A1	•				rface (F6)	7\			Masses (F12) (LRR K, L, R)		
	ıck Mineral (S				x Depress	Surface (F	/)		Piedmont Floodpla	nin Soils (F19) (MLRA 149B)		
	eyed Matrix (S	S4)		□ Reuc	x Depress	SIUTIS (FO)			Mesic Spodic (TA6	6) (MLRA 144A, 145, 149B)		
Sandy Re									Red Parent Materi	al (TF2)		
	Matrix (S6)	. D. MI D/	\ 140D\						Very Shallow Dark	Surface (TF12)		
	ace (S7) (LRF								Other (Explain in I	Remarks)		
³ Indicators o	f hydrophytic	vegetatio	on and wetla	nd hydrology	must be p	present, un	less disturk	ed or probl	ematic.			
Restrictive L	ayer (if obs	erved):										
Type: st	ony refuse											
Depth (inc	hes): 13								Hydric Soil Present?	Yes No		
Remarks:												

Project/Site: Antrim Wind Project	City/Coun	ity: Antrim	Sampling Date: 17-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH Sampling Point: an18b upland
Investigator(s): AF JG	Sectio	n, Township, Range:	
Landform (hillslope, terrace, etc.): Hillside		ef (concave, convex, n	
Subregion (LRR or MLRA):	Lat.:	Long	j.: Datum:
Soil Map Unit Name:			NWI classification:
		Yes No	_
Are climatic/hydrologic conditions on the site ty			(If no, explain in Remarks.) Circumstances" present? Yes No
Are Vegetation , Soil , or Hydrol			Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrol	logy naturally problemation	? (If needed, e	explain any answers in Remarks.)
		g point location	s, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	No •		
Hydric Soil Present? Yes	NO S	s the Sampled Area vithin a Wetland?	Yes ○ No •
Wetland Hydrology Present? Yes	No ●		
Remarks: (Explain alternative procedures her	e or in a separate report.)		
Hydrology			
Wetland Hydrology Indicators:			Consider Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)		Secondary Indicators (minimum of 2 required) Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)		Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)		Dry Season Water Table (C2)
☐ Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along L	iving Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4))	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled	Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)		Microtopographic Relief (D4)
Sparsely vegetated concave surface (B8)			FAC-neutral Test (D5)
Field Observations:			
Surface Water Present? Yes No •	Depth (inches):		
Water Table Present? Yes No •	Depth (inches):		ology Present? Yes O No 🗨
Saturation Present? (includes capillary fringe) Yes No •	Depth (inches):	Wetland Hydr	ology Present? Yes U No •
Describe Recorded Data (stream gauge, monit	oring well, aerial photos, previous	s inspections), if avail	able:
Remarks:			

VEGETATION - Use scientific names of plan	nts		ominant pecies?		Sampling Point: an18b upland		
Tree Stratum (Plot size: 30')	Absolute	Re		Indicator	Dominance Test worksheet:		
	% Cover	✓		Status	Number of Dominant Species		
1. Fagus grandifolia	25	V	41.7%	FACU	That are OBL, FACW, or FAC: 2 (A)		
Tsuga canadensis Ables balsamea	<u>25</u> 10		41.7% 16.7%	FACU FAC	Total Number of Dominant		
	0		0.0%	FACU-	Species Across All Strata: 6 (B)		
4. Quercus rubra	0		0.0%	FACU-	Percent of dominant Species		
5 6	0		0.0%		That Are OBL, FACW, or FAC: 33.3% (A/B)		
	0		0.0%				
7		_			Prevalence Index worksheet:		
Sapling/Shrub Stratum (Plot size: 15')	60	= To	otal Cove	r	Total % Cover of: Multiply by: OBL species 0 x 1 = 0		
1. Betula alleghaniensis	25	✓	45.5%	FAC			
2. Acer saccharum	25	✓	45.5%	FACU-	17.011 Spool 65		
3. Pinus strobus	5		9.1%	FACU	FAC species $95 \times 3 = 285$		
4	0		0.0%		FACU speci es $\frac{113}{5}$ x 4 = $\frac{452}{25}$		
5.			0.0%		UPL species $\frac{5}{}$ x 5 = $\frac{25}{}$		
6.	0		0.0%		Column Totals: 213 (A) 762 (B)		
7.	0		0.0%		Prevalence Index = B/A = 3.577		
Herb Stratum (Plot size: 5')	55	= To	tal Cove	r	Hydrophytic Vegetation Indicators:		
					Rapid Test for Hydrophytic Vegetation		
1. Aralia nudicaulis	33	V	33.7%	FACU	☐ Dominance Test is > 50%		
2. Thelypteris noveboracensis	60	✓	61.2%	FAC	Prevalence Index is ≤3.0 ¹		
3. Polygonatum pubescens	5		5.1%	UPL	☐ Morphological Adaptations ¹ (Provide supporting		
4	0		0.0%		data in Remarks or on a separate sheet)		
5	0		0.0%		☐ Problematic Hydrophytic Vegetation ¹ (Explain)		
6	0		0.0%				
7	0	Ш	0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
8	0	Ш	0.0%				
9	0	Ш	0.0%		Definitions of Vegetation Strata:		
10	0	Ш	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter		
11	0	Ш	0.0%		at breast height (DBH), regardless of height.		
12	0		0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and		
Woody Vine Stratum (Plot size:)	98	= To	otal Cove	r	greater than 3.28 ft (1m) tall		
1	0_		0.0%		Herb - All herbaceous (non-woody) plants, regardless of		
2	0		0.0%		size, and woody plants less than 3.28 ft tall.		
3.	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in		

0 = Total Cover

height.

Hydrophytic Vegetation Present?

 $\label{lem:Remarks: (Include photo numbers here or on a separate sheet.)} \\$

Yes ○ No ●

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an18b upland

	ription: (Des	scribe to	the depth	needed to document the indicator or confirm the a	absence of indicators.)
Depth (inches)	" Color (Matrix	_ %	Redox Features Color (moist) % Type 1 Loc²	Touture Demontes
	Color (ı			Color (moist) % Type 1 Loc2	Texture Remarks
0-7	10YR	3/2	100%		Loam
7-14	10YR	4/3	100%		Fine Sandy Loam
1 Type: C=Con	contration D	-Depletion	n DM-Dad	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	tion: DI - Pore Lining M-Matrix
Hydric Soil		- Беріспоі	n. KW-KCG	deca matrix, 65-60vered or obtated same drains Loca	2
Histosol (Polyvalue Below Surface (S8) (LRR R,	indicators for Problematic Hydric Soils :
	pedon (A2)			MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Black His				☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
_	Layers (A5)			Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L)
	Below Dark S	Surface (A	11)	Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)
_	k Surface (A1			Redox Dark Surface (F6)	☐ Thin Dark Surface (S9) (LRR K, L) ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
Sandy Mu	uck Mineral (S	51)		Depleted Dark Surface (F7)	Piedmont Floodplain Soils (F19) (MLRA 149B)
Sandy Gle	eyed Matrix (S4)		Redox Depressions (F8)	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Re	dox (S5)				Red Parent Material (TF2)
Stripped	Matrix (S6)				Very Shallow Dark Surface (TF12)
☐ Dark Surf	face (S7) (LRF	R R, MLRA	149B)		Other (Explain in Remarks)
³ Indicators o	f hydrophytic	vegetation	n and wetla	and hydrology must be present, unless disturbed or proble	
Restrictive L				, , , , , , , , , , , , , , , , , , , ,	
Type: _B	•	erveu).			
Depth (inc					Hydric Soil Present? Yes ○ No ●
• •	17				
Remarks:					



AN18b Upland



AN18b Wetland



AN18 Wetland

Project/Site: Antrim Wind Project	City/County:	Antrim	Sampling Date: 17-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		Stat	e: NH Sampling Point: AN18c wetland
Investigator(s): AF JG	Section, T	ownship, Range: \$	5. T. R.
Landform (hillslope, terrace, etc.): Hillside		concave, convex, no	
Subregion (LRR or MLRA):	Lat.:	Long.	: Datum:
Soil Map Unit Name:			NWI classification: PSS/PEM
	· · · · · · · · · · · · · · · · · · ·	es No	
Are climatic/hydrologic conditions on the site type Are Vegetation, Soil, or Hydro	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		(If no, explain in Remarks.)
			p. eee
Are Vegetation , Soil , or Hydro		•	xplain any answers in Remarks.)
	e map snowing sampling p	Olnt locations	s, transects, important features, etc.
		e Sampled Area	
Hydric Soil Present? Yes	with	in a Wetland?	Yes ● No ○
Wetland Hydrology Present? Yes Output Description:	No O		
Lludrology			
Hydrology			
Wetland Hydrology Indicators:	abank all that annly)	-	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; Surface Water (A1)	Water-Stained Leaves (B9)		
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)		Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living	a Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	g · · · · · · · ·	Stunted or Stressed Plants (D1)
☐ Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled So	ils (C6)	✓ Geomorphic Position (D2)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)		Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)			FAC-neutral Test (D5)
Field Observations:			
Surface Water Present? Yes No •	Depth (inches):	_	
Water Table Present? Yes No •	Depth (inches):	_	
Saturation Present? (includes capillary fringe) Yes • No	Depth (inches): 0	Wetland Hydro	ology Present? Yes No O
Describe Recorded Data (stream gauge, monit	oring well, aerial photos, previous in	spections), if availa	able:
Remarks:			

VEGETATION - Use scientific names of pla	ants		ominant oecies?		Sampling Point: AN18c wetland
Tree Stratum (Plot size:)	Absolute % Cover			Indicator Status	Dominance Test worksheet:
1.	<u> </u>		0.0%	Status	Number of Dominant Species
		Η.	0.0%		That are OBL, FACW, or FAC: 4 (A)
2		Η.	0.0%		Total Number of Dominant
3		Η.	0.0%		Species Across All Strata: 4 (B)
4		H	0.0%		Percent of dominant Species
5		Η.	0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
6		Η.	0.0%		Decorder to decorate to the set
7					Prevalence Index worksheet: Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15')	0	= 10	otal Cover	-	1,3,3
1. Acer rubrum	5	V	50.0%	FAC	
2. Fraxinus pennsylvanica	5	\checkmark	50.0%	FACW	FACW species $58 \times 2 = 116$
3.	0		0.0%		FAC species $5 \times 3 = 15$
4.	0		0.0%		FACU speci es x 4 =
5.	0		0.0%		UPL species $0 \times 5 = 0$
6.	0		0.0%		Column Total s: 99 (A) 167 (B)
7.	0		0.0%		Prevalence Index = B/A = 1.687
	10	= To	tal Cover	•	Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size: 5')					Rapid Test for Hydrophytic Vegetation
1.Carex crinita	25	✓,	28.1%	OBL	✓ Dominance Test is > 50%
2.Phalaris arundinacea	33	✓.	37.1%	FACW+	✓ Prevalence Index is ≤3.0 ¹
3.Onoclea sensibilis	15		16.9%	FACW	Morphological Adaptations ¹ (Provide supporting
4.Carex Iurida	8		9.0%	OBL	data in Remarks or on a separate sheet)
5. Scirpus cyperinus	5	\sqcup	5.6%	FACW+	☐ Problematic Hydrophytic Vegetation ¹ (Explain)
6.Carex trisperma	3	\sqcup	3.4%	OBL	
7	0	\square	0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8	0	\square	0.0%		·
9	0	\sqcup	0.0%		Definitions of Vegetation Strata:
10	0	\sqcup	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11.	0	\sqcup	0.0%		at breast height (DBH), regardless of height.
12	0	\sqcup	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and
Woods Vine Stretum (Diet size)	89	= To	otal Cover	-	greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size:)	•		0.607		I Hart All back account for a second
1		Н.	0.0%		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
2		<u> </u>	0.0%		S.E.S. and Woody plante 1000 than 0.20 it tail.
3			0.0%		Woody vine - All woody vines greater than 3.28 ft in
4		\square	0.0%		height.

0 = Total Cover

Hydrophytic Vegetation

Present?

Remarks: (Include photo numbers here or on a separate sheet.)

Yes ● No ○

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN18c wetland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features												
Depth (inches)	Color (r	Matrix moist)	_ % -	_ Color (ı		dox Featu %	res Type 1	_ Loc²	Texture	Remarks		
0-6	10YR	3/2	100%	00/0/ (1			7,70		Fine Sandy Loam	.co.nurro		
6-14	2.5Y	4/1	90%		4/4	10%				=		
0-14		4/1	90%	TUYK	4/4	10%		IVI	Fine Sandy Loam			
										_		
									-	-		
									-			
									-			
¹ Type: C=Con	centration. D	=Depletio	n. RM=Red	uced Matrix, (CS=Covere	ed or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=1			
Hydric Soil I	Indicators:								Indicators for Prob	lematic Hydric Soils : 3		
Histosol ((A1)			Poly	alue Belov	w Surface ((S8) (LRR F	2,		(LRR K, L, MLRA 149B)		
Histic Epi	pedon (A2)				A 149B)	(00) (1	DD D 1415	A 440D)		lox (A16) (LRR K, L, R)		
Black Hist						ace (S9) (L				or Peat (S3) (LRR K, L, R)		
	Sulfide (A4)					Mineral (F1) Matrix (F2)			Dark Surface (S7) (LRR K, L)		
	Layers (A5)				eted Matri				Polyvalue Below Surface (S8) (LRR K, L)			
_	Below Dark S		.11)			rface (F6)			Thin Dark Surface	e (S9) (LRR K, L)		
	k Surface (A1					Surface (F	7)			Masses (F12) (LRR K, L, R)		
	uck Mineral (S				x Depress		,			lain Soils (F19) (MLRA 149B)		
Sandy Re	eyed Matrix (\$	54)			·					.6) (MLRA 144A, 145, 149B)		
	Matrix (S6)								Red Parent Material (TF2)			
_	ace (S7) (LRF	R R. MLRA	A 149B)						✓ Very Shallow Dark Surface (TF12)✓ Other (Explain in Remarks)			
										Remarks)		
³ Indicators of			n and wetta	na nyarology	must be p	resent, un	iess disturt	ea or probl	ematic.			
Restrictive L	•	erved):										
Type: Bo									Hydric Soil Present?	Yes ● No ○		
Depth (inc	hes): 14								Hydric 30ii Fresent:	Tes Sino C		
Remarks:												

Project/Site: Antrim Wind Project	City/County: Antr	rim	Sampling Date: 17-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		State: NH	Sampling Point: AN18c upland
Investigator(s): AF JG	Section, Towns	ship, Range: S. T.	
Landform (hillslope, terrace, etc.): Hillside		ve, convex, none): convex	Slope: 5.0 % / 2.9°
Subregion (LRR or MLRA):	Lat.:	Long.:	Datum:
Soil Map Unit Name:		NWI classifi	
	6) ()	
Are climatic/hydrologic conditions on the site ty	pical for this time of year? Yes	No (If no, explain in	*
Are Vegetation U , Soil U , or Hydrol	ogy Significantly disturbed?	Are "Normal Circumstances" p	resent? Yes No
Are Vegetation $\ \ \ \ \ \ \ \ \ \ \ \ \ $	ogy naturally problematic?	(If needed, explain any answe	ers in Remarks.)
Summary of Findings - Attach site		t locations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes	No •		
Hydric Soil Present? Yes	No Is the San within a W	npled Area	
Wetland Hydrology Present? Yes	No •	rotturiu.	
Remarks: (Explain alternative procedures here	e or in a separate report)		
logged upland	,		
logged upland			
Hydrology			
Wetland Hydrology Indicators:		Socondary Indicate	rs (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)		
Surface Water (A1)		Surface Soil Cr	
High Water Table (A2)	Water-Stained Leaves (B9)	☐ Drainage Patte	
	Aquatic Fauna (B13)	☐ Moss Trim Line	, ,
Saturation (A3) Water Marks (B1)	Marl Deposits (B15)		ater Table (C2)
	Hydrogen Sulfide Odor (C1)	Crayfish Burro	
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Root	` ′ —	ble on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)		essed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6	_	
Iron Deposits (B5)	☐ Thin Muck Surface (C7)	☐ Shallow Aquita	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	☐ Microtopograp	
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Te	est (D5)
Field Observations:			
Surface Water Present? Yes No No	Depth (inches):		
Water Table Present? Yes No •	Depth (inches):		
Saturation Present? (includes capillary fringe) Yes No	Depth (inches):	Wetland Hydrology Present?	Yes O No 💿
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitor	oring well, aerial photos, previous inspect	ions), if available:	
Danie and a			
Remarks:			

/EGETATION - Use scientific names of pl			inant ies?		Sam	pling Po	int: AN	18c uplan	d
Tree Stratum (Plot size: 30')	Absolute % Cover	Rel.S	Strat.	Indicator Status	Dominance Test wor	ksheet:			
		_			Number of Dominant S			2	(4)
Acer rubrum	15		33.3%	FAC	That are OBL, FACW, o	or FAC:		2	(A)
Betula alleghaniensis			22.2%	FAC	Total Number of Domi	nant			
Picea rubens			22.2%	FACU	Species Across All Stra	ta:		8	(B)
_ Tsuga canadensis			22.2%	FACU	Percent of dominan	t Species			
			0.0%		That Are OBL, FACV			25.0%	(A/B
•			0.0%		·				
	0	Ш_	0.0%		Prevalence Index wo				
sapling/Shrub Stratum (Plot size: 15')	45	= Tota	I Cove	r	Total % Cover		Multipl		_
Acer pensylvanicum	20	V	14.4%	FACU	OBL species	0	x 1 =	0	-
Ouerous rubre	10		22.2%	FACU-	FACW species _	0	x 2 =	0	_
. Fagus grandifolia			11.1%	FACU	FAC speci es _	25	x 3 =	75	-
B. ()			22.2%	FACU	FACU species _	78	x 4 =	312	
			0.0%	TACO	UPL speci es _	50	x 5 =	250	_
	0		0.0%		Column Totals:	153	(A)	637	(B)
). 	0		0.0%		_			4.4.0	-
•					Prevalence Inde	•x = B/A	. =	4.163	
lerb Stratum (Plot size: 5')	45	= 10ta	I Cove	ſ	Hydrophytic Vegetat				
1.Dennstaedtia punctilobula	50	V	79.4%	UPL	Rapid Test for H	lydrophy	ytic Vege	tation	
2.Solidago canadensis		\neg	12.7%	FACU	Dominance Tes				
3.Rubus alumnus	5		7.9%	FACU-	Prevalence Ind				
4.			0.0%		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain)				
5.		\neg	0.0%						
6.			0.0%		Problematic Hy	aropnyti	c vegeta	tion - (Exp	olain)
7.			0.0%		1 Indicators of hydr	ic soil ar	nd wetlar	nd hydrolog	gy mus
8.			0.0%		be present, unless d	isturbed	or probl	ematic.	
9.			0.0%		Definitions of Veg	getation	n Strata	:	
0.		\neg	0.0%						
1.			0.0%		Tree - Woody plants at breast height (DB				liamete
2.			0.0%		at broadt noight (BB	1), 10ga	. 4.000 01	noigni.	
<u></u>			I Cove	- ———	Sapling/shrub - Woo				3H and
Noody Vine Stratum (Plot size:)		_ 10ta	COVE		greater than 3.28 ft (1m) tall.			
 1	0		0.0%		Herb - All herbaceou	ıs (non-v	voody) p	lants, rega	rdless
2	0		0.0%		size, and woody plar				
3			0.0%		Woody vine - All woo	ndy vina	e areata	than 2 20	ft in
4			0.0%		height.	July VIIIe	s greatel	u a l 1 3.20	11 111
-		= Tota	I Cove	r	•				
					Hydrophytic				
					Vegetation Present? Yes	; O N	lo 💿		

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN18c upland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)											
Depth (inches)		Matrix	_ %	Redox Features Color (moist) % Type 1 Loc2	Texture Remarks						
0-6	Color (m	3/2	100%	Color (moist) % Type 1 Loc2							
					Fine Sandy Loam						
6-10	2.5Y	5/1	100%		Fine Sandy Loam						
10-14	10YR	4/3	100%		Fine Sandy Loam						
					·						
		-Depletio	n. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loc	cation: PL=Pore Lining. M=Matrix						
Hydric Soil Ir					Indicators for Problematic Hydric Soils : 3						
☐ Histosol (A				Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)						
Histic Epipe				Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)						
Black Histic				Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)						
Stratified L	Sulfide (A4)			Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L)						
	Below Dark Su	urface (A	11)	Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)						
	Surface (A12		,	Redox Dark Surface (F6)	☐ Thin Dark Surface (S9) (LRR K, L)						
	k Mineral (S1			Depleted Dark Surface (F7)	Iron-Manganese Masses (F12) (LRR K, L, R)						
	ed Matrix (S			Redox Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B)						
Sandy Red	ox (S5)				Red Parent Material (TF2)						
Stripped M	atrix (S6)				Very Shallow Dark Surface (TF12)						
☐ Dark Surfa	ce (S7) (LRR	R, MLRA	149B)		Other (Explain in Remarks)						
³ Indicators of	hydrophytic v	vegetatio	n and wetla	and hydrology must be present, unless disturbed or prob							
Restrictive La											
Type: Bo	•										
Depth (inch					Hydric Soil Present? Yes ○ No ●						
Remarks:											
Remarks.											



AN18c Wetland



AN18c Upland

Project/Site: Antrim Wind Project	City/Count	ty: Antrim		Sampling Date: 17-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH	Sampling Point: AN18d wetland
Investigator(s): AF JG	Section	n, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.): Hillside		f (concave, convex, n		Slope: 5.0 % / 2.9°
Subregion (LRR or MLRA):	Lat.:	Long	.:	Datum:
Soil Map Unit Name:			NWI classifi	
Are climatic/hydrologic conditions on the site to	mical for this time of year?	Yes No	— (If no, explain in	Domanica \
Are Vegetation , Soil , or Hydro			Circumstances" p	, v
Are Vegetation , Soil , or Hydro			•	
Summary of Findings - Attach site		•	explain any answe s, transects,	
Hydrophytic Vegetation Present? Yes Yes	No O	, i	· ·	
Hydric Soil Present? Yes	No O	the Sampled Area	Yes ● No ○	
V	No O	ithin a Wetland?	res 🙂 NO 🗢	
Wetland Hydrology Present? Remarks: (Explain alternative procedures her				
Hudrology				
Hydrology				
Wetland Hydrology Indicators:	abaala all Mada anaba			rs (minimum of 2 required)
Primary Indicators (minimum of one required; Surface Water (A1)			Surface Soil Cr	
High Water Table (A2)	Water-Stained Leaves (B9)		✓ Drainage Patte Moss Trim Line	
✓ Saturation (A3)	☐ Aquatic Fauna (B13) ☐ Marl Deposits (B15)			ater Table (C2)
Water Marks (B1)			Crayfish Burro	
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)	vina Dooto (C2)		ws (Co) ble on Aerial Imagery (C9)
Drift deposits (B3)	Oxidized Rhizospheres along Li Presence of Reduced Iron (C4)	ving Roots (C3)		essed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled	Soils (CA)	Geomorphic P	, ,
Iron Deposits (B5)	Thin Muck Surface (C7)	30113 (00)	Shallow Aquita	
☐ Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		☐ Microtopograp	
Sparsely Vegetated Concave Surface (B8)	Unter (Explain in Remarks)		FAC-neutral Te	
Field Observations:				
Surface Water Present? Yes O No •	Depth (inches):			
Water Table Present? Yes No •	Depth (inches):			
Saturation Present? (includes capillary fringe) Yes No	Depth (inches): 0	Wetland Hydr	ology Present?	Yes ● No ○
Describe Recorded Data (stream gauge, monit	oring well, aerial photos, previous	inspections), if avail	able:	
Remarks:				
iterial ks.				

VEGETATION - Use scientific names of pl		_Sp	ominant pecies?		Sampling Point: AN18d wetland				
Tree Stratum (Plot size:)	Absolute % Cover			Indicator Status	Dominance Test worksheet:				
1.	0		0.0%		Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)				
2.	_	\Box	0.0%		That are OBE, FAOW, OF FAO.				
3		\Box	0.0%		Total Number of Dominant Species Across All Strata: 3 (B)				
4.			0.0%		Species Across All Strata: 3 (B)				
5			0.0%		Percent of dominant Species				
6	0		0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)				
7			0.0%		Prevalence Index worksheet:				
		= Ta	otal Cover	- — — ·	Total % Cover of: Multiply by:				
Sapling/Shrub Stratum (Plot size: 15')		_		•	0BL species 0 x 1 = 0				
1. Fraxinus pennsylvanica	15	✓	60.0%	FACW	FACW species 113 x 2 = 226				
2. Betula alleghaniensis	10	✓	40.0%	FAC	FAC species 10 x 3 = 30				
3	0		0.0%		FACU speciles				
4	0		0.0%		UPL species				
5	0		0.0%		(D)				
6	0		0.0%		Column Totals: 123 (A) 256 (B)				
7	0	Ш	0.0%		Prevalence Index = B/A = 2.081				
Herb Stratum (Plot size: 5')	25	= To	otal Cover	r	Hydrophytic Vegetation Indicators:				
	00				Rapid Test for Hydrophytic Vegetation				
1.Onoclea sensibilis			81.6%	FACW	✓ Dominance Test is > 50%				
2. Eupatoriadelphus dubius 3. Fraxinus pennsylvanica	3		5.1%	FACW	✓ Prevalence Index is ≤3.0 ¹				
4.Osmunda cinnamomea			3.1%	FACW	☐ Morphological Adaptations ¹ (Provide supporting				
5.	0		10.2% 0.0%	FACW	data in Remarks or on a separate sheet)				
6.			0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)				
7.		\Box	0.0%		¹ Indicators of hydric soil and wetland hydrology must				
8.			0.0%		be present, unless disturbed or problematic.				
9.			0.0%		Definitions of Vegetation Strata:				
10.			0.0%						
11.			0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
12.					at breast height (DDF), regardless of height.				
1.—		ات T-	0.0% otal Cover		Sapling/shrub - Woody plants less than 3 in. DBH and				
Woody Vine Stratum (Plot size:)		- 10	Jiai Cover	I	greater than 3.28 ft (1m) tall				
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of				
2	0		0.0%		size, and woody plants less than 3.28 ft tall.				
3	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in				
4	0		0.0%		height.				

0 ___ = Total Cover

Hydrophytic Vegetation Present?

 $\label{lem:Remarks: (Include photo numbers here or on a separate sheet.)} \\$

Yes ● No ○

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN18d wetland

Profile Desc Depth	ription: (De	scribe to Matrix	the depth	needed to		t the indic		onfirm the	absence of indicators.)	
(inches)	. Color (ı		- %	Color (**************************************		Loc2	- Texture	Remarks
0-7	10YR	3/2	100%						Fine Sandy Loam	
7-11	2.5Y	4/2	90%	10YR	5/8	10%		M	Fine Sandy Loam	•
			7070						Timo danay zoam	•
										•
										-
										-
				-						
		=Depletio	n. RM=Rec	luced Matrix,	CS=Cover	ed or Coate	ed Sand Gra	ains ² Loc	ation: PL=Pore Lining. M=N	<i>N</i> atrix
Hydric Soil									Indicators for Probl	lematic Hydric Soils : ³
Histosol				☐ Poly MLR	value Belo A 149B)	w Surface ((S8) (LRR F	R ,		(LRR K, L, MLRA 149B)
	ipedon (A2)				•	ace (S9) (I	RR R. MLF	RA 149B)	Coast Prairie Red	ox (A16) (LRR K, L, R)
Black His	n Sulfide (A4)					Mineral (F1			5 cm Mucky Peat	or Peat (S3) (LRR K, L, R)
	Layers (A5)					Matrix (F2)			Dark Surface (S7)	
	Below Dark S	Surface (A	11)	☐ Depl	eted Matri	ix (F3)				Surface (S8) (LRR K, L)
	rk Surface (A		,	Redo	ox Dark Su	urface (F6)			Thin Dark Surface	
	uck Mineral (S			Depl	eted Dark	Surface (F	7)		_	Masses (F12) (LRR K, L, R) ain Soils (F19) (MLRA 149B)
	eyed Matrix (Redo	x Depres	sions (F8)				6) (MLRA 144A, 145, 149B)
Sandy Re	edox (S5)								Red Parent Mater	
Stripped	Matrix (S6)								Very Shallow Darl	
Dark Sur	face (S7) (LRI	R R, MLRA	149B)						Other (Explain in	
³ Indicators of	of hydrophytic	vegetatio	n and wetla	and hydrology	must be	present, un	less disturb	ed or probl	lematic.	
Restrictive I	aver (if obs	erved):								
Type:	-ujo: (ouo									
Depth (inc	ches):								Hydric Soil Present?	Yes No
Remarks:										
Kemarks.										
ı										

Project/Site: Antrim Wind Project			City/County:	Antrim		Sampling Date: 17-Aug-11
Applicant/Owner: Eolian Renewable E	inergy, LLC			Sta	te: NH	Sampling Point: an18d upland
Investigator(s): AF JG			Section.	Γownship, Range:	S. T.	<u>.</u>
Landform (hillslope, terrace, etc.):	Hillside		_	concave, convex, r		Slope: 8.0 % / 4.6 °
Subregion (LRR or MLRA):		Lat.:		Long		Datum:
					NWI classif	
Soil Map Unit Name:					— NVVI CIASSII	ication:
Are climatic/hydrologic conditions of	on the site ty	pical for this time of ye	ear? Y	es No	(If no, explain in	•
Are Vegetation , Soil	, or Hydrold	ogy 🗌 significant	ly disturbed?	Are "Normal	Circumstances" p	oresent? Yes No
Are Vegetation, Soil	, or Hydrold	ogy 🗌 naturally p	roblematic?	(If needed,	explain any answe	ers in Remarks.)
Summary of Findings - At			ampling p	point location	s, transects	important features, etc.
Hydrophytic Vegetation Present?	Yes 🔾	No •				
Hydric Soil Present?	Yes 🔾	No •		e Sampled Area in a Wetland?	Yes 🔾 No 🖲)
Wetland Hydrology Present?	Yes 🔾	No 💿				
Hydrology						
Wetland Hydrology Indicators:	ac required.	abook all that apply)				ors (minimum of 2 required)
Primary Indicators (minimum of or Surface Water (A1)	ie requireu;		(DO)		Surface Soil C	
High Water Table (A2)		Water-Stained Lea Aquatic Fauna (B1)	, ,		☐ Drainage Patte	
Saturation (A3)		Marl Deposits (B15				dater Table (C2)
Water Marks (B1)		Hydrogen Sulfide (Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizospho		g Roots (C3)		ible on Aerial Imagery (C9)
☐ Drift deposits (B3)		Presence of Reduc	-		Stunted or Str	ressed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc	tion in Tilled Sc	oils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)		Thin Muck Surface	(C7)		Shallow Aquita	
Inundation Visible on Aerial Image		Other (Explain in R	Remarks)			phic Relief (D4)
Sparsely Vegetated Concave Surface	:e (B8)				FAC-neutral T	est (D5)
Field Observations:						
Surface Water Present? Yes		Depth (inches):		_		
Water Table Present? Yes	No ●	Depth (inches):				Yes ○ No •
Saturation Present? (includes capillary fringe) Yes	No ●	Depth (inches):		Wetland Hydi	rology Present?	Yes Uno S
Describe Recorded Data (stream g	auge, monito	oring well, aerial photo	os, previous ir	nspections), if avai	lable:	
Remarks:						

VEGETATION - Use scientific names of plan	ıts		ominant		Sampling Point: an18d upland
	Absolute		ecies?	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')	% Cover		over	Status	Number of Dominant Species
1. Tsuga canadensis	33	✓	43.4%	FACU	That are OBL, FACW, or FAC: 2 (A)
2. Populus tremula	10	Ц	13.2%	FACU	Total Number of Dominant
3. Fraxinus pennsylvanica	33	✓	43.4%	FACW	Species Across All Strata: 6 (B)
4	0	Ц	0.0%		
5	0	Ш	0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)
6	0	Ш	0.0%		That are OBL, FACW, OF FAC.
7	0		0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')	76	= To	otal Cove	r	Total % Cover of: Multiply by:
1. Acer rubrum	25	V	22.20/	FAC	0BL speci es 0 x 1 = 0
	<u>25</u>	▼	33.3%	FAC	FACW species 33 x 2 = 66
2. Fagus grandifolia	15	▼	20.0%	FACU	FAC species30 x 3 =90
3. Pinus strobus			33.3%	FACU	FACU speci es 106 x 4 = 424
4. Betula papyrifera			13.3%	FACU	UPL species $\frac{25}{}$ x 5 = $\frac{125}{}$
5			0.0%		Column Totals: 194 (A) 705 (B)
6			0.0%		Containing recent of the containing recent of
7	0	Ш	0.0%		Prevalence Index = B/A = 3.634
Herb Stratum (Plot size: 5')	75	= To	otal Cove	r	Hydrophytic Vegetation Indicators:
1.Solidago canadensis	0		10 40/	FACIL	Rapid Test for Hydrophytic Vegetation
2.Rubus alumnus			18.6%	FACU-	☐ Dominance Test is > 50%
		✓	11.6%		☐ Prevalence Index is ≤3.0 ¹
3. Dennstaedtia punctilobula			58.1%	UPL	☐ Morphological Adaptations ¹ (Provide supporting
4.Trientalis borealis 5.	5		11.6%	FAC	data in Remarks or on a separate sheet)
6.			0.0%		☐ Problematic Hydrophytic Vegetation ¹ (Explain)
7.			0.0%		¹ Indicators of hydric soil and wetland hydrology must
8.			0.0%		be present, unless disturbed or problematic.
8. 9.			0.0%		Definitions of Vegetation Strata:
	0		0.0%		beilintions of vegetation strata.
10			0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0		0.0%		at breast height (DBH), regardless of height.
12	0		0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:)	43	= To	otal Cove	r	greater than 3.28 ft (1m) tall
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
2	0_		0.0%		size, and woody plants less than 3.28 ft tall.
3	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in
4	0		0.0%		height.
					l .

0 = Total Cover

Hydrophytic Vegetation

Present?

Remarks: (Include photo numbers here or on a separate sheet.)

Yes ○ No •

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an18d upland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth (inches)		Matrix		Redox Features	-					
	Color (ı		1000/	Color (moist) % Type 1 Loc ²		narks				
0-6	10YR	3/2	100%		Loam					
6-10	2.5Y	5/1	100%		Fine Loamy Sand					
10-16	10YR	4/3	100%		Fine Sandy Loam					
¹ Type: C=Con	centration. D	=Depletio	n. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	tion: PL=Pore Lining. M=Matrix					
Hydric Soil I					Indicators for Problematic Hydri	c Soils: 3				
Histosol (•			Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLF	RA 149B)				
	pedon (A2)			Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR	K, L, R)				
☐ Black Hist				Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat or Peat (S3) (L	.RR K, L, R)				
	Sulfide (A4) Layers (A5)			Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L)					
	Below Dark S	Surface (A	11)	Depleted Matrix (F3)	Polyvalue Below Surface (S8) (Li					
	k Surface (A1		,	Redox Dark Surface (F6)	☐ Thin Dark Surface (S9) (LRR K,					
	ıck Mineral (S			Depleted Dark Surface (F7)	Iron-Manganese Masses (F12) (I					
	eyed Matrix (Redox Depressions (F8)	☐ Piedmont Floodplain Soils (F19) ☐ Mesic Spodic (TA6) (MLRA 144A					
Sandy Re	dox (S5)				Red Parent Material (TF2)	, 143, 1470)				
Stripped N	Matrix (S6)				Very Shallow Dark Surface (TF12	2)				
Dark Surf	ace (S7) (LRF	R R, MLRA	149B)		Other (Explain in Remarks)	-,				
³ Indicators of	f hydrophytic	vegetatio	n and wetla	and hydrology must be present, unless disturbed or proble						
Restrictive L										
Type: Bo	•	or vou).								
Depth (inc					Hydric Soil Present? Yes	No 💿				
Remarks:	<u> </u>									
Spodosol										
opodosoi										



AN18d Upland



AN18d Wetland

Project/Site: Antrim Wind Project	City/Co	unty: Antrim		Sampling Date: 17-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		Stat	te: NH	Sampling Point: AN18e Wetland
Investigator(s): AF JG	Sect	tion, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.): Hillside		elief (concave, convex, n		Slope: 10.0 % / 5.7 °
Subregion (LRR or MLRA):	 Lat.:		-	Datum:
	Lat	Long		
Soil Map Unit Name:			NWI classif	ication: PFO
Are climatic/hydrologic conditions on the site ty	pical for this time of year?	Yes No	(If no, explain in	•
Are Vegetation . , Soil . , or Hydrolo	ogy 🗌 significantly disturl	bed? Are "Normal	Circumstances" p	oresent? Yes No
Are Vegetation, Soil, or Hydrolo	ogy 🗌 naturally problema	tic? (If needed, e	explain any answe	ers in Remarks.)
Summary of Findings - Attach site	map showing sampli	ng point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes •	No O			
Hydric Soil Present? Yes ●	No O	Is the Sampled Area within a Wetland?	Yes ● No ○)
Wetland Hydrology Present? Yes	No O			
Hydrology				
Wetland Hydrology Indicators: Primary Indicators (minimum of one required;	check all that apply)			ors (minimum of 2 required)
Surface Water (A1)			✓ Surface Soil Co✓ Drainage Patte	
High Water Table (A2)	✓ Water-Stained Leaves (B9) Aquatic Fauna (B13)		Moss Trim Lin	
✓ Saturation (A3)	Marl Deposits (B15)			ater Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burro	
Sediment Deposits (B2)	Oxidized Rhizospheres along			ible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (0	C4)	Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Till	led Soils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)		Shallow Aquita	• •
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)			phic Relief (D4)
Sparsely Vegetated Concave Surface (B8)			✓ FAC-neutral To	est (D5)
Field Observations:				
Surface Water Present? Yes No No	Depth (inches):			
Water Table Present? Yes No •	Depth (inches):	Watland Hide	ology Present?	Yes ● No ○
Saturation Present? (includes capillary fringe) Yes No	Depth (inches): 0		ology Present?	Tes S NO S
Describe Recorded Data (stream gauge, monito	oring well, aerial photos, previo	ous inspections), if avail	able:	
Remarks:				

/EGETATION - Use scientific names of p			minant ecies?		Sampling Point: AN18e Wetland
Tree Stratum (Plot size: 30')	Absolute % Cover	Re		Indicator Status	
Fraxinus pennsylvanica	15	V	30.0%	FACW	Number of Dominant Species That are OBL, FACW, or FAC: 6 (A
Acer rubrum	20	\mathbf{V}	40.0%	FAC	
Betula alleghaniensis	10	V	30.0%	FAC	Total Number of Dominant Species Across All Strata: 6 (B)
			0.0%		Species Across Ail Strata.
			0.0%		Percent of dominant Species
			0.0%		That Are OBL, FACW, or FAC: 100.0% (A
			0.0%		Prevalence Index worksheet:
		= To	tal Cove	- ——— r	Total % Cover of: Multiply by:
apling/Shrub Stratum (Plot size: 15')					OBL species 0 x 1 = 0
_ Betula alleghaniensis		∠	100.0%	FAC	FACW species 136 x 2 = 272
			0.0%		FAC speciles 85 x 3 = 255
	0	\sqcup	0.0%		FACU species 0 x 4 = 0
•	0	\square	0.0%		TACO Species x 4
•	0	\sqcup	0.0%		UPL species x 5 =
•	0		0.0%		Column Totals: 221 (A) 527
•			0.0%		Prevalence Index = B/A = 2.385
lerb Stratum (Plot size: 5')	50	= To	tal Cove	r	Hydrophytic Vegetation Indicators:
					Rapid Test for Hydrophytic Vegetation
1 .Osmunda cinnamomea		V	27.3%	FACW	✓ Dominance Test is > 50%
2.Onoclea sensibilis		✓.	27.3%	FACW	✓ Prevalence Index is ≤3.0 ¹
3.Eupatoriadelphus dubius		\square	16.5%	FACW	☐ Morphological Adaptations ¹ (Provide supporting
4.Impatiens capensis		\square	16.5%	FACW	data in Remarks or on a separate sheet)
5.Coptis trifolia	15	\square	12.4%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
<u>6.</u>		\sqsubseteq	0.0%		1
7		\square	0.0%		¹ Indicators of hydric soil and wetland hydrology m be present, unless disturbed or problematic.
8		\sqsubseteq	0.0%		Definitions of Vegetation Strata:
9		\sqsubseteq	0.0%		Definitions of Vegetation Strata.
0		Ц.	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diame
1		\square	0.0%		at breast height (DBH), regardless of height.
2		\square	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH at
Noody Vine Stratum (Plot size:)	121	= To	tal Cove	r	greater than 3.28 ft (1m) tall
-	0		0.007		
	0		0.0%		Herb - All herbaceous (non-woody) plants, regardles size, and woody plants less than 3.28 ft tall.
2		Η.	0.0%		Size, and weedy plante less than 6.25 it tall.
3			0.0%		Woody vine - All woody vines greater than 3.28 ft in
1		Ш.	0.0%		height.
		= To	tal Cove	r	
					Hydrophytic
					Hydrophytic Vegetation
					Present? Yes No

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN18e Wetland

	iption: (Des		the depth	needed to d				onfirm the	absence of indicators.)			
Depth (inches)	Color (ı	Matrix moist)	_ %	_ Color (i		dox Featu %	ires Type ¹	Loc²	Texture	Remarks		
0-8	10YR	2/1	100%	33101 (1			- JPC		Muck			
8-11	2.5Y	4/1	75%	10YR	4/6	25%		M	mucky sand	1		
11-13	10YR	3/2	- 7070						Sandy Loam	1		
11-13	1011	3/2				-			Sandy Loans			
						- ——						
						- ——						
						- ——						
¹ Type: C=Cond	centration. D	=Depletio	n. RM=Red	uced Matrix, (CS=Covere	ed or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=N	Matrix		
Hydric Soil I									Indicators for Probl	ematic Hydric Soils : 3		
Histosol (A	•			☐ Poly\ MLR	/alue Belov A 149B)	N Surface ((S8) (LRR F	₹,	2 cm Muck (A10)	(LRR K, L, MLRA 149B)		
	bedon (A2)				•	ace (S9) (I	LRR R, MLF	RA 149B)	Coast Prairie Redo	ox (A16) (LRR K, L, R)		
Black Histi	Sulfide (A4)) LRR K, L)			or Peat (S3) (LRR K, L, R)		
_	Layers (A5)			Loan	ny Gleyed	Matrix (F2))		Dark Surface (S7)			
	Below Dark S	Surface (A	11)	Depl	eted Matrix	x (F3)				Surface (S8) (LRR K, L)		
	k Surface (A1				x Dark Su				☐ Thin Dark Surface (S9) (LRR K, L) ☐ Iron-Manganese Masses (F12) (LRR K, L, R)			
Sandy Mu	ck Mineral (S	51)				Surface (F	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)			
	eyed Matrix (S4)		∟ Redo	x Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
Sandy Red									Red Parent Material (TF2)			
	Matrix (S6)		1.400)						Very Shallow Dark Surface (TF12)			
	ace (S7) (LRI								Other (Explain in	Remarks)		
³ Indicators of	hydrophytic	vegetatio	n and wetla	nd hydrology	must be p	resent, un	less disturb	oed or probl	ematic.			
Restrictive La	ayer (if obs	erved):										
Type:									Hydric Soil Present?	Yes ● No ○		
Depth (inch	nes):								Tryunc 3011 Fresent:	Tes S NO S		
Remarks:												

Project/Site: Antrim Wind Project		City/County: Antrim		Sampling Date: 17-Aug-11
Applicant/Owner: Eolian Renewable Energy,	LLC	Sta	te: NH	Sampling Point: AN18e upland
Investigator(s): AF JG		Section, Township, Range:	S. T.	 R.
Landform (hillslope, terrace, etc.): Hillsic	de L	ocal relief (concave, convex, r		Slope: 15.0 % / 8.5 °
Subregion (LRR or MLRA):	Lat.:	Long		Datum:
Soil Map Unit Name:			NWI classif	ication:
Are climatic/hydrologic conditions on the	site typical for this time of yea	ar? Yes No	(If no, explain in	•
Are Vegetation, Soil, or F	lydrology 🗌 significantly	disturbed? Are "Normal	Circumstances" p	present? Yes No
Are Vegetation, Soil, or F	lydrology 🗌 naturally pro	oblematic? (If needed,	explain any answe	ers in Remarks.)
Summary of Findings - Attach		impling point location	s, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? Yes		Is the Sampled Area within a Wetland?	Yes O No 🖲)
Wetland Hydrology Present? Yes	O No •			
Hydrology				
Wetland Hydrology Indicators:				ors (minimum of 2 required)
Primary Indicators (minimum of one requ			Surface Soil C	
Surface Water (A1) High Water Table (A2)	Water-Stained Leave☐ Aquatic Fauna (B13)	• •	☐ Drainage Patte	
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)
Water Marks (B1)	Hydrogen Sulfide Oc		Crayfish Burro	
Sediment Deposits (B2)		res along Living Roots (C3)		ible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced			ressed Plants (D1)
Algal Mat or Crust (B4)		on in Tilled Soils (C6)	Geomorphic P	
☐ Iron Deposits (B5)	Thin Muck Surface (• •	Shallow Aquita	
☐ Inundation Visible on Aerial Imagery (B7)	Other (Explain in Re	marks)	Microtopograp	ohic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	_ ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,	FAC-neutral T	est (D5)
Field Observations: Surface Water Present? Yes No	Depth (inches):			
	Depth (inches):	Wetland Hyde	rology Present?	Yes ○ No ●
Saturation Present? (includes capillary fringe) Yes O	Depth (inches):			
Describe Recorded Data (stream gauge, I	monitoring well, aerial photos	, previous inspections), if avai	lable:	
Remarks:				

/EGETATION - Use scientific names of p			ominant ecies?		Sampling Point: AN18e upland			
Tree Stratum (Plot size: 30')	Absolute % Cover	te Rel.Strat.		Indicator Status				
Fagus grandifolia	33	V	43.4%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)			
Tsuga canadensis	22	~	43.4%	FACU				
Betula papyrifera	10		13.2%	FACU	Total Number of Dominant Species Across All Strata: 7 (B)			
			0.0%		Species Across All Strata.			
5.			0.0%		Percent of dominant Species			
5.			0.0%		That Are OBL, FACW, or FAC: 28.6% (A/B)			
7.			0.0%		Prevalence Index worksheet:			
Sapling/Shrub Stratum (Plot size: 15')		= Tc	otal Cove	r	Total % Cover of: Multiply by:			
Fogus grandifolio	40	✓	E2 20/	FACU	0BL species 0 x 1 = 0			
Fagus grandifolia			53.3%		FACW species $0 \times 2 = 0$			
Acer pensylvanicum			26.7%	FACU	FAC species30 x 3 =90			
8. Betula alleghaniensis			20.0%	FAC	FACU species 141 x 4 = 564			
<u>ł</u> .			0.0%		UPL speci es $0 \times 5 = 0$			
j			0.0%		Column Totals: 171 (A) 654 (B)			
5			0.0%					
7		Ш	0.0%		Prevalence Index = B/A = 3.825			
Herb Stratum (Plot size: 5')	75	= To	otal Cove	r	Hydrophytic Vegetation Indicators:			
1.Thelypteris noveboracensis	15	~	75.0%	FAC	Rapid Test for Hydrophytic Vegetation			
2.Quercus rubra		V	25.0%	FACU-	☐ Dominance Test is > 50%			
3.			0.0%		Prevalence Index is ≤3.0 ¹			
4.			0.0%		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
5.			0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)			
6.			0.0%					
7.			0.0%		¹ Indicators of hydric soil and wetland hydrology must			
8.			0.0%		be present, unless disturbed or problematic.			
9.			0.0%		Definitions of Vegetation Strata:			
0.			0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diamete			
1.			0.0%		at breast height (DBH), regardless of height.			
2.	0	$\overline{\Box}$	0.0%		,, 13			
		 = To	otal Cove	r	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall			
Woody Vine Stratum (Plot size:)								
1			0.0%		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
2			0.0%		size, and woody plants less than 3.20 it tall.			
3			0.0%		Woody vine - All woody vines greater than 3.28 ft in			
4			0.0%		height.			
	0	= To	otal Cove	r				
					Hydrophytic Vegetation Present? Yes No No			

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN18e upland

	ription: (Des	scribe to	the depth	needed to document the indicator or confirm the a	absence of indicators.)
Depth (inches)		Matrix		Redox Features Color (moist) % Type 1 Loc²	
	Color (r		%	Color (moist) % Type 1 Loc2	Texture Remarks
0-5	10YR	3/2	100%		Loam
5-7	2.5Y	4/8	100%		Fine Sand
7-16	10YR	4/3	100%		Fine Sandy Loam
1					
, ·		=Depletio	n. RM=Red	luced Matrix, CS=Covered or Coated Sand Grains 2Loca	
Hydric Soil I					Indicators for Problematic Hydric Soils : 3
Histosol (A1) pedon (A2)			Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Black Hist				Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
	Layers (A5)			Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L)
Depleted	Below Dark S	Surface (A	11)	Depleted Matrix (F3)	☐ Polyvalue Below Surface (S8) (LRR K, L) ☐ Thin Dark Surface (S9) (LRR K, L)
☐ Thick Dar	k Surface (A1	12)		Redox Dark Surface (F6)	☐ Iron-Manganese Masses (F12) (LRR K, L, R)
Sandy Mu	uck Mineral (S	51)		Depleted Dark Surface (F7)	Piedmont Floodplain Soils (F19) (MLRA 149B)
	eyed Matrix (S	S4)		Redox Depressions (F8)	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Re					Red Parent Material (TF2)
	Matrix (S6)		4.400)		Very Shallow Dark Surface (TF12)
	ace (S7) (LRF				Other (Explain in Remarks)
³ Indicators o	f hydrophytic	vegetatio	n and wetla	and hydrology must be present, unless disturbed or proble	ematic.
Restrictive L	ayer (if obs	erved):			
Type: Bo	oulders				Hydric Soil Present? Yes ○ No ●
Depth (inc	hes): 16				Hydric Soil Present? Yes No •
Remarks:					
Spodosol					



AN18e Wetland



AN18e Upland

Project/Site: Antrim Wind Project	City/County:	Antrim	Sampling Date: 17-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		State: NH	Sampling Point: AN18f wetland
Investigator(s): AF JG	Section, Tov	vnship, Range: S.	
Landform (hillslope, terrace, etc.): Swale		cave, convex, none): conv	
Subregion (LRR or MLRA):	Lat.:	Long.:	Datum:
Soil Map Unit Name:			lassification: PFO
Son wap out warne.			PFU
Are climatic/hydrologic conditions on the site	typical for this time of year? Yes	No (If no, expl	ain in Remarks.)
Are Vegetation , Soil , or Hydro	ology significantly disturbed?	Are "Normal Circumstan	ces" present? Yes No
Are Vegetation , Soil , or Hydro	ology naturally problematic?	(If needed, explain any a	answers in Remarks.)
Summary of Findings - Attach sit	e map showing sampling po	int locations, transe	ects, important features, etc.
Hydrophytic Vegetation Present? Yes •	No O		
Hydric Soil Present? Yes ●		Sampled Area a Wetland? Yes • 1	No 🔾
Wetland Hydrology Present? Yes	No O	a Wedana.	
Remarks: (Explain alternative procedures he			
Hydrology			
Wetland Hydrology Indicators:	Labordo all Mark arrollo		ndicators (minimum of 2 required)
Primary Indicators (minimum of one required			Soil Cracks (B6)
Surface Water (A1) High Water Table (A2)	✓ Water-Stained Leaves (B9)		e Patterns (B10)
✓ Saturation (A3)	Aquatic Fauna (B13) Marl Deposits (B15)		im Lines (B16) son Water Table (C2)
Water Marks (B1)		_	Burrows (C8)
Sediment Deposits (B2)	☐ Hydrogen Sulfide Odor (C1)☐ Oxidized Rhizospheres along Living R		on Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	` ′ _	or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils		phic Position (D2)
Iron Deposits (B5)	☐ Thin Muck Surface (C7)		Aquitard (D3)
☐ Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		pographic Relief (D4)
☐ Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)		utral Test (D5)
Field Observations:			
Surface Water Present? Yes No	Depth (inches):4		
Water Table Present? Yes O No •	Depth (inches):		
Saturation Present? (includes capillary fringe) Yes • No		Wetland Hydrology Prese	nt? Yes • No O
Describe Recorded Data (stream gauge, mon	itoring well, aerial photos, previous insp	ections), if available:	
Remarks:			

	plants		ominant ecies?		Sampling Point: AN18f wetland
ree Stratum (Plot size: 30')	Absolute % Cover		el.Strat. over	Indicator Status	Dominance Test worksheet:
Details alleghanismels					Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)
Betula allegnaniensis			0.0%	TAC	That are Obl., FACW, Or FAC.
•		\Box	0.0%		Total Number of Dominant
		\Box	0.0%		Species Across All Strata: 5 (B)
		\Box	0.0%		Percent of dominant Species
•		\Box	0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
		\Box	0.0%		Drawalanca Inday warkshoot
					Prevalence Index worksheet:
apling/Shrub Stratum (Plot size: 15')	33	= 10	tal Cove	r	Total % Cover of: Multiply by:
. Betula alleghaniensis	25	V	55.6%	FAC	0BL species 0 x 1 = 0
Acer rubrum	10	\checkmark	22.2%	FAC	FACW species $43 \times 2 = 86$
Fraxinus pennsylvanica	10	V	22.2%	FACW	FAC species $\phantom{00000000000000000000000000000000000$
			0.0%		FACU speci es x 4 =0
	0	\Box	0.0%		UPL species $0 \times 5 = 0$
	0	\Box	0.0%		Column Totals: 111 (A) 290 (B)
•	0		0.0%		Prevalence Index = B/A = 2.613
		= Tc	tal Cove	r	Hydrophytic Vegetation Indicators:
erb Stratum (Plot size: 5')					Rapid Test for Hydrophytic Vegetation
1 Onoclea sensibilis	33	\checkmark	100.0%	FACW	✓ Dominance Test is > 50%
2	0		0.0%		
3	0		0.0%		✓ Prevalence Index is ≤3.0 ¹
4 <u>. </u>	0		0.0%		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
6.	0		0.0%		
7.	0		0.0%		¹ Indicators of hydric soil and wetland hydrology must
8.	0		0.0%		be present, unless disturbed or problematic.
9.	0		0.0%		Definitions of Vegetation Strata:
0.			0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
1.			0.0%		at breast height (DBH), regardless of height.
2.			0.0%		
	33	= Tc	tal Cove	r	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Voody Vine Stratum (Plot size:)					greater than 5.25 it (iiii) tail
l	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
2			0.0%		size, and woody plants less than 3.28 ft tall.
			0.0%		Woody vine - All woody vines greater than 3.28 ft in
			0.0%		, ,
3 1	0	\square	0.0%		height.

Remarks: (Include photo numbers here or on a separate sheet.)

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN18f wetland

	otion: (Des	cribe to	the depth	needed to	documen	t the indic	ator or co	nfirm the	absence of indicators.)	
Depth (inches)	Color (n	Matrix	_ %	Color (edox Featu %		Loc2	Texture	Remarks
	•			Color	inoist)		Type	LOC-		Remarks
0-8	10YR	3/2	100%						Sandy Loam	
8-16	2.5Y	5/2	80%	10YR	4/6	20%	C	М	Gravelly Sand	
										-
_										
										-
						_				
1 Type: C. Cope	ontration D	Doplotio	n DM Doo	Lucad Matrix	CS Cover	od or Coata	d Sand Cra	inc 2loc	estion: DL Doro Lining M A	
		=Depletio	n. Rivi=Rec	luceu iviatrix,	C3=C0Vei	ed of Coate	eu Sanu Gra	airis ²Loc	ation: PL=Pore Lining. M=N	
Hydric Soil In						6 6 7	(CO) (LDD D		Indicators for Probl	ematic Hydric Soils: 3
Histosol (A					value Belo RA 149B)	w Surface (58) (LRR R		2 cm Muck (A10)	(LRR K, L, MLRA 149B)
Histic Epipe Black Histic						ace (S9) (L	RR R, MLR	A 149B)	Coast Prairie Red	ox (A16) (LRR K, L, R)
	Sulfide (A4)			Loai	my Mucky	Mineral (F1) LRR K, L)			or Peat (S3) (LRR K, L, R)
Stratified La						Matrix (F2)			Dark Surface (S7)	
	elow Dark S	urface (A	11)	☐ Dep	leted Matr	ix (F3)				Surface (S8) (LRR K, L)
	Surface (A1		,	Red	ox Dark Su	urface (F6)			Thin Dark Surface	
	k Mineral (S	•		☐ Dep	leted Dark	Surface (F	7)			Masses (F12) (LRR K, L, R)
	ed Matrix (S			Red	ox Depres	sions (F8)				ain Soils (F19) (MLRA 149B)
Sandy Red		,							Red Parent Mater	5) (MLRA 144A, 145, 149B)
Stripped Ma									Very Shallow Darl	
☐ Dark Surfac	ce (S7) (LRR	R, MLRA	149B)						Other (Explain in	
³ Indicators of I	hydrophytic	vegetatio	n and wett	and hydrology	ı must ha	nrasant un	lace dicturh	ed or prob		Kemarkay
			ii ana wetic	ina riyarologj	y must be	present, un	icss distain	ca or prob	icinatic.	
Restrictive La	yer (if obse	erved):								
Type:									Hydric Soil Present?	Yes ● No ○
Depth (inche	es):								,	163 0 110 0
Remarks:										
Alluvial Soils										

Project/Site: Antrim Wind Project			City/County:	Antrim		Sampling Date: 17-Aug-11
Applicant/Owner: Eolian Renewable E	nergy, LLC			Sta	te: NH	Sampling Point: AN18f Upland
Investigator(s): AF JG			Section, To	wnship, Range:	S. T.	
Landform (hillslope, terrace, etc.):	Toeslope		_	oncave, convex, r		Slope: 10.0 % / 5.7 °
Subregion (LRR or MLRA):	· · · · · · · · · · · · · · · · · · ·	Lat.:		Long	1.:	Datum:
						-
Soil Map Unit Name:					NWI classif	ication:
Are climatic/hydrologic conditions of	on the site ty	pical for this time of y	ear? Ye	s • No O	(If no, explain in	*
Are Vegetation, Soil	, or Hydrold	ogy 🗌 significant	ly disturbed?	Are "Normal	Circumstances" p	present? Yes No
Are Vegetation, Soil	, or Hydrold	ogy 🗌 naturally p	roblematic?	(If needed,	explain any answe	ers in Remarks.)
Summary of Findings - At		<u> </u>	ampling p	oint location	s, transects,	important features, etc.
Hydrophytic Vegetation Present?		No •		0 1 1 1 1		
Hydric Soil Present?	Yes 🔾	No •		Sampled Area n a Wetland?	Yes 🔾 No 🖲)
Wetland Hydrology Present?	Yes 🔾	No 💿				
Hydrology						
Wetland Hydrology Indicators:		ala ada all Ala Ala anni h A				ors (minimum of 2 required)
Primary Indicators (minimum of or	ne requirea;		(5-5)		Surface Soil C	
Surface Water (A1) High Water Table (A2)		Water-Stained Lea Aquatic Fauna (B1			☐ Drainage Patte	
Saturation (A3)		Marl Deposits (B15				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide (Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosph		Roots (C3)		ible on Aerial Imagery (C9)
☐ Drift deposits (B3)		Presence of Reduc		,		ressed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc	tion in Tilled Soil	s (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)		☐ Thin Muck Surface	(C7)		Shallow Aquita	
Inundation Visible on Aerial Image		Other (Explain in F	Remarks)			ohic Relief (D4)
Sparsely Vegetated Concave Surface	:e (B8)				FAC-neutral T	est (D5)
Field Observations:						
Surface Water Present? Yes		Depth (inches):				
Water Table Present? Yes	No ●	Depth (inches):				Yes ○ No •
Saturation Present? (includes capillary fringe) Yes	No ●	Depth (inches):		Wetland Hydi	rology Present?	Yes ∪ NO ♥
Describe Recorded Data (stream g	auge, monito	oring well, aerial photo	os, previous ins	pections), if avai	lable:	
Remarks:						
1						

/EGETATION - Use scientific names of p		Dominant Species?			Sampling Point: AN18f Upland				
ree Stratum (Plot size: 30')	Absolute % Cover	Re	I.Strat.	Indicator Status	Dominance Test worksheet:				
		✓	50.0%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)				
Acer rubrum Fraxinus pennsylvanica	40	▼ .	50.0%	FACW	That are OBL, FACW, or FAC: 3 (A)				
		<u> </u>		FACW	Total Number of Dominant				
·	0	Η.	0.0%		Species Across All Strata: 6 (B)				
-		Н.	0.0%		Percent of dominant Species				
		Η.	0.0%		That Are OBL, FACW, or FAC: 50.0% (A/E				
•		Η.	0.0%						
-		Ш.	0.0%		Prevalence Index worksheet:				
apling/Shrub Stratum (Plot size: 15')	80	= To	tal Cove	r	Total % Cover of: Multiply by:				
Ostrya virginiana	25	V	31.3%	FACU-	0BL speci es 0 x 1 = 0				
Pinus strobus	10	\Box	12.5%	FACU	FACW species $40 \times 2 = 80$				
Betula alleghaniensis			12.5%	FAC	FAC species $70 \times 3 = 210$				
Fagus grandifolia	15		18.8%	FACU	FACU speci es x 4 = 280				
. Acer pensylvanicum	20	<u>✓</u>	25.0%	FACU	UPL species $\frac{5}{}$ x 5 = $\frac{25}{}$				
			0.0%		Column Totals: 185 (A) 595 (B				
•		\Box	0.0%		Prevalence Index = B/A = 3.216				
		– То	tal Cove						
lerb Stratum (Plot size: 5')		_ 10	ital Cove	1	Hydrophytic Vegetation Indicators:				
1.Maianthemum canadense	20	✓	80.0%	FAC-	Rapid Test for Hydrophytic Vegetation				
2.Polygonatum pubescens		V	20.0%	UPL	Dominance Test is > 50%				
3.			0.0%		☐ Prevalence Index is ≤3.0 ¹				
4.			0.0%		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)				
5.			0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)				
6.	0		0.0%		Problematic Hydrophytic Vegetation (Explain)				
7.	0		0.0%		¹ Indicators of hydric soil and wetland hydrology mu				
8.	0	\Box	0.0%		be present, unless disturbed or problematic.				
9.		\Box	0.0%		Definitions of Vegetation Strata:				
0.	0	\Box	0.0%		Tree Mesharists Ois (7.0 cm) or results from the				
1.		$\overline{\Box}$	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diamet at breast height (DBH), regardless of height.				
2.		\Box	0.0%		at broadt noight (2217), rogaratoss of noight				
- -		 _ To	tal Cove	r	Sapling/shrub - Woody plants less than 3 in. DBH and				
Noody Vine Stratum (Plot size:)		_ 10	ital Cove	•	greater than 3.28 ft (1m) tall				
	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless				
2.			0.0%		size, and woody plants less than 3.28 ft tall.				
3			0.0%		Woody vine - All woody vines greater than 3.28 ft in				
4			0.0%		height.				
		- To	tal Cove						
					Hydrophytic Vegetation Present? Yes No No				

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN18f Upland

	ription: (Des	scribe to	the depth	needed to document the indicator or confirm the	absence of indicators.)
Depth (inches)	. Color (ı	Matrix	_ %	Redox Features Color (moist) % Type 1 Loc²	Texture Remarks
0-8	10YR	3/2	100%	Color (moist) % Type 1 Loc2	Fine Sandy Loam
8-14	10YR	3/4	100%		Fine Sandy Loam
¹ Type: C=Con	centration. D	=Depletion	n. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	ation: PL=Pore Lining. M=Matrix
Hydric Soil I	Indicators:				Indicators for Problematic Hydric Soils: 3
Histosol ((A1)			Polyvalue Below Surface (S8) (LRR R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic Epi	pedon (A2)			MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
Black Hist				☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
_	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L)
	Layers (A5)			Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)
_	Below Dark S rk Surface (A1		11)	Redox Dark Surface (F6)	Thin Dark Surface (S9) (LRR K, L)
				Depleted Dark Surface (F7)	Iron-Manganese Masses (F12) (LRR K, L, R)
	uck Mineral (S eyed Matrix (S			Redox Depressions (F8)	☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
Sandy Re		54)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Matrix (S6)				Red Parent Material (TF2)
	face (S7) (LRI	R R, MLRA	149B)		✓ Very Shallow Dark Surface (TF12)✓ Other (Explain in Remarks)
3 Indicators of	f hydronhytic	voqotation	a and wotla	nd hydrology must be present, unless disturbed or proble	
			i and wella	ind flydrology must be present, unless disturbed of proble	erriatic.
Restrictive L	-	erved):			
Type: Bo					Hydric Soil Present? Yes ○ No ●
Depth (inc	:nes):_14				, , , , , , , , , , , , , , , , , , , ,
Remarks:					



AN18f Wetland



AN18f Upland



AN18f Wetland

roject	City/Co	ounty: Antrim		Sampling Date: 16-Aug-11
newable Energy, LLC		Sta	te: NH	Sampling Point: an20 wetland
	Sec	tion, Township, Range:	S. T.	
e, etc.): Toeslope				Slope: 3.0 % / 1.7 °
	Lat·	Long		Datum:
				-
			INVVI CIASSITI	cation: PEM
iditions on the site ty	pical for this time of year?	Yes ● No ○	(If no, explain in	
oil 🗌 , or Hydrol	ogy 🗌 significantly distu	rbed? Are "Normal	Circumstances" p	resent? Yes No
oil 🗌 , or Hydrol	ogy naturally problem	atic? (If needed,	explain any answe	ers in Remarks.)
gs - Attach site		ing point location	ns, transects,	important features, etc.
	No O			
	No O	Is the Sampled Area within a Wetland?	Yes ● No ○	
ıt? Yes ⊙	No O			
tors:			Socondary Indicato	rs (minimum of 2 required)
num of one required;	check all that apply)		Surface Soil Cr	acks (B6)
num of one required;			Surface Soil Cr	
num of one required;	Water-Stained Leaves (B9) Aquatic Fauna (B13)		Surface Soil Cr Drainage Patte Moss Trim Line	erns (B10)
num of one required;	Water-Stained Leaves (B9)		Drainage Patte	erns (B10)
num of one requirea;	Water-Stained Leaves (B9) Aquatic Fauna (B13))	Drainage Patte	erns (B10) es (B16) ater Table (C2)
num of one requirea;	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15)		Drainage Patte Moss Trim Lin Dry Season W Crayfish Burro Saturation Visi	erns (B10) es (B16) ater Table (C2) ws (C8) ble on Aerial Imagery (C9)
num of one requirea;	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1 Oxidized Rhizospheres alor Presence of Reduced Iron	g Living Roots (C3) (C4)	Drainage Patte Moss Trim Lin Dry Season W Crayfish Burro Saturation Visi Stunted or Str	erns (B10) es (B16) ater Table (C2) ws (C8) ble on Aerial Imagery (C9) essed Plants (D1)
num of one requirea;	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1 Oxidized Rhizospheres alor Presence of Reduced Iron Recent Iron Reduction in T	g Living Roots (C3) (C4)	Drainage Patte Moss Trim Lin Dry Season W Crayfish Burro Saturation Visi Stunted or Str	erns (B10) es (B16) ater Table (C2) ws (C8) ble on Aerial Imagery (C9) essed Plants (D1) osition (D2)
·	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1 Oxidized Rhizospheres alor Presence of Reduced Iron Recent Iron Reduction in T Thin Muck Surface (C7)	g Living Roots (C3) (C4)	Drainage Patte Moss Trim Lin Dry Season W Crayfish Burro Saturation Visi Stunted or Str Geomorphic P Shallow Aquita	erns (B10) es (B16) ater Table (C2) ws (C8) ble on Aerial Imagery (C9) essed Plants (D1) osition (D2) ard (D3)
rial Imagery (B7) ave Surface (B8)	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1 Oxidized Rhizospheres alor Presence of Reduced Iron Recent Iron Reduction in T	g Living Roots (C3) (C4)	Drainage Patte Moss Trim Lin Dry Season W Crayfish Burro Saturation Visi Stunted or Str	erns (B10) es (B16) ater Table (C2) ws (C8) ble on Aerial Imagery (C9) essed Plants (D1) position (D2) ard (D3) hic Relief (D4)
rial Imagery (B7) ave Surface (B8)	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1 Oxidized Rhizospheres alor Presence of Reduced Iron Recent Iron Reduction in T Thin Muck Surface (C7) Other (Explain in Remarks)	g Living Roots (C3) (C4)	Drainage Patte Moss Trim Lin Dry Season W Crayfish Burro Saturation Visi Stunted or Str Geomorphic Po Shallow Aquita Microtopograp	erns (B10) es (B16) ater Table (C2) ws (C8) ble on Aerial Imagery (C9) essed Plants (D1) position (D2) ard (D3) hic Relief (D4)
rial Imagery (B7) ave Surface (B8) Yes No •	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1 Oxidized Rhizospheres alor Presence of Reduced Iron Recent Iron Reduction in T Thin Muck Surface (C7)	g Living Roots (C3) (C4)	Drainage Patte Moss Trim Lin Dry Season W Crayfish Burro Saturation Visi Stunted or Str Geomorphic Po Shallow Aquita Microtopograp	erns (B10) es (B16) ater Table (C2) ws (C8) ble on Aerial Imagery (C9) essed Plants (D1) position (D2) ard (D3) hic Relief (D4)
rial Imagery (B7) ave Surface (B8)	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1 Oxidized Rhizospheres alor Presence of Reduced Iron Recent Iron Reduction in T Thin Muck Surface (C7) Other (Explain in Remarks)	g Living Roots (C3) (C4) illed Soils (C6)	Drainage Patte Moss Trim Lin Dry Season W Crayfish Burro Saturation Visi Stunted or Str Geomorphic Po Shallow Aquita Microtopograp ✓ FAC-neutral Te	erns (B10) es (B16) ater Table (C2) ws (C8) ble on Aerial Imagery (C9) essed Plants (D1) position (D2) ard (D3) hic Relief (D4) est (D5)
rial Imagery (B7) ave Surface (B8) Yes No •	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1 Oxidized Rhizospheres alor Presence of Reduced Iron Recent Iron Reduction in T Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches):	g Living Roots (C3) (C4) illed Soils (C6)	Drainage Patte Moss Trim Lin Dry Season W Crayfish Burro Saturation Visi Stunted or Str Geomorphic Po Shallow Aquita Microtopograp	erns (B10) es (B16) ater Table (C2) ws (C8) ble on Aerial Imagery (C9) essed Plants (D1) position (D2) ard (D3) hic Relief (D4)
	e, etc.): Toeslope Inditions on the site ty Inditions on the site ty	Sec. e, etc.): Toeslope Local relate: Lat.: Inditions on the site typical for this time of year? Inditions on the site typical for this time of year. Inditions on the site typical for this time of year. Inditions on the site typical for this time of year. Inditions on the site typical for this time of year. In	Section, Township, Range: Local relief (concave, convex, respectively) Lat.: Long Inditions on the site typical for this time of year? Yes No No No No Yes No Yes No Yes No Yes No No Yes No And No Yes No And No And No Yes No And No And No And No Yes No And No An	Section, Township, Range: ST

VEGETATION -	Use scientific	names of	plants
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VEGETATION - Use scientific names of pla	nts	Dominant Species?			Sampling Point: an20 wetland			
Tree Stratum (Plot size:)	Absolute % Cover	R		Indicator Status	Dominance Test worksheet:			
 1	0	П	0.0%		Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)			
2		\Box	0.0%		That are obe, thow, of the			
3	0	$\overline{\Box}$	0.0%		Total Number of Dominant Species Across All Strata: 2 (B)			
4			0.0%		Species Across All Strata: 2 (B)			
5			0.0%		Percent of dominant Species			
6			0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)			
7			0.0%		Prevalence Index worksheet:			
Sapling/Shrub Stratum (Plot size:)		= T	otal Cove	r	Total % Cover of: Multiply by:			
	0		0.0%		0BL speci es 10 x 1 = 10			
1	0		0.0%		FACW species 103 x 2 = 206			
2 3	0		0.0%		FAC speci es			
5 4			0.0%		FACU speci es x 4 =0			
5			0.0%		UPL species $0 \times 5 = 0$			
6			0.0%		Column Totals:113 (A)216 (B)			
7	0		0.0%		Prevalence Index = B/A = 1.912			
Herb Stratum (Plot size: 5')	0	= T	otal Cove	r	Hydrophytic Vegetation Indicators:			
			00.004	54004	Rapid Test for Hydrophytic Vegetation			
1. Onoclea sensibilis	45		39.8%	FACW	✓ Dominance Test is > 50%			
2. Impatiens capensis 3. Osmunda cinnamomea		✓	8.8%	FACW	✓ Prevalence Index is ≤3.0 ¹			
A	40		29.2% 8.8%	OBL	☐ Morphological Adaptations ¹ (Provide supporting			
5.Phalaris arundinacea			13.3%	FACW+	data in Remarks or on a separate sheet)			
6.	0		0.0%	TACVV	Problematic Hydrophytic Vegetation ¹ (Explain)			
7			0.0%		¹ Indicators of hydric soil and wetland hydrology must			
8.	0	П	0.0%		be present, unless disturbed or problematic.			
9.	0	П	0.0%		Definitions of Vegetation Strata:			
10	0	П	0.0%		To a Manchaglanta O'r (7.0 au) ar marc'a d'anadar			
11.	0	П	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
12.	0	$\overline{\Box}$	0.0%					
Woody Vine Stratum (Plot size:		= T	otal Cove	r	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall			
,	0		0.0%		Harb. All harbaccaus (non woody) plants, regardless of			
1	0 0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
2	0		0.0%					
4	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in height.			
4			otal Cove		Height.			
		- ''	otal cove	•				
					Hydrophytic Vegetation Present? Yes No			

Remarks: (Include photo numbers here or on a separate sheet.)

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an20 wetland

	ription: (Des		the depth	needed to d				onfirm the	absence of indicators.)		
Depth (inches)	. Color (ı	Matrix moist)	_ % -	_ Color (i		dox Featu %	ures Type 1	Loc2	Texture	Remarks	
0-8	10YR	3/2	100%	33101 (1					Loam	Comuno	
8-11	2.5Y	4/2	95%	10YR	4/6	5%	C		Sandy Loam		
8-11	2.51	4/2	95%	TUTK	4/0	5%		IVI	Sandy Loam		
										_	
									-		
									-		
									-		
										_	
¹ Type: C=Con	centration. D	=Depletio	n. RM=Red	uced Matrix, (S=Covere	ed or Coat	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=	Matrix	
Hydric Soil	Indicators:								Indicators for Prof	plematic Hydric Soils : 3	
Histosol ((A1)			Poly	alue Belov	w Surface	(S8) (LRR F	₹,) (LRR K, L, MLRA 149B)	
Histic Epi	pedon (A2)				A 149B)	(00)	1000	N 4465'		dox (A16) (LRR K, L, R)	
Black His	tic (A3)						LRR R, MLF			t or Peat (S3) (LRR K, L, R)	
_	n Sulfide (A4)						I) LRR K, L))	Dark Surface (S		
	Layers (A5)				iy Gieyed eted Matri:	Matrix (F2))		Polyvalue Below Surface (S8) (LRR K, L)		
_	Below Dark S		11)			rface (F6)			☐ Thin Dark Surface (S9) (LRR K, L)		
_	rk Surface (A					Surface (F	7)		☐ Iron-Manganese Masses (F12) (LRR K, L, R)		
	uck Mineral (S				x Depress		,,		Piedmont Floodplain Soils (F19) (MLRA 149B)		
	eyed Matrix (S4)			л Бор. осо				Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
Sandy Re									Red Parent Material (TF2)		
	Matrix (S6) face (S7) (LRI	R R MIRA	149R)							rk Surface (TF12)	
									Other (Explain in	ı Remarks)	
³ Indicators o	f hydrophytic	vegetatio	n and wetla	nd hydrology	must be p	oresent, ur	nless disturi	ped or probl	ematic.		
Restrictive L	-	erved):									
Type: b	•								Hydric Soil Present?	Yes ● No ○	
Depth (inc	thes): 11								Hydric Son Present?	res e No C	
Remarks:											

Project/Site: Antrim Wind Project	City/Count	y: Antrim		Sampling Date: 16-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH	Sampling Point: an20 upland
Investigator(s): AF JG	Section	, Township, Range:	S. T.	 R.
Landform (hillslope, terrace, etc.): Hillside		f (concave, convex, n		Slope: 15.0 % / 8.5 °
Subregion (LRR or MLRA):	Lat.:	Long	 1.:	Datum:
Soil Map Unit Name:			NWI classif	
			_	
Are climatic/hydrologic conditions on the site ty	pical for this time of year?	Yes No	(If no, explain in	*
Are Vegetation , Soil , or Hydrol	ogy Significantly disturbed	i? Are "Normal	Circumstances" p	oresent? Yes No
Are Vegetation . , Soil . , or Hydrol	ogy naturally problematic	? (If needed,	explain any answe	ers in Remarks.)
Summary of Findings - Attach site		point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes	No •			
Hydric Soil Present? Yes	NO ⊜ wi	the Sampled Area thin a Wetland?	Yes O No 🗨)
Wetland Hydrology Present? Yes	No •			
Remarks: (Explain alternative procedures her	e or in a separate report.)			
Maintained ROW				
Hydrology				
Wetland Hydrology Indicators:			Coopedany Indicate	are (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)		Surface Soil C	ors (minimum of 2 required)
Surface Water (A1)	Water-Stained Leaves (B9)		Drainage Patte	
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lin	
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burro	
Sediment Deposits (B2)	Oxidized Rhizospheres along Liv	ving Roots (C3)		ible on Aerial Imagery (C9)
☐ Drift deposits (B3)	Presence of Reduced Iron (C4)	3		essed Plants (D1)
☐ Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled	Soils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)		Shallow Aquita	ard (D3)
☐ Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		Microtopograp	phic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	_		FAC-neutral T	est (D5)
Field Observations				
Field Observations: Surface Water Present? Yes No •	Depth (inches):			
	Depth (inches):	Wetland Hydr	ology Present?	Yes O No 💿
Saturation Present? (includes capillary fringe) Yes No No	Depth (inches):			
Describe Recorded Data (stream gauge, monit	oring well, aerial photos, previous	inspections), if avail	able:	
Domorko				
Remarks:				

Dominant Species?					Sampling Point: an20 upland			
Tree Stratum (Plot size:)	Absolute % Cover	Re	el.Strat.	Indicator Status	Dominance Test worksheet:			
	0	\Box	0.0%		Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)			
1		\Box	0.0%		That are OBL, FACW, OF FAC.			
2		Н	0.0%		Total Number of Dominant			
3					Species Across All Strata: 2 (B)			
4			0.0%		Percent of dominant Species			
5			0.0%		That Are OBL, FACW, or FAC:(A/B)			
6			0.0%					
7	0	Ш	0.0%		Prevalence Index worksheet:			
Sapling/Shrub Stratum (Plot size: 15')		= To	otal Cover		Total % Cover of: Multiply by:			
1. Rhus copallinum	25	V	100.0%	NI	0BL species 0 x 1 = 0			
2.		\Box	0.0%		FACW species x 2 = 0			
ર ૧	0	\Box	0.0%		FAC species0 x 3 =0			
3 4.			0.0%		FACU species 10 x 4 = 40			
			0.0%		UPL speci es $\frac{95}{100}$ x 5 = $\frac{475}{100}$			
^					Column Totals: 105 (A) 515 (B)			
6			0.0%		(1)			
7	0		0.0%		Prevalence Index = B/A = 4.905			
Herb Stratum (Plot size: 5')	25	= Tc	otal Cover		Hydrophytic Vegetation Indicators:			
1.Dennstaedtia punctilobula	95	✓	90.5%	UPL	Rapid Test for Hydrophytic Vegetation			
2.Rubus alumnus	10		9.5%	FACU-	☐ Dominance Test is > 50%			
3.			0.0%		Prevalence Index is ≤3.0 ¹			
4.	0	\Box	0.0%		Morphological Adaptations ¹ (Provide supporting			
5.	0		0.0%		data in Remarks or on a separate sheet)			
6			0.0%		☐ Problematic Hydrophytic Vegetation ¹ (Explain)			
7					¹ Indicators of hydric soil and wetland hydrology must			
8.			0.0%		be present, unless disturbed or problematic.			
9.			0.0%		Definitions of Vegetation Strata:			
	0		0.0%		Jennicons or regeration strata.			
10			0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter			
11	0_		0.0%		at breast height (DBH), regardless of height.			
12	0	Ш	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and			
Woody Vine Stratum (Plot size:)	105	= To	otal Cover		greater than 3.28 ft (1m) tall			
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of			
2	0		0.0%		size, and woody plants less than 3.28 ft tall.			
3	0	$\overline{\Box}$	0.0%		Mandada Allandada and a constanting 0.00 ft in			
4	0	\Box	0.0%		Woody vine - All woody vines greater than 3.28 ft in height.			
т.		 = To	otal Cover					
					Hydrophytic Vegetation Present? Yes No No			
Remarks: (Include photo numbers here or on a separate si	neet.)							

Dominant

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an20 upland

Profile Desci	ription: (Desc	ribe to	the depth	needed to document the indicator or confirm the	absence of indicators.)	
Depth (inches)		Watrix	_ 0,	Redox Features		S
	Color (m		%	Color (moist) % Type 1 Loc²		Remarks
0-5	10YR	3/2	100%		Fine Sandy Loam	
5-10	10YR	4/4	100%		Fine Sandy Loam	
10-18	10YR	5/8	100%		Fine Sandy Loam	
				·		
						<u> </u>
				·		
				. —————————		
					·	
¹ Type: C=Con	ncentration. D=	Depletio	n. RM=Red	duced Matrix, CS=Covered or Coated Sand Grains 2Local	ation: PL=Pore Lining. M=Matrix	
Hydric Soil	Indicators:				Indicators for Problematic Hy	dric Soils: 3
Histosol ((A1)			Polyvalue Below Surface (S8) (LRR R,	2 cm Muck (A10) (LRR K, L, I	
	pedon (A2)			MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LF	
Black His				Loamy Mucky Mineral (F1) LRR K, IV	5 cm Mucky Peat or Peat (S3	
	n Sulfide (A4)			Loamy Gleyed Matrix (F2)	☐ Dark Surface (S7) (LRR K, L)	
	Layers (A5)	C (A	44)	Depleted Matrix (F3)	Polyvalue Below Surface (S8)	(LRR K, L)
	Below Dark Surk Surface (A12		11)	Redox Dark Surface (F6)	Thin Dark Surface (S9) (LRR	
	uck Mineral (S1	•		Depleted Dark Surface (F7)	☐ Iron-Manganese Masses (F12	
	eyed Matrix (S			Redox Depressions (F8)	Piedmont Floodplain Soils (F1	
Sandy Re		7)			Mesic Spodic (TA6) (MLRA 14	14A, 145, 149B)
	Matrix (S6)				Red Parent Material (TF2)	·F12)
	face (S7) (LRR	R, MLRA	(149B)		✓ Very Shallow Dark Surface (T✓ Other (Explain in Remarks)	F12)
3Indicators o	f hydronhytic y	enetatio	n and wetl:	and hydrology must be present, unless disturbed or probl		
			n and well	ind flydrology flust be present, diffess disturbed of problem	ematic.	
	ayer (if obse	rvea):				
Type: Depth (inc	hoc).				Hydric Soil Present? Yes	No ●
	<u></u>					
Remarks:						



AN20 Wetland



AN20 Upland

Project/Site: Antrim Wind Project			City/Cour	nty: Antrim		Sampling Date: 16-Aug-11
Applicant/Owner: Eolian Renewable E	nergy, LLC			Sta	ite: NH	Sampling Point: an21 wetland
Investigator(s): AF JG			Section	n, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.):	Toeslope		_	ef (concave, convex, r		Slope: 3.0 % / 1.7 °
Subregion (LRR or MLRA):		Lat.:		Long	<u> </u>	Datum:
Soil Map Unit Name:				0 0	INWI CIASSII	ication: PEM
Are climatic/hydrologic conditions of	n the site ty	pical for this time of ye	ear?	Yes No	(If no, explain in	
Are Vegetation, Soil	, or Hydrold	ogy 🗌 significant	ly disturbe	ed? Are "Normal	Circumstances" p	oresent? Yes No
Are Vegetation, Soil	, or Hydrold	ogy 🗌 naturally p	roblemati	c? (If needed,	explain any answe	ers in Remarks.)
Summary of Findings - At			amplin	g point locatior	ns, transects,	important features, etc.
Hydrophytic Vegetation Present?		No O				
Hydric Soil Present?	Yes 💿	No O		s the Sampled Area vithin a Wetland?	Yes 💿 No 🗆)
Wetland Hydrology Present?	Yes 💿	No O				
Hydrology						
Wetland Hydrology Indicators:					Secondary Indicate	ors (minimum of 2 required)
Primary Indicators (minimum of or	ne required;	check all that apply)			Surface Soil C	
Surface Water (A1)		Water-Stained Leav	ves (B9)		Drainage Patte	
✓ High Water Table (A2)		Aquatic Fauna (B13			Moss Trim Lin	
Saturation (A3)		Marl Deposits (B15	j)		Dry Season W	ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide C	Odor (C1)		Crayfish Burro	ws (C8)
Sediment Deposits (B2)		Oxidized Rhizosphe	-			ble on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduc	•	•		essed Plants (D1)
☐ Algal Mat or Crust (B4)☐ Iron Deposits (B5)		Recent Iron Reduc		d Soils (C6)	Geomorphic P	
Inundation Visible on Aerial Image	rv (B7)	☐ Thin Muck Surface	` '		Shallow Aquita	ara (D3) hic Relief (D4)
Sparsely Vegetated Concave Surface	•	Uther (Explain in R	emarks)		FAC-neutral To	
Field Observations:						
Surface Water Present? Yes		Depth (inches):				
Water Table Present? Yes	No O	Depth (inches):	3	Wetlend I had	rology Present?	Yes ● No ○
Saturation Present? (includes capillary fringe) Yes		Depth (inches):	0			res ⊕ inu ⊖ ————————————————————————————————————
Describe Recorded Data (stream garden Remarks:	auge, monito	oring well, aerial photo	os, previou	is inspections), if avai	lable:	

VEGETATION - Use scientific names of p	iants		ominant pecies?		Sampling Point: an21 wetland
Tree Stratum (Plot size:)	Absolute % Cover		el.Strat. over	Indicator Status	Dominance Test worksheet:
 1	0	$\overline{\Box}$	0.0%		Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)
7		\Box	0.0%		That are obt, FACW, or FAC.
2		\Box	0.0%		Total Number of Dominant
3			0.0%		Species Across All Strata: 5 (B)
4					Percent of dominant Species
5			0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
<u>6</u>			0.0%		
7	0	Ш	0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')		= To	otal Cove	r	Total % Cover of: Multiply by:
1. Spiraea tomentosa	5	~	33.3%	FACW	OBL species
2. Acer rubrum		\checkmark	33.3%	FAC	
3. Spiraea alba		~	33.3%	FACW+	1 NO SPECIOS
4.			0.0%		FACU species $0 \times 4 = 0$
5			0.0%		UPL species x 5 =0
			0.0%		Column Totals: 124 (A) 178 (B)
o 7			0.0%		Prevalence Index = B/A = 1.435
		_ = To	otal Cove	r	Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size: 5')					Rapid Test for Hydrophytic Vegetation
1. Osmunda cinnamomea	5		4.6%	FACW	✓ Dominance Test is > 50%
2. Scirpus cyperinus	8		7.3%	FACW+	l —
3. Carex scoparla			0.9%	FACW	✓ Prevalence Index is ≤3.0 ¹
4.Carex crinita		~	45.9%	OBL	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.Onoclea sensibilis			18.3%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
6.Equisetum fluviatile	25	V	22.9%	OBL	
7.			0.0%		¹ Indicators of hydric soil and wetland hydrology must
8.	0		0.0%		be present, unless disturbed or problematic.
9.	0		0.0%		Definitions of Vegetation Strata:
10.			0.0%		T Mondy plants 2 in (7.6 cm) or more in diameter
 11.			0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
12.			0.0%		at 2,0000 to 1,000
		 = To	otal Cove	r	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size:)			2.00/		
1			0.0%		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
2 3			0.0%		
			0.0%		Woody vine - All woody vines greater than 3.28 ft in
4			-		height.
		= 10	otal Cove	r	
					Hydrophytic Vegetation Present? Yes No
					Present:
					<u>I</u>
Remarks: (Include photo numbers here or on a separate s	sheet.)				

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an21 wetland

	iption: (De		the depth	needed to d				onfirm the	absence of indicators.)					
Depth (inches)	Color (ı	Matrix	- %	_ Color (n		dox Featu %		Loc²	Texture	Remarks				
0-9	10YR	3/2	100%		ioist)		- Type		Loam	Remarks				
9-14	2.5Y	4/2	95%	10YR	4/6	5%	C		Fine Sandy Loam					
										_				
									-					
									-					
									-					
							_			_				
¹ Type: C=Cond	entration. D	=Depletio	n. RM=Red	uced Matrix. C	S=Covere	ed or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=N	 Matrix				
Hydric Soil I									-	2				
Histosol (A				Polvv	alue Belov	w Surface (S8) (LRR F	₹,		iematic riyunc 30iis .				
_ `	pedon (A2)			MLRA	149B)	., our doo (,00) (2	-1		(LRR K, L, MLRA 149B)				
Black Hist				Thin	Dark Surfa	ace (S9) (l	RR R, MLF	RA 149B)		ox (A16) (LRR K, L, R)				
	Sulfide (A4)			Loam	y Mucky N	Mineral (F1) LRR K, L))		or Peat (S3) (LRR K, L, R)				
	Layers (A5)			Loam	y Gleyed	Matrix (F2)				Dark Surface (S7) (LRR K, L)				
_	Below Dark S	Surface (A	11)	Deple	ted Matrix	x (F3)			Polyvalue Below Surface (S8) (LRR K, L)					
	k Surface (A					rface (F6)			Thin Dark Surface (S9) (LRR K, L)					
	ck Mineral (S			Deple	ted Dark	Surface (F	7)		☐ Iron-Manganese Masses (F12) (LRR K, L, R) ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)					
	yed Matrix (Redo	x Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)					
Sandy Red									Red Parent Material (TF2)					
Stripped N									☐ Very Shallow Dark Surface (TF12)					
☐ Dark Surfa	ace (S7) (LRI	R R, MLRA	149B)						Other (Explain in					
³ Indicators of	hydronhytic	vegetatio	n and wetla	nd hydrology	must he n	resent un	less disturt	ned or probl		remarks)				
			Trana wette	ina nyarology	must be p	reserit, air	icos distari	sea or probl	ornatio.					
Restrictive La	-	erved):												
Type: bo									Hydric Soil Present?	Yes ● No ○				
Depth (inch	nes): 14									103 0 110 0				
Remarks:														

Project/Site: Antrim Wind Project			City/Cour	nty: Antrim		Sampling Date: 16-Aug-11
Applicant/Owner: Eolian Renewable Ene	rgy, LLC			Sta	te: NH	Sampling Point: an21 upland
Investigator(s): AF JG			Sectio	on, Township, Range:	S. T.	R.
Landform (hillslope, terrace, etc.):	illside		_	ef (concave, convex, r		Slope: 18.0 % / 10.2 °
Subregion (LRR or MLRA):		Lat.:		Long		Datum:
Soil Map Unit Name:					NWI classif	ication:
Are climatic/hydrologic conditions on	the site typ	pical for this time of ye	ear?	Yes No	(If no, explain in	
Are Vegetation \square , Soil \square ,	or Hydrolo	ogy 🗌 significant	ly disturbe	ed? Are "Normal	Circumstances" p	oresent? Yes No
Are Vegetation, Soil,	or Hydrolo	ogy 🗌 naturally p	roblematio	c? (If needed,	explain any answe	ers in Remarks.)
Summary of Findings - Atta			amplin	g point location	ns, transects,	important features, etc.
, , , ,		No •				
3		No •		s the Sampled Area vithin a Wetland?	Yes \bigcirc No $lacktriangle$	
Wetland Hydrology Present?	Yes 🔾	No •				
Hydrology						
Hydrology						
Wetland Hydrology Indicators:	roquirod: (shock all that apply)				ors (minimum of 2 required)
Primary Indicators (minimum of one Surface Water (A1)	required, t	Water-Stained Lea	(DO)		Surface Soil Co	
High Water Table (A2)		Aquatic Fauna (B13			Moss Trim Lin	
Saturation (A3)		Marl Deposits (B15				dater Table (C2)
Water Marks (B1)		Hydrogen Sulfide C			Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosphe		iving Roots (C3)		ible on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduc	-	-	Stunted or Str	ressed Plants (D1)
☐ Algal Mat or Crust (B4)		Recent Iron Reduc	tion in Tilled	d Soils (C6)	Geomorphic P	osition (D2)
Iron Deposits (B5)		☐ Thin Muck Surface	(C7)		Shallow Aquita	ard (D3)
Inundation Visible on Aerial Imagery (Other (Explain in R	Remarks)			phic Relief (D4)
Sparsely Vegetated Concave Surface ((B8)				FAC-neutral To	est (D5)
Field Observations:						
Surface Water Present? Yes	No 💿	Depth (inches):				
Water Table Present? Yes	No 💿	Depth (inches):				Yes ○ No •
Saturation Present? (includes capillary fringe) Yes	No •	Depth (inches):		Wetland Hydi	rology Present?	Yes ∪ No ♥
Describe Recorded Data (stream gauge	ge, monito	ring well, aerial photo	s, previou	is inspections), if avai	lable:	
Remarks:						
Remarks.						

VEGETATION - Use scientific names of plants	Dominant Species?	_	Sampling

vegeration - use scientific names of plan	113		ominant pecies?		Sampling Point: an21 upland
(District	Absolute	Re	el.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Cc	over	Status	Number of Dominant Species
1			0.0%		That are OBL, FACW, or FAC:1 (A)
2			0.0%		Total Number of Dominant
3			0.0%		Species Across All Strata: 6 (B)
4	0		0.0%		Percent of dominant Species
5 6.	0	П	0.0%		That Are OBL, FACW, or FAC: 16.7% (A/B)
6 7	0	П	0.0%		Prevalence Index worksheet:
		 = To	otal Cove		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15')					OBL species 0 x 1 = 0
1. Acer rubrum	5	✓	20.0%	FAC	FACW species 0 x 2 = 0
2. Gaylussacia baccata	5	✓	20.0%	FACU	FAC species 8 x 3 = 24
3. Acer saccharum		✓	20.0%	FACU-	FACU species 28 x 4 = 112
4. Fagus grandifolia	5	✓✓	20.0%	FACU	UPL speci es 95 x 5 = 475
5. Quercus rubra 6.			20.0%	FACU-	Column Totals: 131 (A) 611 (B)
o 7.	0		0.0%		
		 _ To	otal Cove		Prevalence Index = B/A = 4.664
Herb Stratum (Plot size: 5')			otal covel		Hydrophytic Vegetation Indicators:
1.Dennstaedtia punctilobula	95	✓	89.6%	UPL	Rapid Test for Hydrophytic Vegetation
2. Trientalis borealis	3		2.8%	FAC	Dominance Test is > 50% Prevalence Index is ≤3.0 ¹
3. Solidago canadensis	8		7.5%	FACU	Morphological Adaptations ¹ (Provide supporting
4	0		0.0%		data in Remarks or on a separate sheet)
5	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
<u>6</u>	0		0.0%		1
7	0		0.0%		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8 9.			0.0%		Definitions of Vegetation Strata:
10.			0.0%		-
11	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
12.	0	П	0.0%		at breast height (BBH), regardless of height.
		 = To	otal Cove		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size:)			otal covel		greater than 3.28 it (1111) tall
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
2	0		0.0%		size, and woody plants less than 3.28 ft tall.
3	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in
4		Ш	0.0%		height.
	:	= To	otal Cove	-	
					Hydrophytic
					Vegetation
					Present? Yes V NO V
Danisalis (Include abote acceptant	-4.)				
Remarks: (Include photo numbers here or on a separate she	el.)				

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an21 upland

Profile Desci	ription: (Des	scribe to	the depth	needed to document the indicator or confirm the	absence of indicators.)
Depth (inches)	. O-los (s	Matrix	_ 0,	Redox Features	- T Domonto
	Color (r		%	Color (moist) % Type 1 Loc²	Texture Remarks
0-4	10YR	3/2	100%		Fine Sandy Loam
4-9	10YR	4/6	100%		Fine Sandy Loam
			-		
				·	
		=Depletio	ın. RM=Rec	duced Matrix, CS=Covered or Coated Sand Grains ² Loca	<u> </u>
Hydric Soil					Indicators for Problematic Hydric Soils : 3
Histosol (Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	pedon (A2)			Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
Black His				Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
	Sulfide (A4)			Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L)
	Layers (A5)	/^	1	Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)
	Below Dark S		.11)	Redox Dark Surface (F6)	Thin Dark Surface (S9) (LRR K, L)
	rk Surface (A1	•		Depleted Dark Surface (F7)	Iron-Manganese Masses (F12) (LRR K, L, R)
	uck Mineral (S			Redox Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B)
	eyed Matrix (S	S4)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Stripped	Matrix (S6)				Red Parent Material (TF2)
	matrix (56) face (S7) (LRF	DD MIRA	\ 1/QR)		☐ Very Shallow Dark Surface (TF12)
					Other (Explain in Remarks)
³ Indicators o	f hydrophytic	vegetatio	n and wetla	and hydrology must be present, unless disturbed or probl	lematic.
Restrictive L	ayer (if obs	erved):			
Type:					
Depth (inc	ches):				Hydric Soil Present? Yes ○ No ●
Remarks:					



AN21 Wetland



AN21 Upland

Project/Site: Antrim Wind Project		City/County: Antrim		Sampling Date: 17-Aug-11
Applicant/Owner: Eolian Renewable Energy, L	LC	Sta	te: NH	Sampling Point: an22 wetland
Investigator(s): AF JG		Section, Township, Range:	S. T.	 R.
Landform (hillslope, terrace, etc.): Hillsid		Local relief (concave, convex, r		Slope: 5.0 % / 2.9 °
			-	
Subregion (LRR or MLRA):	Lat.:	Lonç		Datum:
Soil Map Unit Name:			NWI classific	eation: PSS
Are climatic/hydrologic conditions on the s	ite typical for this time of ye	ear? Yes No	(If no, explain in F	•
Are Vegetation , Soil , or H	ydrology 🗌 significantl	y disturbed? Are "Normal	Circumstances" pr	esent? Yes No
Are Vegetation , Soil , or H	ydrology naturally p	roblematic? (If needed,	explain any answer	rs in Remarks.)
Summary of Findings - Attach	site map showing s	ampling point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? Yes		Is the Sampled Area within a Wetland?	Yes No	
Wetland Hydrology Present? Yes	No			
Hydrology				
				() ()
Wetland Hydrology Indicators: Primary Indicators (minimum of one requ	ired: check all that annly)			s (minimum of 2 required)
Surface Water (A1)		uos (PO)	Surface Soil Cra Drainage Patter	
High Water Table (A2)	✓ Water-Stained Leav☐ Aquatic Fauna (B13	, ,	Moss Trim Line	
Saturation (A3)	Marl Deposits (B15)		Dry Season Wa	
Water Marks (B1)	Hydrogen Sulfide C		Crayfish Burrow	
Sediment Deposits (B2)		eres along Living Roots (C3)		le on Aerial Imagery (C9)
☐ Drift deposits (B3)	Presence of Reduce			ssed Plants (D1)
Algal Mat or Crust (B4)		tion in Tilled Soils (C6)	Geomorphic Po	sition (D2)
Iron Deposits (B5)	☐ Thin Muck Surface	(C7)	Shallow Aquitar	d (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in R	emarks)	Microtopograph	
Sparsely Vegetated Concave Surface (B8)			✓ FAC-neutral Tes	st (D5)
Field Observations:				
Curraco Trator Frocunti	Depth (inches):			
Water Table Present? Yes O No	Depth (inches):			Yes No
Saturation Present? (includes capillary fringe) Yes No	O Depth (inches):	Wetland Hydi	ology Present?	Yes S NO C
Describe Recorded Data (stream gauge, n	nonitoring well, aerial photo	s, previous inspections), if avai	able:	
Remarks:				

Dominant Sampling Point: an22 wetland Species? Absolute Rel.Strat. Indicator **Dominance Test worksheet:** Tree Stratum (Plot size: _____) Cover Status % Cover **Number of Dominant Species** 1. ____ 0 0.0% That are OBL, FACW, or FAC: (A) 2. 0 0.0% **Total Number of Dominant** 3. _____ 0 0.0% (B) Species Across All Strata: 4. 0 0.0% Percent of dominant Species 5. 0.0% 100.0% (A/B) That Are OBL, FACW, or FAC: 0.0% 6. 0 0 0.0% Prevalence Index worksheet: Total % Cover of: Multiply by: 0 = Total Cover Sapling/Shrub Stratum (Plot size: 15' OBL species x 1 = 8 1. Fraxinus pennsylvanica 10 20.8% FACW 110 FACW species x 2 =2. Acer rubrum 25 52.1% FAC 36 108 FAC species 3. Spiraea tomentosa 5 10.4% **FACW** 0 0 FACU species 4. Viburnum lentago 8 16.7% FAC 0 0 UPL species 5. 0 0.0% 99 (B) 226 Column Totals: (A) 6. 0 0.0% 7. 0 0.0% Prevalence Index = B/A = 2.283 = Total Cover 48 Herb Stratum (Plot size: 5') **Hydrophytic Vegetation Indicators:** Rapid Test for Hydrophytic Vegetation 1. Onoclea sensibilis 49.0% FACW 25 ✓ Dominance Test is > 50% 2.0smunda cinnamomea 15 29.4% FACW ✓ Prevalence Index is ≤3.0 ¹ 3.Carex crinita 8 15.7% OBL Morphological Adaptations 1 (Provide supporting 4. Equisetum arvense 3 5.9% FAC data in Remarks or on a separate sheet) 0 0.0% Problematic Hydrophytic Vegetation ¹ (Explain) 6. 0 0.0% 7. ¹ Indicators of hydric soil and wetland hydrology must 0 0.0% be present, unless disturbed or problematic. 8. 0 0.0% **Definitions of Vegetation Strata:** 9. 0 0.0% 10. 0 0.0% Tree - Woody plants, 3 in. (7.6 cm) or more in diameter 11. 0 0.0% at breast height (DBH), regardless of height. 12. 0 0.0% Sapling/shrub - Woody plants less than 3 in. DBH and 51 = Total Cover Woody Vine Stratum (Plot size: _____) greater than 3.28 ft (1m) tall... 0.0% Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. 0 0.0% 2.____ 0 0.0% Woody vine - All woody vines greater than 3.28 ft in 0 0.0% height. 0 = Total Cover Hydrophytic Vegetation No O Yes Present?

Remarks: (Include photo numbers here or on a separate sheet.)

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an22 wetland

Profile Desc Depth	ription: (Des	scribe to Matrix	the depth	needed to		t the indic		onfirm the	absence of indicators.)	
(inches)	Color (r		- %	Color (*uox reatu ************************************	Type 1	Loc2	- Texture	Remarks
0-8	10YR	3/2	100%						Loam	
8-15	2.5Y	4/2	90%	10YR	5/8	10%	С	M	Fine Sandy Loam	
						_			-	
									-	
									-	
						_			-	
¹ Type: C=Cor	ncentration. D	=Depletio	n. RM=Rec	luced Matrix,	CS=Cover	ed or Coate	ed Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=I	Matrix
Hydric Soil	Indicators:								Indicators for Prob	lematic Hydric Soils : 3
Histosol				Poly	value Belo	w Surface ((S8) (LRR F	₹,		(LRR K, L, MLRA 149B)
	ipedon (A2)				A 149B) Dark Surf	ace (S9) (L	DD D MIE	οΛ 1/OR\	_	ox (A16) (LRR K, L, R)
☐ Black His						Mineral (F1)			5 cm Mucky Peat	or Peat (S3) (LRR K, L, R)
	n Sulfide (A4) Layers (A5)					Matrix (F2)			Dark Surface (S7	
	Below Dark S	Surface (A	.11)		eted Matri					Surface (S8) (LRR K, L)
	rk Surface (A1		,	Redo	ox Dark Su	urface (F6)			Thin Dark Surface	e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
☐ Sandy M	uck Mineral (S	51)				Surface (F	7)		_	lain Soils (F19) (MLRA 149B)
	eyed Matrix (S	S4)		☐ Redo	x Depres	sions (F8)				6) (MLRA 144A, 145, 149B)
	edox (S5)								Red Parent Mater	
	Matrix (S6)		4.400)						Very Shallow Dar	
	face (S7) (LRF								Other (Explain in	Remarks)
³ Indicators of	of hydrophytic	vegetatio	n and wetla	and hydrology	must be	present, un	less disturb	ed or probl	lematic.	
Restrictive I	ayer (if obs	erved):								
Type: s	tony								Hydric Soil Present?	Yes ● No ○
Depth (inc	ches): 15								Hydric Soil Present?	Yes No
Remarks:										

Project/Site: Antrim Wind Project		City/County:	Antrim		Sampling Date: 17-Aug-11
Applicant/Owner: Eolian Renewable Ene	rgy, LLC		Stat	te: NH	Sampling Point: AN22 Upland
Investigator(s): AF JG		Section. 1	Township, Range:	S. T.	R.
Landform (hillslope, terrace, etc.): H	lillside		concave, convex, n		Slope: 12.0 % / 6.8 °
Subregion (LRR or MLRA):		Lat.:	Long	·	Datum:
				-	
Soil Map Unit Name:				NWI classif	ication:
Are climatic/hydrologic conditions on	the site typical for this	time of year? You	es No	(If no, explain in	•
Are Vegetation \square , Soil \square ,	or Hydrology	gnificantly disturbed?	Are "Normal	Circumstances" p	oresent? Yes No
Are Vegetation, Soil,	or Hydrology 🔲 na	aturally problematic?	(If needed, e	explain any answe	ers in Remarks.)
Summary of Findings - Atta	<u> </u>	wing sampling p	ooint location	s, transects,	important features, etc.
3 . 3 . 0	Yes O No O				
1	Yes O No O		ne Sampled Area nin a Wetland?	Yes \bigcirc No $lacktriangle$	
Wetland Hydrology Present?	Yes ○ No •				
llades la ma					
Hydrology					
Wetland Hydrology Indicators:	roquirod, abook all that	t annly)			ors (minimum of 2 required)
Primary Indicators (minimum of one Surface Water (A1)				Surface Soil Co	
High Water Table (A2)		tained Leaves (B9) Fauna (B13)		☐ Drainage Patte	
Saturation (A3)		posits (B15)			ater Table (C2)
Water Marks (B1)		en Sulfide Odor (C1)		Crayfish Burro	
Sediment Deposits (B2)		I Rhizospheres along Livin	ig Roots (C3)		ible on Aerial Imagery (C9)
☐ Drift deposits (B3)		e of Reduced Iron (C4)		Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)	Recent I	Iron Reduction in Tilled So	oils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)		ck Surface (C7)		Shallow Aquita	
Inundation Visible on Aerial Imagery		Explain in Remarks)		Microtopograp	
Sparsely Vegetated Concave Surface	(B8)			FAC-neutral To	est (D5)
Field Observations:					
Surface Water Present? Yes		(inches):	_		
Water Table Present? Yes	No O Depth	(inches):			Yes ○ No •
Saturation Present? (includes capillary fringe) Yes	No Oepth	(inches):	Wetland Hydr	ology Present?	Yes ○ NO ⑤
Describe Recorded Data (stream gau-	ge, monitoring well, aei	rial photos, previous ir	nspections), if avail	able:	
Remarks:					

VEGETATION - Use scientific names of p			minant cies?		Sampling Point: AN22 Upland
Tree Stratum (Plot size: 30')	Absolute % Cover	Rel	.Strat.	Indicator Status	Dominance Test worksheet:
1 _ Tsuga canadensis	20	~	33.3%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)
2. Betula papyrifera			16.7%	FACU	
3. Fagus grandifolia		✓	33.3%	FACU	Total Number of Dominant Species Across All Strata: 6 (B)
1. Acer rubrum	10		16.7%	FAC	Species Across Air Strata.
5.			0.0%		Percent of dominant Species
5			0.0%		That Are OBL, FACW, or FAC: 16.7% (A/B)
7.	0		0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')		= Tot	al Cove	r	Total % Cover of: Multiply by:
· · · · · · · · · · · · · · · · ·	25	✓	50.0%	FAC	0BL species 0 x 1 = 0
Betula alleghaniensis Acer pensylvanicum		<u> </u>			FACW species 0 x 2 = 0
2. Acer pensylvanicum 3. Fagus grandifolia			30.0%	FACU	FAC species45
		_	20.0%	FACU	FACU speci es 90 x 4 = 360
4	0	<u> </u>	0.0%		UPL species $\frac{66}{}$ x 5 = $\frac{330}{}$
5		Н-	0.0%		Column Totals: 201 (A) 825 (B)
5		<u> </u>	0.0%		
7		Ш_	0.0%		Prevalence Index = B/A = 4.104
Herb Stratum (Plot size: 5')	50	= Tot	al Cove	r	Hydrophytic Vegetation Indicators:
1.Trientalis borealis	10		11.0%	FAC	Rapid Test for Hydrophytic Vegetation
2. Dennstaedtia punctilobula	66		72.5%	UPL	☐ Dominance Test is > 50%
3. Aralia nudicaulis		_	16.5%	FACU	Prevalence Index is ≤3.0 ¹
4.	0		0.0%	TACO	☐ Morphological Adaptations ¹ (Provide supporting
5		Н-	0.0%		data in Remarks or on a separate sheet)
6	0	<u> </u>	0.0%		☐ Problematic Hydrophytic Vegetation ¹ (Explain)
7		H-	0.0%		¹ Indicators of hydric soil and wetland hydrology must
8.	0	H-	0.0%		be present, unless disturbed or problematic.
9.	0	<u> </u>	0.0%		Definitions of Vegetation Strata:
0.		H-	0.0%		
		Н-	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
2.		H-	0.0%		at bleast height (DBH), regardless of height.
·					Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:)	91	= 10t	al Cove	r	greater than 3.28 ft (1m) tall
 1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
2			0.0%		size, and woody plants less than 3.28 ft tall.
3			0.0%		Woody vine - All woody vines greater than 3.28 ft in
4			0.0%		height.
		– Tot =	al Cove	r	
				-	
					Hydrophytic
					Vegetation Present? Yes No •
					Liezelit: 100 0 110 0
					1

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN22 Upland

Depth (inches)		Matrix	_ % -		dox Features % Ty	pe 1 Loc²	Texture	Domorko
	Color (n			Color (moist)	- ⁷ 6 IY	pe Loc-		Remarks
0-9	10YR	3/2	100%				Loam	
9-13	2.5Y	5/3	100%				Very Fine Sandy Loan	<u> </u>
							_	
							_	<u> </u>
							_	
							_	
							_	
Type: C=Coi	ncentration. D	=Depletio	n. RM=Redu	uced Matrix, CS=Covere	ed or Coated Sar	nd Grains ² Lo	ocation: PL=Pore Lining. N	 ∕I=Matrix
Hydric Soil								oblematic Hydric Soils: 3
Histosol	(A1)			Polyvalue Belov	v Surface (S8) (LRR R,		
☐ Histic Ep	ipedon (A2)			MLRA 149B)				10) (LRR K, L, MLRA 149B) Redox (A16) (LRR K, L, R)
☐ Black His	tic (A3)				ace (S9) (LRR R			eat or Peat (S3) (LRR K, L, R)
Hydroge	n Sulfide (A4)				Mineral (F1) LRR	K, L)		(S7) (LRR K, L)
Stratified	Layers (A5)			Loamy Gleyed				w Surface (S8) (LRR K, L)
	Below Dark S		11)	Depleted Matrix				face (S9) (LRR K, L)
	rk Surface (A1	•		Redox Dark Su			☐ Iron-Mangane	se Masses (F12) (LRR K, L, R)
	uck Mineral (S			Redox Depress			Piedmont Floo	dplain Soils (F19) (MLRA 149B)
	eyed Matrix (S	64)		☐ Redox Depress	10113 (1 0)		Mesic Spodic ((TA6) (MLRA 144A, 145, 149B)
	edox (S5)						Red Parent Ma	nterial (TF2)
	Matrix (S6) face (S7) (LRR	D MID	\ 140P\					Dark Surface (TF12)
							Other (Explain	in Remarks)
³ Indicators of	of hydrophytic	vegetatio	n and wetla	nd hydrology must be p	resent, unless d	isturbed or pro	blematic.	
Restrictive I	ayer (if obse	erved):						
Type: _b	oulders							
Depth (in	ches): 13						Hydric Soil Presen	t? Yes O No 💿
Remarks:								



AN22 Wetland



AN22 Upland

Project/Site: Antrim Wind Project			City/Coun	nty: Antrim		Sampling Date: 17-Aug-11
Applicant/Owner: Eolian Renewable Ene	ergy, LLC			Sta	te: NH	Sampling Point: AN23 Wetland
Investigator(s): AF JG			Sectio	n, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.):			_	ef (concave, convex, r		Slope: 12.0 % / 6.8 °
_	illiside .	l at .	2004110110			
Subregion (LRR or MLRA):		Lat.:		Lonç	-	Datum:
Soil Map Unit Name:					NWI classifi	cation: PFO/PSS
Are climatic/hydrologic conditions on	the site typ	pical for this time of y	ear?	Yes ● No ○	(If no, explain in	·
Are Vegetation . , Soil .	or Hydrold	ogy 🗌 significant	ly disturbe	d? Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation, Soil,	or Hydrolo	ogy 🗌 naturally p	problemation	? (If needed,	explain any answe	ers in Remarks.)
Summary of Findings - Atta	ach site	map showing s	sampling	g point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present?		No O				
Hydric Soil Present?		No O		s the Sampled Area vithin a Wetland?	Yes No	
Wetland Hydrology Present?	Yes	No O				
Hydrology						
Wetland Hydrology Indicators:	roquirod	chack all that apply)				rs (minimum of 2 required)
Primary Indicators (minimum of one Surface Water (A1)	required, t		(DO)		Surface Soil Co	
High Water Table (A2)		✓ Water-Stained Lea✓ Aquatic Fauna (B1	, ,		☐ Drainage Patte	
Saturation (A3)		Marl Deposits (B15				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide (Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosph		iving Roots (C3)		ble on Aerial Imagery (C9)
☐ Drift deposits (B3)		Presence of Reduc	-	-		essed Plants (D1)
☐ Algal Mat or Crust (B4)		Recent Iron Reduc			Geomorphic P	osition (D2)
☐ Iron Deposits (B5)		☐ Thin Muck Surface	e (C7)		Shallow Aquita	ard (D3)
Inundation Visible on Aerial Imagery		Other (Explain in F	Remarks)		Microtopograp	
Sparsely Vegetated Concave Surface	(B8)				FAC-neutral Te	est (D5)
Field Observations:						
Surface Water Present? Yes	No 💿	Depth (inches):				
Water Table Present? Yes	No 💿	Depth (inches):				Yes ● No ○
Saturation Present? (includes capillary fringe) Yes	No O	Depth (inches):	0	Wetland Hydi	rology Present?	Yes ♥ NO ∪
Describe Recorded Data (stream gau	ge, monito	ring well, aerial photo	os, previou	s inspections), if avai	lable:	
Remarks:						

VEGETATION - Use scientific names of p			ominant pecies?		Sampling Point: AN23 Wetland
Tree Stratum (Plot size: 30')	Absolute % Cover	Re		Indicator Status	Dominance Test worksheet:
1 Fraxinus pennsylvanica	33	V	40.7%	FACW	Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)
2. Acer rubrum	22	~	40.7%	FAC	
3. Betula alleghaniensis	10		18.5%	FAC	Total Number of Dominant Species Across All Strata: 5 (B)
4.			0.0%		Species Across Air Strata.
5.	0		0.0%		Percent of dominant Species That Are ORL FACING or FAC: 100.0% (A/B)
6			0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
7	0		0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')		= To	otal Cove	r	Total % Cover of: Multiply by:
1 Fravinus poppaulyanias	8	V	28.6%	FACW	0BL species 5 x 1 = 5
Contract tomortons	15	✓	53.6%	FACW	FACW species 139 x 2 = 278
O Dinous standards			17.9%		FAC species
A			0.0%	FACU	FACU species5 x 4 =20
			0.0%		UPL species x 5 =
5 6			0.0%		Column Totals: 205 (A) 471 (B)
6			0.0%		
7			otal Cove		Prevalence Index = B/A = 2.298
Herb Stratum (Plot size: 5')	28	_ 10	otal cove	1	Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation
1. Onoclea sensibilis	75	✓	78.1%	FACW	✓ Dominance Test is > 50%
2. Osmunda cinnamomea	8		8.3%	FACW	
3. Equisetum arvense	8		8.3%	FAC	✓ Prevalence Index is ≤3.0 ¹
4.Carex lurida	5		5.2%	OBL	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
6.	0		0.0%		
7	0		0.0%		¹ Indicators of hydric soil and wetland hydrology must
8	0		0.0%		be present, unless disturbed or problematic.
9	0		0.0%		Definitions of Vegetation Strata:
10	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0		0.0%		at breast height (DBH), regardless of height.
12	0		0.0%		Cooling/should Mandy plants land than 3 in DDI and
Woody Vine Stratum (Plot size:)	96	= To	otal Cove	r	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
1	0	П	0.0%		Herb - All herbaceous (non-woody) plants, regardless o
			0.0%		size, and woody plants less than 3.28 ft tall.
2		\Box	0.0%		
3			0.0%		Woody vine - All woody vines greater than 3.28 ft in height.
4			otal Cove	-	Thoight.
		- 10	otal cove	1	
					Hydrophytic Vegetation Present? Yes No

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN23 Wetland

	ption: (Desc	ribe to t	he depth	needed to document the indicator or confirm the	absence of indicators.)	
Depth (inches)	Color (m	//atrix	- % -	Redox Features Color (moist) % Type 1 Loc²	Texture	Remarks
				Coloi (Moist) 26 Type Loc-		Remarks
0-7	10YR	3/2	100%		Loam	
7-15	2.5Y	4/1	100%		Sandy Loam	
					-	
					-	
_					-	
¹ Type: C=Cond	entration. D=	Depletion	n. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	ation: PL=Pore Lining. M=N	Matrix
Hydric Soil I	ndicators:				Indicators for Probl	lematic Hydric Soils : ³
Histosol (A	A1)			Polyvalue Below Surface (S8) (LRR R,	2 cm Muck (A10)	(LRR K, L, MLRA 149B)
Histic Epip				MLRA 149B)		ox (A16) (LRR K, L, R)
Black Histi				☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)		or Peat (S3) (LRR K, L, R)
	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)	Dark Surface (S7)	
_	ayers (A5)			Loamy Gleyed Matrix (F2) Depleted Matrix (F3)		Surface (S8) (LRR K, L)
_	Below Dark Su		1)	Redox Dark Surface (F6)	Thin Dark Surface	e (S9) (LRR K, L)
_	Surface (A12			Depleted Dark Surface (F7)	☐ Iron-Manganese N	Masses (F12) (LRR K, L, R)
	ck Mineral (S1)			Redox Depressions (F8)	Piedmont Floodpla	ain Soils (F19) (MLRA 149B)
	yed Matrix (S4	1)		☐ Redux Deplessions (10)	Mesic Spodic (TA	6) (MLRA 144A, 145, 149B)
Sandy Red					Red Parent Mater	ial (TF2)
Stripped N					Very Shallow Dark	k Surface (TF12)
☐ Dark Surfa	ice (S7) (LRR	R, MLRA	149B)		Other (Explain in	Remarks)
³ Indicators of	hydrophytic v	egetation	and wetla	nd hydrology must be present, unless disturbed or probl	ematic.	
Restrictive La	ver (if obser	rved):				
Type: sto	•					
Depth (inch					Hydric Soil Present?	Yes ● No ○
	100/1					
Remarks:						

Project/Site: Antrim Wind Project			City/County	y: Antrim		Sampling Date: 17-Aug-11
Applicant/Owner: Eolian Renewable En	ergy, LLC			Sta	te: NH	Sampling Point: an23 upland
Investigator(s): AF JG			Section	, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.):	 Hillside		_	(concave, convex, r		Slope: 15.0 % / 8.5 °
Subregion (LRR or MLRA):		Lat.:		Long		Datum:
Soil Map Unit Name:					NWI classif	ication:
Are climatic/hydrologic conditions on	the site ty	pical for this time of y	ear?	Yes ● No ○	(If no, explain in	*
Are Vegetation . , Soil .	, or Hydrold	ogy 🗌 significant	ly disturbed	? Are "Normal	Circumstances" p	oresent? Yes • No O
Are Vegetation . , Soil .	, or Hydrolo	ogy 🗌 naturally p	roblematic?	(If needed,	explain any answe	ers in Remarks.)
Summary of Findings - Att		<u> </u>	ampling	point location	ns, transects,	important features, etc.
Hydrophytic Vegetation Present?		No •				
Hydric Soil Present?	Yes 🔾	No •		the Sampled Area thin a Wetland?	Yes O No 🗨)
Wetland Hydrology Present?	Yes 🔾	No •				
I hadrada aya						
Hydrology						
Wetland Hydrology Indicators:		لا با سمع فحطف الحاد الحاد عام				ors (minimum of 2 required)
Primary Indicators (minimum of one Surface Water (A1)	requirea;		(DO)		Surface Soil C	
High Water Table (A2)		Water-Stained Lea Aquatic Fauna (B1			☐ Drainage Patte	
Saturation (A3)		Marl Deposits (B15				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide (Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosph	, ,	ing Roots (C3)		ible on Aerial Imagery (C9)
☐ Drift deposits (B3)		Presence of Reduc	-		Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc	tion in Tilled S	Soils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)		Thin Muck Surface	(C7)		Shallow Aquita	
Inundation Visible on Aerial Imagery		Other (Explain in F	Remarks)			phic Relief (D4)
Sparsely Vegetated Concave Surface	(88)				FAC-neutral T	est (D5)
Field Observations:						
Surface Water Present? Yes		Depth (inches):				
Water Table Present? Yes	No 💿	Depth (inches):			rology Present?	Yes ○ No •
Saturation Present? (includes capillary fringe) Yes		Depth (inches):				Tes O NO O
Describe Recorded Data (stream gau	uge, monito	oring well, aerial photo	os, previous	inspections), if avai	lable:	
Remarks:						

VEGETATION - Use scientific names of plants

				ominant pecies?		Sampling Point: an23 upland
Tre	e Stratum (Plot size: 30')	Absolute % Cover	R		Indicator Status	Dominance Test worksheet:
1.	Quercus rubra	25	V	29.4%	FACU-	Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
	Fagus grandifolia	25	V	29.4%	FACU	
	Betula alleghaniensis	25	V	29.4%	FAC	Total Number of Dominant Species Across All Strata: 6 (B)
-	Tsuga canadensis	10	\Box	11.8%	FACU	Species Across All Strata: 6 (B)
_			$\overline{\Box}$	0.0%		Percent of dominant Species
			\Box	0.0%		That Are OBL, FACW, or FAC: 33.3% (A/B)
		0	\Box	0.0%		Prevalence Index worksheet:
	oling/Shrub Stratum (Plot size: 15')		= To	otal Cove	r	Total % Cover of: Multiply by:
1	A a a mush muse	20	✓	50.0%	FAC	0BL speci es 0 x 1 = 0
	Diama atrachus	10	✓	25.0%	FACU	FACW species $0 \times 2 = 0$
	Facultura annual cana	5		12.5%	FACU	FAC species 50 x 3 = 150
	A			12.5%	FACU-	FACU species $\frac{113}{}$ x 4 = $\frac{452}{}$
_				0.0%	TACU-	UPL speci es3 x 5 =15
				0.0%		Column Totals: 166 (A) 617 (B)
0. 7						
١.			_	0.0%		Prevalence Index = B/A = 3.717
He	b Stratum (Plot size: 5')	40	= Te	otal Cove	r	Hydrophytic Vegetation Indicators:
1	Aralia nudicaulis	33	✓	80.5%	FACU	Rapid Test for Hydrophytic Vegetation
	Triantalla haraella	5		12.2%	FAC	☐ Dominance Test is > 50%
	Dalumanatum muhanana	3		7.3%	UPL	Prevalence Index is ≤3.0 ¹
4				0.0%	- OFL	☐ Morphological Adaptations ¹ (Provide supporting
5						data in Remarks or on a separate sheet)
6				0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
7				0.0%		¹ Indicators of hydric soil and wetland hydrology must
8				0.0%		be present, unless disturbed or problematic.
9				0.0%		Definitions of Vegetation Strata:
ี 10				0.0%		benintions of vegetation strata.
10 11				0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
		0		0.0%		at breast height (DBH), regardless of height.
12		0	Ш	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and
	ody Vine Stratum (Plot size:)	41	= To	otal Cove	r	greater than 3.28 ft (1m) tall
1.		0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
2.				0.0%		size, and woody plants less than 3.28 ft tall.
3.				0.0%		Woody vine - All woody vines greater than 3.28 ft in
4.		0	Ш	0.0%		height.
		0	= T	otal Cove	r	
						Hydrophytic Vegetation Present? Yes No No
Ren	narks: (Include photo numbers here or on a separate she	et.)				

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an23 upland

	iption: (Desc	cribe to	the depth	needed to document the indicator or confirm the	absence of indicators.)	
Depth (inches)	Color (m	Matrix	- %	Redox Features Color (moist) % Type 1 Loc²	Texture	Remarks
				Color (Holst) 26 Type Loc-		Remarks
0-9	10YR	3/2	100%		Loam	
9-12	10YR	4/3	100%		Fine Sandy Loam	
					-	
_						
¹ Type: C=Cond	centration. D=	Depletion	n. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	tion: PL=Pore Lining. M=N	Matrix
Hydric Soil I	ndicators:			_	Indicators for Probl	lematic Hydric Soils: ³
Histosol (A	A1)			Polyvalue Below Surface (S8) (LRR R,		(LRR K, L, MLRA 149B)
Histic Epip				MLRA 149B)		ox (A16) (LRR K, L, R)
Black Histi				☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)		or Peat (S3) (LRR K, L, R)
_	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)	Dark Surface (S7)	
	Layers (A5)			Loamy Gleyed Matrix (F2)		Surface (S8) (LRR K, L)
	Below Dark Su		l1)	Depleted Matrix (F3)	Thin Dark Surface	
	Surface (A12			Redox Dark Surface (F6)		Masses (F12) (LRR K, L, R)
	ck Mineral (S1			☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	Piedmont Floodpl	ain Soils (F19) (MLRA 149B)
	yed Matrix (S	4)		☐ Redox Depressions (F8)	Mesic Spodic (TA	6) (MLRA 144A, 145, 149B)
Sandy Red					Red Parent Mater	ial (TF2)
Stripped N					Very Shallow Darl	k Surface (TF12)
Dark Surfa	ace (S7) (LRR	R, MLRA	149B)		Other (Explain in	Remarks)
³ Indicators of	hydrophytic v	egetation	n and wetla	nd hydrology must be present, unless disturbed or proble	ematic.	
Restrictive La	aver (if ohse	rved).				
Type: Bo	-	. vou).				
Depth (inch					Hydric Soil Present?	Yes ○ No ●
•	103). 12					
Remarks:						



AN23 Upland



AN23 Wetland

Project/Site: Antrim Wind Project			City/County	: Antrim		Sampling Date: 18-Aug-11
Applicant/Owner: Eolian Renewable	Energy, LLC			Sta	te: NH	Sampling Point: AN24 wetland
Investigator(s): AF JG			Section.	Township, Range:	S. T.	
Landform (hillslope, terrace, etc.):	Terrace		_	(concave, convex, r		Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA):		Lat.:	,			Datum:
		Lat		Long		
Soil Map Unit Name:					NWI classifi	ication: PFO
Are climatic/hydrologic conditions	on the site ty	pical for this time of y	ear? Y	′es ● No ○	(If no, explain in	•
Are Vegetation \square , Soil \square	, or Hydrold	ogy 🗌 significant	ly disturbed?	Are "Normal	Circumstances" p	oresent? Yes No
Are Vegetation, Soil	, or Hydrold	ogy 🗌 naturally p	roblematic?	(If needed,	explain any answe	ers in Remarks.)
Summary of Findings - A	Attach site	map showing s	ampling	point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present?		No O				
Hydric Soil Present?	Yes	No O		he Sampled Area hin a Wetland?	Yes ● No ○)
Wetland Hydrology Present?	Yes 💿	No O				
Hydrology						
Hydrology						
Wetland Hydrology Indicators:	ono roquirod.	abaak all that annly)				ors (minimum of 2 required)
Primary Indicators (minimum of Surface Water (A1)	one required;		(20)		Surface Soil Cr	
High Water Table (A2)		✓ Water-Stained Lea☐ Aquatic Fauna (B1)			✓ Drainage Patte Moss Trim Line	
Saturation (A3)		Marl Deposits (B15				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide (Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosph		na Roots (C3)		ws (co) ible on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduc	-	ily Roots (CC)		essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc		oils (C6)	✓ Geomorphic P	` '
☐ Iron Deposits (B5)		Thin Muck Surface			Shallow Aquita	ard (D3)
Inundation Visible on Aerial Imag	jery (B7)	Other (Explain in R	` '		Microtopograp	phic Relief (D4)
Sparsely Vegetated Concave Surf	ace (B8)				FAC-neutral Te	est (D5)
Field Observations:						
Surface Water Present? Yes		Depth (inches):	2	_		
Water Table Present? Yes	O No 💿	Depth (inches):				v (a)
Saturation Present? (includes capillary fringe) Yes	● No ○	Depth (inches):	0	Wetland Hydi —	ology Present?	Yes ● No ○
Describe Recorded Data (stream	gauge, monito	ring well, aerial photo	os, previous i	nspections), if avai	able:	
Remarks:						
Sphagnum 50% cover.						

= To	76.7% 23.3% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FAC-	Number of Dominant Species That are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: G
= To	23.3% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FAC-FAC	That are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 35 x 2 = 70 FAC species 58 x 3 = 174 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 UPL species 0 x 5 = 0 Col umn Total s: 93 (A) 244 Prevalence Index = B/A = 2.624 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation ✓ Dominance Test is > 50%
= To	0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FAC-FAC	Total Number of Dominant Species Across All Strata: Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 35 x 2 = 70 FAC species 58 x 3 = 174 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 UPL species 0 x 5 = 0 Col umn Total s: 93 (A) 244 Prevalence Index = B/A = 2.624 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation ✓ Dominance Test is > 50%
✓✓<td>0.0% 0.0% 0.0% 0.0% 0.0% 66.7% 33.3% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.10% 0.0% 0.0%</td><td>FAC-FAC</td><td>Percent of dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 35 x 2 = 70 FAC species 0 x 4 = 0 UPL species 0 x 5 = 0 Col umn Total s: 93 (A) 244 Prevalence Index = B/A = 2.624 Hydrophytic Vegetation Rapid Test for Hydrophytic Vegetation Dominance Test is > 50%</td>	0.0% 0.0% 0.0% 0.0% 0.0% 66.7% 33.3% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.10% 0.0% 0.0%	FAC-FAC	Percent of dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 35 x 2 = 70 FAC species 0 x 4 = 0 UPL species 0 x 5 = 0 Col umn Total s: 93 (A) 244 Prevalence Index = B/A = 2.624 Hydrophytic Vegetation Rapid Test for Hydrophytic Vegetation Dominance Test is > 50%
✓✓<td>0.0% 0.0% 0.0% 0.0tal Cove 66.7% 33.3% 0.0% 0.0% 0.0% 0.0% 0.0% otal Cove 71.4%</td><td>FAC-FAC</td><td>Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 35 x 2 = 70 FACW species 58 x 3 = 174 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Col umn Total s: 93 (A) 244 Prevalence Index = B/A = 2.624 Hydrophytic Vegetation Rapid Test for Hydrophytic Vegetation Dominance Test is > 50%</td>	0.0% 0.0% 0.0% 0.0tal Cove 66.7% 33.3% 0.0% 0.0% 0.0% 0.0% 0.0% otal Cove 71.4%	FAC-FAC	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 35 x 2 = 70 FACW species 58 x 3 = 174 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Col umn Total s: 93 (A) 244 Prevalence Index = B/A = 2.624 Hydrophytic Vegetation Rapid Test for Hydrophytic Vegetation Dominance Test is > 50%
✓✓<td>0.0% 0.0% 0tal Cove 66.7% 33.3% 0.0% 0.0% 0.0% 0.0% 0.0% 0.14% 28.6%</td><td>FAC-FAC</td><td>That Are OBL, FACW, or FAC: 100.0% (a) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 35 x 2 = 70 FAC species 58 x 3 = 174 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Col umn Totals: 93 (A) 244 Prevalence Index = B/A = 2.624 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation ✓ Dominance Test is > 50%</td>	0.0% 0.0% 0tal Cove 66.7% 33.3% 0.0% 0.0% 0.0% 0.0% 0.0% 0.14% 28.6%	FAC-FAC	That Are OBL, FACW, or FAC: 100.0% (a) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 35 x 2 = 70 FAC species 58 x 3 = 174 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Col umn Totals: 93 (A) 244 Prevalence Index = B/A = 2.624 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation ✓ Dominance Test is > 50%
✓✓<td>0.0% otal Cove 66.7% 33.3% 0.0% 0.0% 0.0% 0.0% 0.0% 20.0% 11.4% 28.6%</td><td>FAC-FAC</td><td>Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 35 x 2 = 70 FAC species 58 x 3 = 174 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Col umn Total s: 93 (A) 244 Prevalence Index = B/A = 2.624 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50%</td>	0.0% otal Cove 66.7% 33.3% 0.0% 0.0% 0.0% 0.0% 0.0% 20.0% 11.4% 28.6%	FAC-FAC	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 35 x 2 = 70 FAC species 58 x 3 = 174 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Col umn Total s: 93 (A) 244 Prevalence Index = B/A = 2.624 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50%
✓✓<td>0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.1.4% 28.6%</td><td>FAC-FAC</td><td>Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 35 x 2 = 70 FAC species 58 x 3 = 174 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Col umn Total s: 93 (A) 244 Prevalence Index = B/A = 2.624 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation ✓ Dominance Test is > 50%</td>	0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.1.4% 28.6%	FAC-FAC	Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 35 x 2 = 70 FAC species 58 x 3 = 174 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Col umn Total s: 93 (A) 244 Prevalence Index = B/A = 2.624 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation ✓ Dominance Test is > 50%
✓✓<td>66.7% 33.3% 0.0% 0.0% 0.0% 0.0% 0.0% 0.10%</td><td>FAC-FAC</td><td>OBL species</td>	66.7% 33.3% 0.0% 0.0% 0.0% 0.0% 0.0% 0.10%	FAC-FAC	OBL species
У	33.3% 0.0% 0.0% 0.0% 0.0% 0.0% otal Cove 71.4% 28.6%	FAC	FACW species 35 x 2 = 70 FAC species 58 x 3 = 174 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Col umn Total s: 93 (A) 244 Prevalence Index = B/A = 2.624 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation ✓ Dominance Test is > 50%
У	33.3% 0.0% 0.0% 0.0% 0.0% 0.0% otal Cove 71.4% 28.6%	FAC	FAC species 58 x 3 = 174 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Col umn Total s: 93 (A) 244 Prevalence Index = B/A = 2.624 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50%
	0.0% 0.0% 0.0% 0.0% 0.0% otal Cove 71.4% 28.6%	FACW	FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Col umn Total s: 93 (A) 244 Prevalence Index = B/A = 2.624 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Jominance Test is > 50%
✓	0.0% 0.0% 0.0% 0.0% otal Cove 71.4% 28.6%	FACW	UPL species 0 x 5 = 0 Col umn Total s: 93 (A) 244 Prevalence Index = B/A = 2.624 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50%
✓	0.0% 0.0% 0.0% otal Cove 71.4% 28.6%	FACW	Prevalence Index = B/A = 2.624 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50%
✓	0.0% 0.0% otal Cove 71.4% 28.6%	FACW	Col umn Total s: 93 (A) 244 Prevalence Index = B/A = 2.624 Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ✓ Dominance Test is > 50%
✓	0.0% otal Cove 71.4% 28.6%	FACW	Prevalence Index = B/A = 2.624 Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50%
✓	71.4%	FACW	Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50%
_	28.6%		☐ Rapid Test for Hydrophytic Vegetation✓ Dominance Test is > 50%
_	28.6%		✓ Dominance Test is > 50%
		FACW	
			✓ Prevalence Index is ≤3.0 ¹
ш	0.0%		Morphological Adaptations ¹ (Provide support
	0.0%		data in Remarks or on a separate sheet)
	0.0%		Problematic Hydrophytic Vegetation ¹ (Explain
	0.0%		
	0.0%		¹ Indicators of hydric soil and wetland hydrology n be present, unless disturbed or problematic.
	0.0%		
	0.0%		Definitions of Vegetation Strata:
	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diam
	0.0%		at breast height (DBH), regardless of height.
	0.0%		Conline / shruth Woody plants loss than 2 in DDI I
= To	otal Cove	r	Sapling/shrub - Woody plants less than 3 in. DBH a greater than 3.28 ft (1m) tall
	0.0%		Herb - All herbaceous (non-woody) plants, regardle
	0.0%		size, and woody plants less than 3.28 ft tall.
	0.0%		Woody vine - All woody vines greater than 3.28 ft ir
	0.0%		height.
= To	otal Cove	·	
			Hydrophytic Vegetation Present? Yes ● No ○
		0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN24 wetland

	ription: (Des	scribe to	the depth	needed to document the indicator or confirm the	absence of indicators.)	
Depth (inches)	Color (ı	Matrix	_ %	Redox Features Color (moist) % Type 1 Loc²	Texture	Remarks
0-8	10YR	2/1	100%	Coloi (moist) 20 Type Luc-	Muck	sapri c
8-12	10YR	2/1	100%		Very Fine Sandy Loam	
¹ Type: C=Con	centration. D	=Depletion	n. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	tion: PL=Pore Lining. M=f	Matrix
Hydric Soil I	Indicators:				Indicators for Prob	lematic Hydric Soils : 3
Histosol ((A1)			Polyvalue Below Surface (S8) (LRR R,		(LRR K, L, MLRA 149B)
Histic Epi	pedon (A2)			MLRA 149B)		ox (A16) (LRR K, L, R)
Black Hist				☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)		or Peat (S3) (LRR K, L, R)
	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)Loamy Gleyed Matrix (F2)	Dark Surface (S7	
	Layers (A5)			Depleted Matrix (F3)	Polyvalue Below	Surface (S8) (LRR K, L)
	Below Dark S		11)	Redox Dark Surface (F6)	Thin Dark Surface	e (S9) (LRR K, L)
	k Surface (A1			Depleted Dark Surface (F7)		Masses (F12) (LRR K, L, R)
	uck Mineral (S eyed Matrix (S			Redox Depressions (F8)		ain Soils (F19) (MLRA 149B)
Sandy Re		34)				6) (MLRA 144A, 145, 149B)
	Matrix (S6)				Red Parent Mater	
	ace (S7) (LRF	R R. MLRA	149B)		Very Shallow Dar	
					Other (Explain in	Remarks)
			i and wella	and hydrology must be present, unless disturbed or proble	ematic.	
Restrictive L	•	erved):				
Type: Re					Hydric Soil Present?	Yes ● No ○
Depth (inc	hes): 12				Tryano com Fresent.	Tes C NO C
Remarks:						

Project/Site: Antrim Wind Project			City/Count	:y: Antrim		Sampling Date: 18-Aug-11
Applicant/Owner: Eolian Renewable Ene	rgy, LLC			Sta	te: NH	Sampling Point: AN24 Upland
Investigator(s): AF JG			Section	, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.):	lillside		-	f (concave, convex, r		
Subregion (LRR or MLRA):		Lat.:		Long	1.:	Datum:
					-	-
Soil Map Unit Name:					NWI classifi	cation:
Are climatic/hydrologic conditions on	the site typi	ical for this time of ye	ear?	Yes No	(If no, explain in	•
Are Vegetation, Soil,	or Hydrolog	gy 🗌 significant	ly disturbed	l? Are "Normal	Circumstances" p	resent? Yes • No C
Are Vegetation, Soil,	or Hydrolog	gy 🗌 naturally p	roblematic1	? (If needed,	explain any answe	ers in Remarks.)
Summary of Findings - Atta	ach site r	map showing s	ampling	point location	s, transects,	important features, etc.
		No •				
3		No •		the Sampled Area thin a Wetland?	Yes \bigcirc No $lacktriangle$	
Wetland Hydrology Present?	Yes O	No 💿				
I hadrala ma						
Hydrology						
Wetland Hydrology Indicators:	roquirod, al	hook all that anniv				rs (minimum of 2 required)
Primary Indicators (minimum of one Surface Water (A1)	required; cr		(20)		Surface Soil Cr	
High Water Table (A2)		Water-Stained Leave Aquatic Fauna (B13)			☐ Drainage Patte	
Saturation (A3)		Marl Deposits (B15				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide C			Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosphe		ving Roots (C3)		ble on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduc	-	o . ,	Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc	tion in Tilled	Soils (C6)	Geomorphic Po	osition (D2)
☐ Iron Deposits (B5)		☐ Thin Muck Surface	(C7)		Shallow Aquita	
Inundation Visible on Aerial Imagery (Other (Explain in R	emarks)		Microtopograp	
Sparsely Vegetated Concave Surface	(B8)				FAC-neutral Te	est (D5)
Field Observations:						
Surface Water Present? Yes	No 💿	Depth (inches):				
Water Table Present? Yes	No 💿	Depth (inches):				Yes ○ No •
Saturation Present? (includes capillary fringe) Yes	No •	Depth (inches):		Wetland Hydi	rology Present?	res ○ NO ⑤
Describe Recorded Data (stream gauge	ge, monitori	ing well, aerial photo	s, previous	inspections), if avai	lable:	
Remarks:						

VEGETATION - Use scientific names of p			minant ecies?		Sampling Point: AN24 Upland
Tree Stratum (Plot size: 30')	Absolute % Cover	Re		Indicator Status	Dominance Test worksheet:
1. Picea rubens	10		16.7%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
Tsuga canadensis	25	✓	41.7%	FACU	
Betula papyrifera	10		16.7%	FACU	Total Number of Dominant Species Across All Strata: 8 (B)
Quercus rubra	15	V	25.0%	FACU-	Species Across All Strata: 8 (B)
		\Box	0.0%		Percent of dominant Species
· ·			0.0%		That Are OBL, FACW, or FAC: 25.0% (A/B)
	0		0.0%		Prevalence Index worksheet:
		= Tc	tal Cove	r	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15')					0BL species 0 x 1 = 0
. Fagus grandifolia			20.0%	FACU	FACW species $0 \times 2 = 0$
Picea rubens			20.0%	FACU	FAC species 18 x 3 = 54
Hamamelis virginiana			20.0%	FAC-	FACU species 84 x 4 = 336
Viburnum lentago		✓.	40.0%	FAC	
j	0		0.0%		UPL Species X 5 =
5	0		0.0%		Column Totals: 107 (A) 415 (B)
7	0	Ш	0.0%		Prevalence Index = B/A = 3.879
lerb Stratum (Plot size: 5')	25	= To	tal Cove	r	Hydrophytic Vegetation Indicators:
1	0	~	07.407	FAOU	Rapid Test for Hydrophytic Vegetation
1.Aralia nudicaulis			36.4%	FACU	☐ Dominance Test is > 50%
2.Lycopodium obscurum	3		13.6%	FACU	Prevalence Index is ≤3.0 ¹
3. Pteridium aquilinum			13.6%	FACU	Morphological Adaptations ¹ (Provide supporting
4. Polygonatum pubescens			22.7%	UPL	data in Remarks or on a separate sheet)
5.Trientalis borealis	3		13.6%	FAC	☐ Problematic Hydrophytic Vegetation ¹ (Explain)
6	0	\square	0.0%		11
7			0.0%		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8		\square	0.0%		Definitions of Vegetation Strata:
9		\vdash	0.0%		Definitions of Vegetation Strata.
0	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
1	0		0.0%		at breast height (DBH), regardless of height.
2	0	Ш	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and
Noody Vine Stratum (Plot size:)	22	= Tc	tal Cove	r	greater than 3.28 ft (1m) tall
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless o
			0.0%		size, and woody plants less than 3.28 ft tall.
2			0.0%		
3 4			0.0%		Woody vine - All woody vines greater than 3.28 ft in height.
t					neight.
	0	= 10	tal Cove	ſ	
					Hydrophytic
					Vegetation Vac Na (8)
					Present? Yes UNO U

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN24 Upland

	iption: (Desc	ribe to	the depth	needed to document the indicator or confirm the	absence of indicators.)	
Depth (inches)	Color (m	/latrix	_ %	Redox Features Color (moist) % Type 1 Loc²	Texture	Remarks
0-4	10YR	3/2	100%	Color (moist) 78 Type Luc-	Loam	Remarks
					Fine Sandy Loam	
4-8	10YR	4/3	100%			
8-10	10YR	5/8	100%		Fine Sandy Loam	
					E	
1		D l - 4!	- DM DI	Matrix CC Coursed as Control Control Control Control		A_A_:
		Depletio	n. RIVI=Rea	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	ntion: PL=Pore Lining. M=N	2
Hydric Soil I				Polyvalue Below Surface (S8) (LRR R,		ematic Hydric Soils : 3
	edon (A2)			MLRA 149B)		(LRR K, L, MLRA 149B)
Black Histi				☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)		ox (A16) (LRR K, L, R)
	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)		or Peat (S3) (LRR K, L, R)
_	Layers (A5)			Loamy Gleyed Matrix (F2)	☐ Dark Surface (S7)	
	Below Dark Su	rface (A	11)	Depleted Matrix (F3)	·	Surface (S8) (LRR K, L)
_	Surface (A12)		,	Redox Dark Surface (F6)	Thin Dark Surface	
	ck Mineral (S1)			Depleted Dark Surface (F7)	_	Masses (F12) (LRR K, L, R)
	yed Matrix (S4			Redox Depressions (F8)		nin Soils (F19) (MLRA 149B)
Sandy Red		,				6) (MLRA 144A, 145, 149B)
Stripped N					Red Parent Mater	
	ace (S7) (LRR I	R, MLRA	149B)			
3Indicators of	hydrophytic y	anatatini	n and wetla	nd hydrology must be present, unless disturbed or proble		Nemarks)
			ii aliu wetia	The frydrology must be present, unless disturbed of proble	ematic.	
Restrictive La	•	ved):				
Type: Re					Hydric Soil Present?	Yes ○ No ●
Depth (inch	nes):				,	100 0 110 0
Remarks:						
i						
i						
•						



AN24 Wetland



AN24 Upland



AN24 Wetland

Project/Site: Antrim Wind Project	City/County:	Antrim	Sampling Date: 18-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		State: NH	Sampling Point: AN25 Wetland
Investigator(s): AF JG	Section. To	ownship, Range: S. T.	
Landform (hillslope, terrace, etc.): Terrace		oncave, convex, none): concave	Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA):	 Lat.:	Long.:	Datum:
			
Soil Map Unit Name:			fication: PFO
Are climatic/hydrologic conditions on the site ty	pical for this time of year? Ye	S No (If no, explain i	*
Are Vegetation \square , Soil \square , or Hydro	ogy significantly disturbed?	Are "Normal Circumstances"	present? Yes No
Are Vegetation, Soil, or Hydro	ogy naturally problematic?	(If needed, explain any answ	vers in Remarks.)
Summary of Findings - Attach site	e map showing sampling p	oint locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes	No O		
Hydric Soil Present? Yes Yes		Sampled Area a a Wetland? Yes • No	
Wetland Hydrology Present? Yes	No O		
Llydrology			
Hydrology			
Wetland Hydrology Indicators:	shock all that apply)		tors (minimum of 2 required)
Primary Indicators (minimum of one required; Surface Water (A1)		Surface Soil	
High Water Table (A2)	✓ Water-Stained Leaves (B9) Aquatic Fauna (B13)	☐ Drainage Pat☐ Moss Trim Li	
Saturation (A3)	Marl Deposits (B15)		Vater Table (C2)
✓ Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burr	
Sediment Deposits (B2)	Oxidized Rhizospheres along Living		sible on Aerial Imagery (C9)
☐ Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or S	tressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil	s (C6) Geomorphic	Position (D2)
Iron Deposits (B5)	☐ Thin Muck Surface (C7)	Shallow Aqui	* *
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopogra	•
Sparsely Vegetated Concave Surface (B8)		FAC-neutral	Test (D5)
Field Observations:			
Surface Water Present? Yes • No •	Depth (inches): 6		
Water Table Present? Yes No •	Depth (inches):	Wetland Hydrology Present?	Yes ● No ○
Saturation Present? (includes capillary fringe) Yes No	Depth (inches): 0	wettand Hydrology Present?	
Describe Recorded Data (stream gauge, monit	oring well, aerial photos, previous ins	pections), if available:	
Remarks:			
Contained up to 2 feet of standing water in Ma	y.		

VEGETATION - Use scientific names of pl	arits		ominant oecies?		Sampling Point: AN25 Wetland	
Tree Stratum (Plot size: 30')	Absolute % Cover			Indicator Status	Dominance Test worksheet:	
1. Acer rubrum			100.0%		Number of Dominant Species That are OBL, FACW, or FAC: 5	(A)
2.		$\overline{\Box}$	0.0%		That are obl., thow, or tho.	(1)
3.	0	\Box	0.0%		Total Number of Dominant Species Across All Strata: 5	(D)
i.		\Box	0.0%		Species Across All Strata: 5	(B)
 		\Box	0.0%		Percent of dominant Species	
5.	0		0.0%		That Are OBL, FACW, or FAC: 100.0%	(A/B)
7			0.0%		Prevalence Index worksheet:	
		= To	otal Cove		Total % Cover of: Multiply by:	
Sapling/Shrub Stratum (Plot size: 15')					0BL speci es 5 x 1 = 5	
. Ilex verticillata	3	✓	100.0%	FACW+	FACW species 21 x 2 = 42	
2	0		0.0%		FAC speci es 50 x 3 = 150	
3	0		0.0%		FACU species 0 x 4 = 0	
1	0		0.0%			
5	0		0.0%		ore species x 5 =	(B)
5	0		0.0%		Column Totals:	(6)
7		Ш	0.0%		Prevalence Index = B/A = 2.592	
Herb Stratum (Plot size: 5')	3	= To	otal Cove	-	Hydrophytic Vegetation Indicators:	
1	5	✓	21.7%	OBL	Rapid Test for Hydrophytic Vegetation	
2.Scirpus cyperinus			43.5%	FACW+	✓ Dominance Test is > 50%	
3.0smunda cinnamomea				FACW+	✓ Prevalence Index is ≤3.0 ¹	
4. Carex Intumescens			13.0%	FACW+	☐ Morphological Adaptations ¹ (Provide support	ting
5.	0		0.0%	TACVV	data in Remarks or on a separate sheet)	
6.	0	П	0.0%		Problematic Hydrophytic Vegetation ¹ (Explai	in)
7.	0	П	0.0%		1 Indicators of hydric soil and wetland hydrology	must
8.		П	0.0%		be present, unless disturbed or problematic.	
9.		П	0.0%		Definitions of Vegetation Strata:	
0.		П	0.0%			
<u> </u>		П	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diar at breast height (DBH), regardless of height.	nete
2.	0	\Box	0.0%			
		 = To	otal Cove		Sapling/shrub - Woody plants less than 3 in. DBH	and
Woody Vine Stratum (Plot size:)					greater than 3.28 ft (1m) tall	
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardle	ess c
2	0		0.0%		size, and woody plants less than 3.28 ft tall.	
3			0.0%		Woody vine - All woody vines greater than 3.28 ft i	in
4	0		0.0%		height.	
	0 :	= To	otal Cove	=		
					Hydrophytic Vegetation Present? Yes No	

Remarks: (Include photo numbers here or on a separate sheet.)

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN25 Wetland

	ription: (Des	scribe to	the depth	needed to d	ocument	the indic	ator or c	onfirm the	absence of indicators.)	
Depth (inches)	. Color (i	Matrix	_ %	_ Color (n		dox Featu %		Loc²	Texture	Remarks
0-8	10YR	2/1		Coloi (ii	ioist)		- Type		Muck	Remarks
			700/	10)/5	= //	050/				
8-16	2.5Y	5/1	70%	10YR	5/6	25%	C		Fine Loamy Sand	
				2.5Y	6/1	5%	D	M		
									-	
									-	
¹ Type: C=Con	ncentration. D	=Depletion	n. RM=Red	uced Matrix, C	S=Covere	ed or Coate	ed Sand G	ains ² Loca	ation: PL=Pore Lining. M=N	Лatrix
Hydric Soil I	Indicators:								Indicators for Probl	lematic Hydric Soils : 3
Histosol ((A1)					v Surface ((S8) (LRR	R,		(LRR K, L, MLRA 149B)
Histic Epi	pedon (A2)				. 149B)	(CO) (I	DD D MI	DA 140D)		ox (A16) (LRR K, L, R)
Black Hist						nce (S9) (I				or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)					Aineral (F1 Matrix (F2))	Dark Surface (S7)	
	Layers (A5)				ted Matrix		'		Polyvalue Below S	Surface (S8) (LRR K, L)
	Below Dark S		11)		k Dark Sui				Thin Dark Surface	e (S9) (LRR K, L)
	rk Surface (A					Surface (F	7)		_	Masses (F12) (LRR K, L, R)
	uck Mineral (S eyed Matrix (S				x Depress		,			ain Soils (F19) (MLRA 149B)
Sandy Re		34)								6) (MLRA 144A, 145, 149B)
	Matrix (S6)								Red Parent Mater	
	face (S7) (LRI	R R, MLRA	149B)							
³ Indicators o				nd budrologu	must be n	rocont un	loce dictur	had ar prabl		Remarks)
			ii aliu wetia	na nyarology	must be p	resent, un	iess distui	bed of probl	erriatic.	
Restrictive L	ayer (if obs	erved):								
Type:	haa).								Hydric Soil Present?	Yes ● No ○
Depth (inc	:nes):									100 - 110 -
Remarks:										

Project/Site: Antrim Wind Project	City/County	: Antrim		Sampling Date: 18-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH	Sampling Point: AN25 upland
Investigator(s): AF JG	Section.	Township, Range:	S. T.	 R.
Landform (hillslope, terrace, etc.): Undulating		(concave, convex, n		Slope: 20.0 % / 11.3 °
Subregion (LRR or MLRA):	Lat.:	Long	 I.:	Datum:
Soil Map Unit Name:			NWI classif	ication:
		res ● No ○	_	
Are climatic/hydrologic conditions on the site ty			(If no, explain in	
Are Vegetation , Soil , or Hydrol	ogy	? Are "Normal	Circumstances" p	present? Yes S NO C
Are Vegetation , Soil , or Hydrol	ogy naturally problematic?	(If needed, e	explain any answe	ers in Remarks.)
Summary of Findings - Attach site		point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes	No •	h - Cll		
Hydric Soil Present? Yes	NO S wit	he Sampled Area hin a Wetland?	Yes O No 🗨)
Wetland Hydrology Present? Yes	No •			
Remarks: (Explain alternative procedures here	or in a separate report.)			
ATV trail nearby				
Hydrology				
Wetland Hydrology Indicators:			Secondary Indicato	ors (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)		Surface Soil C	racks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)		Drainage Patte	erns (B10)
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lin	es (B16)
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burro	ws (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Livi	ng Roots (C3)	Saturation Vis	ible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)		Stunted or Str	ressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled S	oils (C6)	Geomorphic P	osition (D2)
Iron Deposits (B5)	☐ Thin Muck Surface (C7)		Shallow Aquita	ard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		Microtopograp	phic Relief (D4)
Sparsely Vegetated Concave Surface (B8)			FAC-neutral T	est (D5)
Field Observations				
Field Observations: Surface Water Present? Yes No No	Depth (inches):			
Water Table Present? Yes No •	Depth (inches):			
		Wetland Hydr	ology Present?	Yes ○ No •
(includes capillary fringe) Yes V No S	Depth (inches):			
Describe Recorded Data (stream gauge, monitor	oring well, aerial photos, previous i	nspections), if avail	able:	
Remarks:				
Remarks:				

/EGETATION - Use scientific names of p			minant ecies?		Sampling Point: AN25 upland
Tree Stratum (Plot size: 30')	Absolute % Cover	Re		Indicator Status	Dominance Test worksheet:
					Number of Dominant Species
Picea rubens	25		14.2%	FACU	That are OBL, FACW, or FAC: 0 (A)
Tsuga canadensis		▼ ,	23.6%	FACU	Total Number of Dominant
Quercus rubra			62.3%	FACU-	Species Across All Strata: 7 (B)
•		Η.	0.0%		Percent of dominant Species
•		Η.	0.0%		That Are OBL, FACW, or FAC: 0.0% (A/B)
		Η.	0.0%		Describer of Index wordshoot
		<u> </u>			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')	106	= 10	tal Cove	r	Total % Cover of: Multiply by: OBL species 0 x 1 = 0
. Picea rubens	10	V	33.3%	FACU	
. Fagus grandifolia	15	✓	50.0%	FACU	x
Tsuga canadensis	5		16.7%	FACU	FAC species $\frac{15}{216}$ x 3 = $\frac{45}{200}$
	0		0.0%		FACU species $\frac{216}{10}$ x 4 = $\frac{864}{10}$
	0		0.0%		UPL species $\frac{10}{}$ x 5 = $\frac{50}{}$
	0		0.0%		Column Totals: 241 (A) 959 (B)
· ·	0		0.0%		Prevalence Index = B/A = 3.979
		= To	tal Cove	r	Hydrophytic Vegetation Indicators:
derb Stratum (Plot size: 5')					Rapid Test for Hydrophytic Vegetation
1 .Malanthemum canadense	10		9.5%	FAC-	Dominance Test is > 50%
2.Pteridium aquilinum	50	lacksquare	47.6%	FACU	Prevalence Index is ≤3.0 ¹
3. Medeola virginiana	5		4.8%	UPL	Morphological Adaptations ¹ (Provide supporting
4.Gaultheria procumbens	15	✓.	14.3%	FACU	data in Remarks or on a separate sheet)
5.Polygonatum pubescens	5	\square	4.8%	UPL	Problematic Hydrophytic Vegetation ¹ (Explain)
6.Cornus canadensis	5	\sqsubseteq	4.8%	FAC-	
7. Aralia nudicaulis	15	✓.	14.3%	FACU	¹ Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic.
8		\sqsubseteq	0.0%		
9		\sqsubseteq	0.0%		Definitions of Vegetation Strata:
0		Ц.	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
1		\sqsubseteq	0.0%		at breast height (DBH), regardless of height.
2		Ш,	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and
Noody Vine Stratum (Plot size:)	105	= To	tal Cove	r	greater than 3.28 ft (1m) tall
	0		0.0%		Harb All barbassaus (non woody) plants, regardless
1			0.0%		Herb - All herbaceous (non-woody) plants, regardless size, and woody plants less than 3.28 ft tall.
2 3		Η.	0.0%		
		\Box	0.0%		Woody vine - All woody vines greater than 3.28 ft in height.
4					neight.
	0	- 10	tal Cove	1	
					Hydrophytic
					Vegetation
					Present? Yes V NO V

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN25 upland

Profile Desci	ription: (Desc	ribe to t	the depth	needed to document the indicator or confirm the	absence of indicators.)	
Depth (inches)		latrix	_ ~	Redox Features	- -	5
	Color (mo	•	%	Color (moist) % Type 1 Loc²	Texture	Remarks
0-5	10YR	2/1	100%		Loam	
5-6	2.5Y	5/1	100%		Fine Loamy Sand	
6-16	5YR	4/4	100%		Sandy Loam	
					-	
					-	
1 Type: C. Con	ocentration D. I	Conlotion	n DM Doo	luced Matrix, CS=Covered or Coated Sand Grains ² Loca	ntion: DL Poro Lining M M	latriv
, , , , , , , , , , , , , , , , , , ,		Jepietioi	ii. Rivi=Rec	diced Matrix, C3=Covered of Coated Sand Grains -Loca		
Hydric Soil				Polyvalue Below Surface (S8) (LRR R,	Indicators for Problem	ematic Hydric Soils: 3
	pedon (A2)			MLRA 149B)		(LRR K, L, MLRA 149B)
Black His				☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)		ox (A16) (LRR K, L, R)
	n Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)		or Peat (S3) (LRR K, L, R)
	Layers (A5)			Loamy Gleyed Matrix (F2)	Dark Surface (S7)	
	Below Dark Sui	rface (A1	11)	☐ Depleted Matrix (F3)		urface (S8) (LRR K, L)
	rk Surface (A12)		•	Redox Dark Surface (F6)	Thin Dark Surface	
Sandy Mu	uck Mineral (S1))		Depleted Dark Surface (F7)		Masses (F12) (LRR K, L, R) ain Soils (F19) (MLRA 149B)
	eyed Matrix (S4			Redox Depressions (F8)		o) (MLRA 144A, 145, 149B)
Sandy Re	edox (S5)				Red Parent Materi	
Stripped	Matrix (S6)				Very Shallow Dark	
☐ Dark Surf	face (S7) (LRR I	R, MLRA	149B)		Other (Explain in I	
³ Indicators o	f hydrophytic ve	egetation	n and wetla	and hydrology must be present, unless disturbed or probl		
	ayer (if obser					
Type:	ayer (ii obser	vcu).				
Depth (inc	:hes)·				Hydric Soil Present?	Yes O No 🗨
Remarks:						
Spodosol						
Spodosoi						



AN25 Wetland



AN25 Upland

Project/Site: Antrim Wind Project		City/County: Antrim		Sampling Date: 18-Aug-11
Applicant/Owner: Eolian Renewable Energ	gy, LLC	Sta	te: NH	Sampling Point: AN26 Wetland
Investigator(s): AF JG		Section, Township, Range:	S. T.	 R.
Landform (hillslope, terrace, etc.): Va	alley bottom	Local relief (concave, convex, r		Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA):	Lat.:	Long		Datum:
			-	
Soil Map Unit Name:			NWI classific	PFO PFO
Are climatic/hydrologic conditions on the	he site typical for this time of y	rear? Yes No	(If no, explain in I	•
Are Vegetation . , Soil . , , c	or Hydrology $\ \square$ significant	tly disturbed? Are "Normal	Circumstances" pr	esent? Yes No
Are Vegetation . , Soil . , , o	or Hydrology 🗌 naturally p	problematic? (If needed,	explain any answei	rs in Remarks.)
Summary of Findings - Attac	ch site map showing s	sampling point location	s, transects,	important features, etc.
J. 1 J	Yes No			
3	Yes No	Is the Sampled Area within a Wetland?	Yes No	
Wetland Hydrology Present?	Yes ● No ○			
Hydrology				
Hydrology				
Wetland Hydrology Indicators:	required, check all that apply)			s (minimum of 2 required)
Primary Indicators (minimum of one research) Surface Water (A1)		(DO)	Surface Soil Cra Drainage Patter	
High Water Table (A2)	✓ Water-Stained Lea☐ Aquatic Fauna (B1	, ,	Moss Trim Line	
Saturation (A3)	Marl Deposits (B15		Dry Season Wa	
Water Marks (B1)	Hydrogen Sulfide		Crayfish Burrov	
Sediment Deposits (B2)		eres along Living Roots (C3)		le on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduc	ced Iron (C4)	Stunted or Stre	ssed Plants (D1)
☐ Algal Mat or Crust (B4)	Recent Iron Reduc	ction in Tilled Soils (C6)	Geomorphic Po	sition (D2)
☐ Iron Deposits (B5)	☐ Thin Muck Surface	e (C7)	Shallow Aquitar	
Inundation Visible on Aerial Imagery (B	U Otrici (Explain in i	Remarks)	Microtopograph	
Sparsely Vegetated Concave Surface (E	38)		✓ FAC-neutral Te	st (D5)
Field Observations:				
Surface Water Present? Yes O	No O Depth (inches):	2		
Water Table Present? Yes	No Depth (inches):	Wotland Hyd	rology Present?	Yes ● No ○
Saturation Present? (includes capillary fringe) Yes	No Depth (inches):	0	ology Present?	1e3 C 140 C
Describe Recorded Data (stream gaug	e, monitoring well, aerial photo	os, previous inspections), if avai	lable:	
Remarks:				

VEGETATION - Use scientific names of p	idiiio		ominant ecies?		Sampling Point: AN26 Wetland
Tree Stratum (Plot size: 30')	Absolute % Cover	Re		Indicator Status	
1 _ Acer rubrum	20	V	57.1%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: 7 (A)
2. Betula alleghaniensis	45	v	42.9%	FAC	
3.			0.0%		Total Number of Dominant Species Across All Strata: 7 (B)
	0		0.0%		Species Across All Strata.
5.	0		0.0%		Percent of dominant Species
5.			0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
	0		0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')		= To	otal Cove	r	Total % Cover of: Multiply by:
Fravinus pappaulyanias	5	V	25.0%	FACW	0BL species 3 x 1 = 3
) Annu muhanum			50.0%	FAC	FACW species $48 \times 2 = 96$
Diese meriene			25.0%	FACW-	FAC species $\underline{60}$ x 3 = $\underline{180}$
. Picea manana			0.0%	171011	FACU species $0 \times 4 = 0$
·. 			0.0%		UPL species $0 \times 5 = 0$
S			0.0%		Column Totals: 111 (A) 279 (B)
7.	0		0.0%		Prevalence Index = B/A = 2.514
Herb Stratum (Plot size: 5')		= To	otal Cove	r	Hydrophytic Vegetation Indicators:
	_				Rapid Test for Hydrophytic Vegetation
1. Onoclea sensibilis			14.3%	FACW	✓ Dominance Test is > 50%
2.0smunda claytoniana			26.8%	FAC	✓ Prevalence Index is ≤3.0 ¹
3. Osmunda regalis			5.4%	OBL	Morphological Adaptations ¹ (Provide supporting
4. Impatiens capensis			35.7%	FACW	data in Remarks or on a separate sheet)
5. Coptis trifolia			17.9%	FACW	☐ Problematic Hydrophytic Vegetation ¹ (Explain)
6 7.	0		0.0%		¹ Indicators of hydric soil and wetland hydrology must
0			0.0%		be present, unless disturbed or problematic.
9.			0.0%		Definitions of Vegetation Strata:
0.			0.0%		
1.			0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diamete at breast height (DBH), regardless of height.
12.	0		0.0%		at bleast height (DBH), regardless of height.
	0	 = To	otal Cove	r	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size:)	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
1			0.0%		size, and woody plants less than 3.28 ft tall.
2		П	0.0%		
3 4			0.0%		Woody vine - All woody vines greater than 3.28 ft in height.
4		 _ To	otal Cove		Theight.
		_ 10	nai cove		
					Hydrophytic
					Vegetation Present? Yes No No

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN26 Wetland

Profile Desc Depth	•	be to the depth atrix	needed to document the indicator or confirm the Redox Features	absence of indicators	s.)
(inches)	Color (moi		Color (moist) % Type 1 Loc2	Texture	Remarks
0-8		2/1 100%		Muck	saprı c
8-9	2.5Y	6/1 100%		Loamy Sand	
					<u> </u>
				<u> </u>	<u> </u>
¹ Type: C=Cor	ncentration. D=De	epletion. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loc	ation: PL=Pore Lining.	M=Matrix
Hydric Soil	Indicators:			Indicators for P	roblematic Hydric Soils : 3
Histosol	(A1)		Polyvalue Below Surface (S8) (LRR R,		10) (LRR K, L, MLRA 149B)
	ipedon (A2)		MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B)		Redox (A16) (LRR K, L, R)
☐ Black His			Loamy Mucky Mineral (F1) LRR K, INLRA 1498)		Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)		Loamy Gleyed Matrix (F2)	☐ Dark Surface	(S7) (LRR K, L)
	Layers (A5)	(111)	Depleted Matrix (F3)		ow Surface (S8) (LRR K, L)
	l Below Dark Surfa rk Surface (A12)	ace (ATT)	Redox Dark Surface (F6)		face (S9) (LRR K, L)
_	uck Mineral (S1)		Depleted Dark Surface (F7)	_	ese Masses (F12) (LRR K, L, R)
	leyed Matrix (S4)		Redox Depressions (F8)		odplain Soils (F19) (MLRA 149B)
	edox (S5)				(TA6) (MLRA 144A, 145, 149B)
	Matrix (S6)			Red Parent M	ateriai (1F2) Dark Surface (TF12)
	face (S7) (LRR R,	MLRA 149B)		Other (Explain	
³ Indicators of	of hydrophytic vec	netation and wetla	and hydrology must be present, unless disturbed or prob		THI Kemarksy
Type: s	_ayer (if observ	ea):			
Depth (in				Hydric Soil Preser	nt? Yes No
	LI 163). <u>7</u>				
Remarks:					

Project/Site: Antrim Wind Project			City/County	: Antrim		Sampling Date: 18-Aug-11
Applicant/Owner: Eolian Renewable E	nergy, LLC			Sta	te: NH	Sampling Point: AN26 upland
Investigator(s): AF JG			Section.	Township, Range:	S. T.	
Landform (hillslope, terrace, etc.):	Toeslope		-	(concave, convex, r		Slope: 15.0 % / 8.5 °
Subregion (LRR or MLRA):	·	Lat.:		Long	1.:	Datum:
					NWI classif	
Soil Map Unit Name:					— INVVI CIASSIII	
Are climatic/hydrologic conditions o	n the site ty	pical for this time of ye	ear? Y	'es ● No ○	(If no, explain in	•
Are Vegetation, Soil	, or Hydrolo	ogy Significant	ly disturbed?	Are "Normal	Circumstances" p	oresent? Yes No
Are Vegetation, Soil	, or Hydrold	ogy 🗌 naturally p	roblematic?	(If needed,	explain any answe	ers in Remarks.)
Summary of Findings - At			ampling	point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present?	Yes 🔾	No •				
Hydric Soil Present?	Yes 🔾	No •		he Sampled Area nin a Wetland?	Yes \bigcirc No $lacktriangle$)
Wetland Hydrology Present?	Yes 🔾	No •				
I hadrada ma						
Hydrology						
Wetland Hydrology Indicators:	o roquirod.	abaak all that annly)				ors (minimum of 2 required)
Primary Indicators (minimum of or Surface Water (A1)	e requireu;		(DO)		Surface Soil Co	
High Water Table (A2)		Water-Stained Lea Aquatic Fauna (B1)			☐ Drainage Patte	
Saturation (A3)		Marl Deposits (B15				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide (Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosphe		ng Roots (C3)		ible on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduc	ed Iron (C4)		Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc	tion in Tilled S	oils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)		Thin Muck Surface	(C7)		Shallow Aquita	
Inundation Visible on Aerial ImagerSparsely Vegetated Concave Surface		Other (Explain in R	emarks)		Microtopograp	
Sparsely vegetated concave surface	e (B8)				FAC-neutral To	est (D5)
Field Observations:						
Surface Water Present? Yes		Depth (inches):	-	_		
Water Table Present? Yes	No 💿	Depth (inches):				Yes ○ No •
Saturation Present? (includes capillary fringe) Yes	No 💿	Depth (inches):		wetiand Hydi	rology Present?	res Unu U
Describe Recorded Data (stream ga	iuge, monito	oring well, aerial photo	s, previous i	nspections), if avai	lable:	
Remarks:						

VEGETATION - Use scientific names of p			ominant pecies?		Sampling Point: AN26 upland
Tree Stratum (Plot size: 30')	Absolute % Cover	Re	el.Strat.	Indicator Status	Dominance Test worksheet:
Fogus grandifalla			16.7%		Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)
Dioce ruhana		✓	55.6%	FACU FACU	That are OBL, FACW, or FAC: 0 (A)
					Total Number of Dominant
Betula papyrifera			16.7%	FACU	Species Across All Strata: 4 (B)
Betula alleghaniensis			11.1%	FAC	Percent of dominant Species
			0.0%		That Are OBL, FACW, or FAC: 0.0% (A/B)
)					
		Ш	0.0%		Prevalence Index worksheet:
apling/Shrub Stratum (Plot size: 15')	90	= To	otal Cove	r	Total % Cover of: Multiply by:
. Fagus grandifolia	10	V	23.3%	FACU	0BL species 0 x 1 = 0
. Acer pensylvanicum		V	76.7%	FACU	FACW species $0 \times 2 = 0$
			0.0%		FAC species $\frac{14}{1100}$ x 3 = $\frac{42}{1100}$
•			0.0%		FACU speci es x 4 =
•			0.0%		UPL species $\frac{5}{}$ x 5 = $\frac{25}{}$
	0	\Box	0.0%		Column Totals: 162 (A) 639 (B)
	0		0.0%		Prevalence Index = $B/A = 3.944$
lerb Stratum (Plot size: 5')		= To	otal Cove	r	Hydrophytic Vegetation Indicators:
					Rapid Test for Hydrophytic Vegetation
1.Aralia nudicaulis		\	69.0%	FACU	☐ Dominance Test is > 50%
2.Maianthemum canadense	3		10.3%	FAC-	Prevalence Index is ≤3.0 ¹
3. Trientalis borealis	1	Ш	3.4%	FAC	☐ Morphological Adaptations ¹ (Provide supporting
4. Polygonatum pubescens	5	Ц	17.2%	UPL	data in Remarks or on a separate sheet)
5	0	Ц	0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
<u>6</u>	0	Ц	0.0%		
7	0	Ц	0.0%		¹ Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic.
8	0	Ц	0.0%		
9	0		0.0%		Definitions of Vegetation Strata:
0	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
1	0		0.0%		at breast height (DBH), regardless of height.
2	0		0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and
Noody Vine Stratum (Plot size:)	29	= To	otal Cove	r	greater than 3.28 ft (1m) tall
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless
2			0.0%		size, and woody plants less than 3.28 ft tall.
3		$\overline{\Box}$	0.0%		West and the Allerman desired and the account of the second section of the section of the second section of the sect
4		$\overline{\Box}$	0.0%		Woody vine - All woody vines greater than 3.28 ft in height.
Т.			otal Cove		Thoight.
			otal oove	•	
					Hydrophytic
					Vegetation Present? Yes No •
					Present? Yes O NO O

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN26 upland

	ription: (Des	scribe to	the depth	needed to document the indicator or confirm the a	absence of indicators.)
Depth (inches)	" Color (Matrix	_ %	Redox Features Color (moist) % Type 1 Loc²	Taytura Damarka
	Color (ı			Color (moist) % Type 1 Loc2	Texture Remarks
0-5	10YR	3/2	100%		Loam
5-16	10YR	4/6	100%		Fine Sandy Loam
1 _{Type: C=Con}	centration D	- Denletion	n RM-Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	tion: PI -Pore Lining M-Matrix
Hydric Soil		- Беріспоі	n. KW-Kea	deed Matrix, 65-60vered or obtated Sand Grains Loca	
Histosol (Polyvalue Below Surface (S8) (LRR R,	Indicators for Problematic Hydric Soils: 3
	pedon (A2)			MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Black His				☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
	Layers (A5)			Loamy Gleyed Matrix (F2)	☐ Dark Surface (S7) (LRR K, L)
	Below Dark S	Surface (A	11)	Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)
_	k Surface (A1		,	Redox Dark Surface (F6)	Thin Dark Surface (S9) (LRR K, L)
	uck Mineral (S			Depleted Dark Surface (F7)	Iron-Manganese Masses (F12) (LRR K, L, R)
	eyed Matrix (Redox Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B)
Sandy Re					☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B) ☐ Red Parent Material (TF2)
	Matrix (S6)				☐ Very Shallow Dark Surface (TF12)
	face (S7) (LRI	R R, MLRA	149B)		Other (Explain in Remarks)
3 Indicators o	f hydronhytic	voqotation	a and wotla	and hydrology must be present, unless disturbed or proble	
			i and wella	ind flydrology flust be present, dilless disturbed of proble	inauc.
Restrictive L	ayer (if obs	erved):			
Type:					Hydric Soil Present? Yes ○ No ●
Depth (inc	hes):				Tryano con Freschi. Tes C 140 C
Remarks:					



AN26 Wetland



AN26 Upland

Project/Site: Antrim Wind Project	t		City/County	: Antrim		Sampling Date: 18-Aug-11
Applicant/Owner: Eolian Renewa	ble Energy, LLC			Sta	ite: NH	Sampling Point: AN27 wetland
Investigator(s): AF JG			Section.	Township, Range:	S. T.	
Landform (hillslope, terrace, etc	:.): Saddle		-	(concave, convex, r		
Subregion (LRR or MLRA):		Lat.:		Long		Datum:
Soil Map Unit Name:						ication: PFO
					_	
Are climatic/hydrologic condition	ons on the site ty	pical for this time of ye	ear?	Yes ● No ○	(If no, explain in	
Are Vegetation, Soil	, or Hydrol	ogy 🗌 significantl	ly disturbed?	? Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation, Soil _	, or Hydrol	ogy 🗌 naturally p	roblematic?	(If needed,	explain any answe	ers in Remarks.)
Summary of Findings	- Attach site		ampling	point location	ns, transects,	important features, etc.
Hydrophytic Vegetation Preser		No O	1-4	h - Cll A		
Hydric Soil Present?	Yes	No O		he Sampled Area hin a Wetland?	Yes ● No ○	
Wetland Hydrology Present?	Yes	No O				
Hydrology						
Wetland Hydrology Indicators					Sacandary Indicate	rs (minimum of 2 required)
Primary Indicators (minimum		check all that apply)			Surface Soil Cr	
Surface Water (A1)		✓ Water-Stained Leav	ves (B9)		✓ Drainage Patte	
✓ High Water Table (A2)		Aquatic Fauna (B13			Moss Trim Line	
Saturation (A3)		Marl Deposits (B15)		Dry Season W	ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide C	Odor (C1)		Crayfish Burro	ws (C8)
Sediment Deposits (B2)		Oxidized Rhizosphe	eres along Livi	ng Roots (C3)	Saturation Visi	ble on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduce	ed Iron (C4)			essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc	tion in Tilled S	Soils (C6)	✓ Geomorphic P	` ,
☐ Iron Deposits (B5)☐ Inundation Visible on Aerial Ir	222074 (P7)	☐ Thin Muck Surface	` '		Shallow Aquita	, ,
Sparsely Vegetated Concave S		Other (Explain in R	emarks)		✓ Microtopograp✓ FAC-neutral Telephone	
sparsory regetation constants	(20)				TAC licular in	331 (100)
Field Observations:	es O No 💿	Donth (inches)				
		Depth (inches):				
		Depth (inches):	1	Wetland Hvd	rology Present?	Yes ● No ○
Saturation Present? (includes capillary fringe)	es • No O	Depth (inches):	0			
Describe Recorded Data (stream	m gauge, monito	oring well, aerial photo	s, previous i	inspections), if avai	lable:	
Remarks:						

/EGETATION - Use scientific names of p	iaiitə		ominant ecies?		Sai	mpling Po	int: AN2	27 wetland	d
Tree Stratum (Plot size: 30')	Absolute % Cover	Re		Indicator Status	Dominance Test we				
	50	V	45.5%	FACW-	Number of Dominant That are OBL, FACW,			5	(A)
2. Acer rubrum	50		45.5%	FAC	That are obe, thow,	01 1710.	-		(1.7)
Betula alleghaniensis	10		9.1%	FAC	Total Number of Dom Species Across All Str			5	(B)
l			0.0%		Species Across Air Str	ala.	-		(D)
	0		0.0%		Percent of domina			100 00/	(A (D)
5.			0.0%		That Are OBL, FAC	W, or FA	C:	100.0%	(A/B)
·			0.0%		Prevalence Index w	orksheet/	:		
		= Tc	tal Cove	r	Total % Cove	er of:	Multiply	/ by:	
Sapling/Shrub Stratum (Plot size: 15')					0BL species	0	x 1 =	0	_
. Betula alleghaniensis		V	50.0%	FAC	FACW species	105	x 2 =	210	-
Picea mariana		✓	50.0%	FACW-	FAC species	65	x 3 =	195	-
3	0		0.0%		FACU species	0	x 4 =	0	-
	0		0.0%		UPL species	0	x 5 =	0	-
	0		0.0%		1	170		405	- (B)
	0		0.0%		Column Totals:	170	(A)	405	- (6)
·	0	Ш	0.0%		Prevalence Inc	dex = B/A	\ = _	2.382	
Herb Stratum (Plot size: 5')	10	= To	tal Cove	r	Hydrophytic Vegeta	tion Indi	cators:		
	F0		400.00/	E4014/	Rapid Test for	Hydroph	ytic Veget	ation	
1.Osmunda cinnamomea 2.			100.0%	FACW	✓ Dominance Te	est is > 50)%		
3.			0.0%		✓ Prevalence In	dex is ≤3	. 0 ¹		
3 <u>.</u> 4.			0.0%		Morphologica	Adaptati	ons ¹ (Pro	ovide supp	orting
5.	0		0.0%		data in Remar		•	•	
5 6.			0.0%		Problematic H	ydrophyt	ic Vegetat	tion ¹ (Exp	olain)
7.	0		0.0%		1 Indicators of hyd	tric soil a	nd wotlan	d bydrolog	av muci
8.	0		0.0%		be present, unless	disturbed	or proble	ematic.	yy iiius
9.	0	\vdash	0.0%		Definitions of Ve	getatio	n Strata:		
<u>. </u>	0	\vdash	0.0%			8-14-11-			
1.	0		0.0%		Tree - Woody plant at breast height (D				liamete
2.	0		0.0%		at breast neight (Di	ъп), rega	raiess or	neight.	
۷	0	Ш,	0.0%		Sapling/shrub - Wo			an 3 in. DE	3H and
Noody Vine Stratum (Plot size:)	50	= Tc	tal Cove	r	greater than 3.28 ft	(1m) tall			
	0		0.0%		Herb - All herbaced	ous (non-	woody) pl	ants rega	rdless
1 2		\Box	0.0%		size, and woody pla				. 4.000
3		\Box	0.0%		l				
4		\Box	0.0%		Woody vine - All we height.	oody vine	s greater	than 3.28	ft in
Т.,			otal Cove		15.9.1				
	0	- 10	nai cove	•					
					Hydrophytic				

Remarks: (Include photo numbers here or on a separate sheet.)

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN27 wetland

· · · · · · · · · · · · · · · · · · ·	lepth needed to document the indicator or confirm the	absence of indicators.)
Depth Matrix (inches) Color (moist)	Redox Features Color (moist) % Type 1 Loc2	Texture Remarks
0-36 10YR 2/1	Type Loc	Mucky Peat hemi c
		Mucky Feat
1		
•	I=Reduced Matrix, CS=Covered or Coated Sand Grains ² Loca	-
Hydric Soil Indicators:		Indicators for Problematic Hydric Soils: 3
Histosol (A1)	Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2)	Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
☐ Black Histic (A3)	Loamy Mucky Mineral (F1) LRR K, NILRA 149B)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L)
Stratified Layers (A5)	Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)
Depleted Below Dark Surface (A11)	Redox Dark Surface (F6)	☐ Thin Dark Surface (S9) (LRR K, L)
☐ Thick Dark Surface (A12)	Depleted Dark Surface (F7)	☐ Iron-Manganese Masses (F12) (LRR K, L, R)
Sandy Muck Mineral (S1)	Redox Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B)
Sandy Gleyed Matrix (S4)	☐ Iredov pehiessions (10)	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Redox (S5)		Red Parent Material (TF2)
Stripped Matrix (S6)		Very Shallow Dark Surface (TF12)
Dark Surface (S7) (LRR R, MLRA 149E	<i>(</i>)	Other (Explain in Remarks)
³ Indicators of hydrophytic vegetation and	wetland hydrology must be present, unless disturbed or proble	ematic.
Restrictive Layer (if observed):		
Type:		
Depth (inches):		Hydric Soil Present? Yes ● No ○
Remarks:		
Remarks.		

Project/Site: Antrim Wind Project	City/Count	y: Antrim		Sampling Date: 18-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH	Sampling Point: AN27 upland
Investigator(s): AF JG	Section	, Township, Range:	S. T.	 R.
Landform (hillslope, terrace, etc.): Hillside		(concave, convex, n		Slope: 20.0 % / 11.3 °
Subregion (LRR or MLRA):	Lat.:	Long	 1.:	Datum:
Soil Map Unit Name:			NWI classif	ication:
		Yes No	_	
Are climatic/hydrologic conditions on the site t	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		(If no, explain in	
Are Vegetation, Soil, or Hydro			Circumstances" p	present? Tes 🙂 NU 🔾
Are Vegetation , Soil , or Hydro	logy naturally problematic?	(If needed,	explain any answe	ers in Remarks.)
Summary of Findings - Attach site		point location	s, transects	important features, etc.
Hydrophytic Vegetation Present? Yes	No •	the Commission Avec		
Hydric Soil Present? Yes	NO ⊜ wi	the Sampled Area thin a Wetland?	Yes O No 🗨)
Wetland Hydrology Present? Yes	No •			
Remarks: (Explain alternative procedures he	e or in a separate report.)			
Hydrology				
Wetland Hydrology Indicators:			Secondary Indicate	ors (minimum of 2 required)
Primary Indicators (minimum of one required	check all that apply)		Surface Soil C	
Surface Water (A1)	Water-Stained Leaves (B9)		Drainage Patte	
☐ High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lin	
Saturation (A3)	Marl Deposits (B15)		Dry Season W	ater Table (C2)
☐ Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burro	ows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Liv	ring Roots (C3)	Saturation Vis	ible on Aerial Imagery (C9)
☐ Drift deposits (B3)	Presence of Reduced Iron (C4)		Stunted or Str	ressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled	Soils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquita	ard (D3)
☐ Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		Microtopograp	ohic Relief (D4)
Sparsely Vegetated Concave Surface (B8)			FAC-neutral T	est (D5)
Field Observations: Surface Water Present? Yes No No	Depth (inches):			
Water Table Present? Yes No	<u> </u>			
	Depth (inches):	Wetland Hydr	ology Present?	Yes ○ No ●
(includes capillary fringe) Yes V NO	Depth (inches):			
Describe Recorded Data (stream gauge, moni	oring well, aerial photos, previous	inspections), if avail	able:	
Remarks:				
Remarks.				

Resistratury Plot size: 30'	/EGETATION - Use scientific names of p			minant ecies?		Sampling Point: AN27 upland
Fagus grandffolia	Tree Stratum (Plot size: 30')		Re	I.Strat.		Dominance Test worksheet:
15 2 1.4% FACU Total Number of Dominant Species Across All Stratus 7 (B) FACU Total Number of Dominant Species Across All Stratus 7 (B) FACU Total Number of Dominant Species Across All Stratus 7 (B) FACU FACU	Forms around (fello	20	_			
Betula papyrifera 20	Ouerane rubre	15				That are OBL, FACW, OF FAC:
Picea rubers	Datala manufera		=-			
D	Di					Species Across All Strata: (B)
			\Box		17100	Percent of dominant Species
Prevalence Index worksheet: Total % Cover of Multiply by: OBL species O			\Box			That Are OBL, FACW, or FAC: 14.3% (A/B)
Total Score Total Cover Total Score Total Score				0.0%		Prevalence Index worksheet:
Plant Plot size: 15			= To	tal Cove	,	
. Fagus grandflolia . Betula papyrifera .	Sapling/Shrub Stratum (Plot size: 15')					133
Setula papyrifera				80.0%	FACU	
D	• • •		∠ _	20.0%	FACU	
D		0	\sqcup	0.0%		05 000
Col umn Total s: 97 (A) 386 (B) Prevalence Index = B/A = 3.979	·	0	\sqcup	0.0%		TACO Species X 4 -
		0	\sqcup			'
Serb Stratum	·	0	\sqcup	0.0%		Column lotals: 97 (A) 380 (B)
1. Acer rubrum	•	0	Щ	0.0%		Prevalence Index = B/A = 3.979
Acer rubrum	lerb Stratum (Plot size: 5')	25	= To	tal Cove	٢	Hydrophytic Vegetation Indicators:
2.	1 ****	2		100.00/	EAC	Rapid Test for Hydrophytic Vegetation
Prevalence Index is \$3.0 1					FAC	☐ Dominance Test is > 50%
Morphological Adaptations \(^1\) (Provide supporting data in Remarks or on a separate sheet)					-	Prevalence Index is ≤3.0 ¹
5.	-					☐ Morphological Adaptations ¹ (Provide supporting
6.	<u></u>		Н.			
7.			Η-			Problematic Hydrophytic Vegetation ¹ (Explain)
be present, unless disturbed or problematic. Definitions of Vegetation Strata: Tree - Woody plants, 3 in. (7.6 cm) 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 (1m) tall Period Cover Total Cover Definitions of Vegetation Strata: Tree - Woody plants, 3 in. (7.6 cm) 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 (1m) tall Herb - All herbaceous (non-woody) plants, regardless size, and woody plants less than 3.28 ft tall. Woody vine - All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation			Η-			1 Indicators of hydric soil and wetland hydrology mus
Definitions of Vegetation Strata: Tree - Woody plants, 3 in. (7.6 cm) 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 (1m) tall The entropy of the stratum of the size of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall Herb - All herbaceous (non-woody) plants, regardless size, and woody plants less than 3.28 ft tall. Woody vine - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation			Н-			
1.	9		П-			Definitions of Vegetation Strata:
1.			\Box			
2.			П			
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall O			\Box			at broast height (BBH), regardless of height.
Noody Vine Stratum (Plot size:) 1			 _ To		,	
3	Voody Vine Stratum (Plot size:)		_ 10	tai cove		greater than 3.28 ft (1m) fall
3	1	0		0.0%		
3	2	0		0.0%		size, and woody plants less than 3.28 ft tall.
4				0.0%		Woody vine - All woody vines greater than 3.28 ft in
Hydrophytic Vegetation	1	0		0.0%		
Vegetation V. O. N. O.		0	= To	tal Cove	r	
Vegetation V						
Vegetation V						
Vegetation v						
						Vogotation

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN27 upland

- · · · · · · · · · · · · · · · · · · ·	he depth ne	eeded to document the indicator or confirm the a	bsence of indicators.)
Depth Matrix (inches) Color (moist)	- 0/	Redox Features Color (moist) % Type 1 Loc²	Touture
Total (mail)	%	Color (moist) % Type 1 Loc2	Texture Remarks
0-4 10YR 3/2	100%		Loam
4-6 10YR 4/3	100%		Fine Sandy Loam
6-11 10YR 5/6	100%		Fine Sandy Loam
¹ Type: C=Concentration. D=Depletion	. RM=Reduce	ed Matrix, CS=Covered or Coated Sand Grains ² Locat	tion: PL=Pore Lining. M=Matrix
Hydric Soil Indicators:			Indicators for Problematic Hydric Soils: 3
Histosol (A1)		Polyvalue Below Surface (S8) (LRR R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2)		MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
Black Histic (A3)		☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1) LRR K, L)	Dark Surface (S7) (LRR K, L)
Stratified Layers (A5)		Loamy Gleyed Matrix (F2)	Polyvalue Below Surface (S8) (LRR K, L)
Depleted Below Dark Surface (A1	1)	☐ Depleted Matrix (F3) ☐ Redox Dark Surface (F6)	☐ Thin Dark Surface (S9) (LRR K, L)
☐ Thick Dark Surface (A12)		Depleted Dark Surface (F7)	☐ Iron-Manganese Masses (F12) (LRR K, L, R)
Sandy Muck Mineral (S1)		Redox Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B)
Sandy Gleyed Matrix (S4)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Redox (S5)			Red Parent Material (TF2)
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA	1/0R)		
			Uther (Explain in Remarks)
³ Indicators of hydrophytic vegetation	and wetland	hydrology must be present, unless disturbed or proble	matic.
Restrictive Layer (if observed):			
Type: stony			Hydric Soil Present? Yes ○ No ●
Depth (inches): 11			Hydric Soil Present? Yes ○ No •
Remarks:			



AN27 Upland



AN27 Wetland



AN27 Wetland



AN27 Wetland



AN27 Wetland



AN27 Upland

Project/Site: Antrim Wind Project	City/Co	unty: Antrim		Sampling Date: 22-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		Stat	te: NH	Sampling Point: AN30 wetland
Investigator(s): AF JG	Sect	ion, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.): Footslope		lief (concave, convex, n		Slope: 3.0 % / 1.7 °
Subregion (LRR or MLRA):	 Lat.:	Long		Datum:
			-	
Soil Map Unit Name:			INVVI CIASSITI	cation: PFO
Are climatic/hydrologic conditions on the site ty	pical for this time of year?	Yes ● No ○	(If no, explain in	•
Are Vegetation , Soil , or Hydrol	ogy 🗌 significantly distur	bed? Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation, Soil, or Hydrolo	ogy 🗌 naturally problema	tic? (If needed, e	explain any answe	ers in Remarks.)
Summary of Findings - Attach site	map showing sampli	ng point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes O	No O			
Hydric Soil Present? Yes Yes	No O	Is the Sampled Area within a Wetland?	Yes ● No ○	
Wetland Hydrology Present? Yes	No O			
I hadrolo ma				
Hydrology				
Wetland Hydrology Indicators:	about all that apply)			rs (minimum of 2 required)
Primary Indicators (minimum of one required; Surface Water (A1)			Surface Soil Cr	
High Water Table (A2)	✓ Water-Stained Leaves (B9) Aquatic Fauna (B13)		✓ Drainage Patte Moss Trim Line	
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burro	
Sediment Deposits (B2)	Oxidized Rhizospheres along	Living Roots (C3)		ble on Aerial Imagery (C9)
☐ Drift deposits (B3)	Presence of Reduced Iron (0	C4)	Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Til	led Soils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquita	• •
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		Microtopograp	
Sparsely Vegetated Concave Surface (B8)			✓ FAC-neutral Te	est (D5)
Field Observations:				
Surface Water Present? Yes No No	Depth (inches):			
Water Table Present? Yes No •	Depth (inches):	Wetland Hydr	ology Present?	Yes ● No ○
Saturation Present? (includes capillary fringe) Yes No	Depth (inches):	wetiand nydi	ology Present?	162 C NO C
Describe Recorded Data (stream gauge, monito	oring well, aerial photos, previo	ous inspections), if avail	able:	
Damania				
Remarks:				

VEGETATION - Use scientific names of pla		_Sp	minant ecies?		Sampling Point: AN30 wetland		
Tree Stratum (Plot size:)	Absolute % Cover			Indicator Status			
1	0		0.0%		Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)		
2.	0		0.0%				
3.	0		0.0%		Total Number of Dominant Species Across All Strata: 4 (B)		
4.	0		0.0%		Species Across Air Strata.		
5.	0		0.0%		Percent of dominant Species That Are ORL FACW or FAC: 75.0% (A/B)		
6	0		0.0%		That Are OBL, FACW, or FAC: 75.0% (A/B)		
7			0.0%		Prevalence Index worksheet:		
		= To	tal Cover	-	Total % Cover of: Multiply by:		
, , , , , , , , , , , , , , , , , , , ,			E0 00/	F40	0BL speci es 0 x 1 = 0		
Betula alleghaniensis Fraxinus pennsylvanica			50.0%	FACW	FACW species35		
		<u> </u>	0.0%	FACVV	FAC species 10 x 3 = 30		
3			0.0%		FACU species $0 \times 4 = 0$		
4		\Box	0.0%		UPL speci es $\frac{25}{}$ x 5 = $\frac{125}{}$		
5	0		0.0%		Column Totals: 70 (A) 225 (B)		
7			0.0%				
7		To	tal Cover		Prevalence Index = B/A = 3.214		
Herb Stratum (Plot size: 5')		- Total Cove			Hydrophytic Vegetation Indicators:		
1. Onoclea sensibilis	25	✓	50.0%	FACW	Rapid Test for Hydrophytic Vegetation		
2.Polygonatum pubescens	25	✓	50.0%	UPL	Dominance Test is > 50%		
3	0		0.0%		Prevalence Index is ≤3.0 ¹		
4	0		0.0%		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)		
5	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)		
6	0	\square .	0.0%				
7	0	\square .	0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
8	0	\sqcup	0.0%				
9	0	Ц.	0.0%		Definitions of Vegetation Strata:		
10	0	Ц.	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter		
11	0	Ц.	0.0%		at breast height (DBH), regardless of height.		
12	0	□.	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and		
Woody Vine Stratum (Plot size:)	50	= To	tal Cover	-	greater than 3.28 ft (1m) tall		
			0.0%		Herb - All herbaceous (non-woody) plants, regardless of		
1 2	0 0	\Box	0.0%		size, and woody plants less than 3.28 ft tall.		
3	0		0.0%		Weeds the All weeds the COOK		
4	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in height.		
т.			3.370		1101g1111		

0 = Total Cover

Hydrophytic Vegetation

Present?

Remarks: (Include photo numbers here or on a separate sheet.)

Yes ● No ○

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN30 wetland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Color (i	Matrix	_ %	Redox Features Color (moist) % Type 1 Loc²	Texture Remarks			
				Color (moist) 28 Type 1 Loc-				
0-8	10YR	3/2	100%		Loam			
8-16	2.5Y	5/1	100%		Loamy Sand			
1			- DM DI	All Marketine CC Courses of the Control Course of Courses of Cours	Atom Di Dona Lining M Makin			
7 .		=Depletio	n. RIVI=Rea	uced Matrix, CS=Covered or Coated Sand Grains ² Loca				
Hydric Soil I					Indicators for Problematic Hydric Soils : 3			
Histosol (Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)			
	pedon (A2)			Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)			
Black Hist				Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
	n Sulfide (A4) Layers (A5)			Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L)			
	Below Dark S	Surface (A	11)	Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)			
	k Surface (A		11)	Redox Dark Surface (F6)	☐ Thin Dark Surface (S9) (LRR K, L)			
	uck Mineral (S	•		Depleted Dark Surface (F7)	☐ Iron-Manganese Masses (F12) (LRR K, L, R)			
	eyed Matrix (Redox Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B)			
Sandy Re		54)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
	Matrix (S6)				Red Parent Material (TF2)			
	face (S7) (LRI	R R, MLRA	149B)		Very Shallow Dark Surface (TF12)			
					Other (Explain in Remarks)			
			n and wetta	nd hydrology must be present, unless disturbed or proble	ematic.			
Restrictive L	ayer (if obs	erved):						
Type:					Hydric Soil Present? Yes ● No ○			
Depth (inc	:hes):				Tryunc 3011 Fresent: Yes © NO C			
Remarks:								

Project/Site: Antrim Wind Project	City/County: Antrim	Sampling Date: 22-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		State: NH Sampling Point: AN30 upland
Investigator(s): AF JG	Section, Township, Rai	nge: S. T. R.
Landform (hillslope, terrace, etc.): Footslope	Local relief (concave, conv	
Subregion (LRR or MLRA):	Lat.:	Long.: Datum:
Soil Map Unit Name:		NWI classification:
Are climatic/hydrologic conditions on the site type	pical for this time of year? Yes No	(ii iio) onpiani iii itoinainoi)
Are Vegetation , Soil , or Hydrolo	ogy L significantly disturbed? Are "No	ormal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrolo	ogy 🗌 naturally problematic? (If need	ded, explain any answers in Remarks.)
		tions, transects, important features, etc.
	No •	
Hydric Soil Present? Yes	No Is the Sampled Ar within a Wetland?	
Wetland Hydrology Present? Yes	No •	
Remarks: (Explain alternative procedures here	or in a separate report.)	
Hydrology		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes No	Depth (inches):	
Water Table Present? Yes No No	Depth (inches):	I Hydrology Present? Yes ○ No ●
Saturation Present? (includes capillary fringe) Yes No •	Depth (inches):	I Hydrology Present? Yes ○ No •
Describe Recorded Data (stream gauge, monito	oring well, aerial photos, previous inspections), if	available:
Demonstra		
Remarks:		

/EGETATION - Use scientific names of pl			minant ecies?		Sampling Point: AN30 upland		
Tree Stratum (Plot size: 30')	Absolute % Cover	Re	I.Strat.	Indicator Status	Dominance Test worksheet:		
Tougo comodonelo	25	V	31.3%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)		
Outprove multiple	15	<u> </u>	18.8%	FACU-	That are OBL, FACW, or FAC: 1 (A)		
		<u> </u>			Total Number of Dominant		
Acer saccharum		<u> </u>	31.3%	FACU-	Species Across All Strata: 8 (B)		
Betula alleghaniensis		Η.	18.8%	FAC	Percent of dominant Species		
		Η.	0.0%		That Are OBL, FACW, or FAC: 12.5% (A/B)		
·		Η.	0.0%				
		Ш.	0.0%		Prevalence Index worksheet:		
Sapling/Shrub Stratum (Plot size: 15')	80	= To	tal Cove	r	Total % Cover of: Multiply by:		
. Fagus grandifolia	10	~	40.0%	FACU	0BL species 0 x 1 = 0		
. Pinus strobus		V	20.0%	FACU	FACW species $0 \times 2 = 0$		
Quercus rubra		V	20.0%	FACU-	FAC species $30 \times 3 = 90$		
. Acer pensylvanicum		V	20.0%	FACU	FACU speci es $\frac{109}{}$ x 4 = $\frac{436}{}$		
		\Box	0.0%		UPL species $0 \times 5 = 0$		
	0	\Box	0.0%		Column Totals: 139 (A) 526 (B)		
•		\Box	0.0%		Prevalence Index = B/A = 3.784		
		—. = То	tal Cove				
lerb Stratum (Plot size: 5')					Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation		
1 .Maianthemum canadense	10	✓ 29.4% FAC- Dominance Test is > 50%					
2 _. Aralia nudicaulis	15	✓,	44.1%	FACU	Prevalence Index is ≤3.0 ¹		
3.Tsuga canadensis	3		8.8%	FACU	I <u> </u>		
4.Lycopodium obscurum	1		2.9%	FACU	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)		
5. Trientalis borealis	5		14.7%	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)		
6	0		0.0%				
7 <u> </u>	0		0.0%		¹ Indicators of hydric soil and wetland hydrology mus		
8	0		0.0%		be present, unless disturbed or problematic.		
9	0		0.0%		Definitions of Vegetation Strata:		
0	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diamet		
1.	0		0.0%		at breast height (DBH), regardless of height.		
2.	0 0.0%			Conflicted when the Warn to allow the conflicted th			
	34	= Total Cover		r	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall		
Voody Vine Stratum (Plot size:)					graner man also in (, iami		
1		\sqcup	0.0%		Herb - All herbaceous (non-woody) plants, regardless		
2		\sqcup	0.0%		size, and woody plants less than 3.28 ft tall.		
3		\sqcup	0.0%		Woody vine - All woody vines greater than 3.28 ft in		
4	0	\square	0.0%		height.		
	0	= To	tal Cove	r			
					Hydrophytic Vegetation Present? Yes No No		

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN30 upland

	-	-	needed to document the indicator or confirm the	ne absence of indicators.)			
Depth (inches)	Ma' Color (mois	trix st)	Redox Features Color (moist) % Type 1 Loc ²	⁻ Texture	Remarks		
0-8		3/2 100%		Loam			
8-12		1/3 100%		Loamy Sand			
0-12	TOTK 2	10076		Loanly Sand			
				_			
				_			
				_			
¹ Type: C=Cond	centration. D=De	pletion. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² L	ocation: PL=Pore Lining. M=I	Matrix		
Hydric Soil I	ndicators:		_	Indicators for Prob	lematic Hydric Soils : 3		
Histosol (A	A1)		Polyvalue Below Surface (S8) (LRR R,		2 cm Muck (A10) (LRR K, L, MLRA 149B)		
	pedon (A2)		MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Dad	ox (A16) (LRR K, L, R)		
DidCK Histic (AS)			Loamy Mucky Mineral (F1) LRR K, L)		or Peat (S3) (LRR K, L, R)		
	Sulfide (A4)		Loamy Gleyed Matrix (F2)	☐ Dark Surface (S7) (LRR K, L)		
	Layers (A5)	(011)	Depleted Matrix (F3)	Polyvalue Below	Surface (S8) (LRR K, L)		
	Below Dark Surfa k Surface (A12)	ice (ATT)	Redox Dark Surface (F6)		Thin Dark Surface (S9) (LRR K, L)		
	ck Mineral (S1)		Depleted Dark Surface (F7)	_	☐ Iron-Manganese Masses (F12) (LRR K, L, R)		
	eyed Matrix (S4)		Redox Depressions (F8)		☐ Piedmont Floodplain Soils (F19) (MLRA 149B)		
Sandy Red					Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	Matrix (S6)				Red Parent Material (TF2)		
	ace (S7) (LRR R,	MLRA 149B)			☐ Very Shallow Dark Surface (TF12)☐ Other (Explain in Remarks)		
3Indicators of	hydrophytic yea	etation and wetla	and hydrology must be present, unless disturbed or pr		Reffidiks)		
			ind flydrology must be present, unless disturbed of pr	obiematic.			
	ayer (if observe	ed):					
Type: bo				Hydric Soil Present?	Yes O No 💿		
Depth (inch	nes):_12						
Remarks:							



AN30 Wetland



AN30 Upland

Project/Site: Antrim Wind Project			City/County	y: Antrim		Sampling Date: 22-Aug-11
Applicant/Owner: Eolian Renewable E	nergy, LLC			Sta	te: NH	Sampling Point: AN31 Wetland
Investigator(s): AF JG			Section	, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.):	Terrace		_	(concave, convex, n		Slope: 2.0 % / 1.1 °
Subregion (LRR or MLRA):	1011400				-	
		Lat.:		Long		Datum:
Soil Map Unit Name:					NWI classifi	cation: PSS
Are climatic/hydrologic conditions o	n the site typ	pical for this time of y	ear?	Yes ● No ○	(If no, explain in	*
Are Vegetation . , Soil .	, or Hydrold	ogy 🗌 significant	ly disturbed	? Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation, Soil	, or Hydrold	ogy 🗌 naturally p	roblematic?	(If needed, e	explain any answe	ers in Remarks.)
Summary of Findings - At	tach site	map showing s	ampling	point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present?		No O				
Hydric Soil Present?	Yes	No O		the Sampled Area thin a Wetland?	Yes ● No ○	
Wetland Hydrology Present?	Yes 💿	No O				
Lludrology						
Hydrology						
Wetland Hydrology Indicators:		-llll 4l4l- A				rs (minimum of 2 required)
Primary Indicators (minimum of on	e requirea;				Surface Soil Cr	
Surface Water (A1) High Water Table (A2)		Water-Stained Lea			Drainage Patte	
Saturation (A3)		Aquatic Fauna (B1) Marl Deposits (B15)			Moss Trim Line	ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide (Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosph		ring Roots (C3)		ble on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduc	_	ing Roots (65)		essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc		Soils (C6)	Geomorphic P	
☐ Iron Deposits (B5)		Thin Muck Surface			Shallow Aquita	
Inundation Visible on Aerial Imager	y (B7)	Other (Explain in R	` '		Microtopograp	hic Relief (D4)
Sparsely Vegetated Concave Surfac	e (B8)	_ , ,	ŕ		FAC-neutral Te	est (D5)
Field Observations:						
Surface Water Present? Yes		Depth (inches):				
Water Table Present? Yes	No 💿	Depth (inches):				· • · ·
Saturation Present? (includes capillary fringe) Yes	No O	Depth (inches):	2	Wetland Hydr	ology Present?	Yes ● No ○
Describe Recorded Data (stream ga	uge, monito	ring well, aerial photo	os, previous	inspections), if avail	able:	
Remarks:						

Absolute % Cover 0 0 0 0 0		Indicator Status					
0 0	0.0%	Status	Number of Deminent Chesics				
0			Number of Dominant Species				
			That are OBL, FACW, or FAC: 4 (A)				
			Total Number of Dominant				
U	0.0%		Species Across All Strata: 4 (B)				
	0.0%		Percent of dominant Species				
			That Are OBL, FACW, or FAC: 100.0% (A/B)				
			Prevalence Index worksheet:				
0	= Total Cove	er	Total % Cover of: Multiply by: OBL species				
10	✓ 25.0%	FAC					
5	12.5%	FACW					
25	62.5%	FACW+	1770 Specifics x 0 =				
0	0.0%		FACU species $\frac{15}{2}$ x 4 = $\frac{60}{2}$				
0	0.0%		UPL species $0 \times 5 = 0$				
0	0.0%		Column Totals: 131 (A) 284 (B)				
0	0.0%		Prevalence Index = B/A = 2.168				
40	= Total Cove	er	Hydrophytic Vegetation Indicators:				
			Rapid Test for Hydrophytic Vegetation				
8	8.8%	FACW+	✓ Dominance Test is > 50%				
25	27.5%	FACW	✓ Prevalence Index is ≤3.0 ¹				
	5.5%_	OBL	Morphological Adaptations ¹ (Provide supporting				
	5.5%_	OBL	data in Remarks or on a separate sheet)				
	\neg	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)				
	16.5%	FACU	1				
		FACW	¹ Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic.				
			Definitions of Vegetation Strata:				
			Definitions of Vegetation Strata.				
			Tree - Woody plants, 3 in. (7.6 cm) or more in diameter				
			at breast height (DBH), regardless of height.				
			Sapling/shrub - Woody plants less than 3 in. DBH and				
91	= Total Cove	er	greater than 3.28 ft (1m) tall				
0	0.0%		Herb - All herbaceous (non-woody) plants, regardless				
			size, and woody plants less than 3.28 ft tall.				
	0.0%		Woody vine - All woody vines greater than 3.28 ft in				
	0.0%		height.				
	-	er					
			Hydrophytic				
	0 0 0 10 5 25 0 0 0 0 40 8 25 5 5 5 8 15 25 0 0 0 0	0	0				

 $\label{lem:Remarks: (Include photo numbers here or on a separate sheet.)} \\$

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN31 Wetland

	ription: (Des	scribe to	the depth	needed to doc	ument the	indicator	or confir	m the a	absence of indicators.)					
Depth (inches)	. Color (i	Matrix	_ %	_ Color (mo	_	Features % Type	ne 1	Loc2	- Texture	Remarks				
			76	Color (IIIo		76 I Y	<u> </u>	LUC-		Remarks				
0-8	10YR	3/2							Loam					
8-16	2.5Y	4/1	90%	10YR	5/8 10	% (Fine Sandy Loam					
									-					
1 _{Type: C=Con}	centration D		n RM-Red	ıced Matrix CS-	-Covered or	Coated Sar	d Grains	21 oca	ation: PL=Pore Lining. M=N	 Natriy				
Hydric Soil I		- Веріспо	II. KWI–KCU	uccu Matrix, 05-	-covered or	Coatea Sai	u Grains	Loca						
Histosol (Polyvali	e Below Sur	face (S8) (I	DD D			lematic Hydric Soils :				
	pedon (A2)			MLRA 1		race (50) (i	.IXIX IX,			(LRR K, L, MLRA 149B)				
Black Hist				☐ Thin Da	rk Surface (S	S9) (LRR R	MLRA 14	49B)		ox (A16) (LRR K, L, R)				
	n Sulfide (A4)			Loamy I	Mucky Miner	al (F1) LRR	K, L)			or Peat (S3) (LRR K, L, R)				
	Layers (A5)			Loamy (Gleyed Matri	x (F2)			Dark Surface (S7) (LRR K, L)					
	Below Dark S	Surface (A	11)	Deplete	d Matrix (F3))			☐ Polyvalue Below Surface (S8) (LRR K, L) ☐ Thin Dark Surface (S9) (LRR K, L)					
	rk Surface (A´				ark Surface					(S9) (LRR K, L) Masses (F12) (LRR K, L, R)				
Sandy Mu	uck Mineral (S	S1)			d Dark Surfa					ain Soils (F19) (MLRA 149B)				
Sandy Gle	eyed Matrix (S4)		☐ Redox [epressions	(F8)				6) (MLRA 144A, 145, 149B)				
Sandy Re	edox (S5)								Red Parent Mater					
Stripped I	Matrix (S6)								Very Shallow Dark					
☐ Dark Surf	face (S7) (LRI	R R, MLRA	149B)						Other (Explain in					
³ Indicators o	f hydrophytic	vegetation	n and wetla	nd hydrology mi	ıst be preser	nt, unless d	sturbed o	or proble						
Restrictive L														
Type:	ayer (ii obs	civea).												
Depth (inc	:hes):								Hydric Soil Present?	Yes No				
Remarks:														
Remarks.														

Project/Site: Antrim Wind Project	City/Cou	unty: Antrim	Sa	ampling Date: 22-Aug-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH S	sampling Point: AN31 Upland
Investigator(s): AF JG	Secti	ion, Township, Range:	S. T.	R.
Landform (hillslope, terrace, etc.): Undulating		lief (concave, convex, n		Slope: 5.0 % / 2.9 °
Subregion (LRR or MLRA):	Lat.:	Long		Datum:
Soil Map Unit Name:			NWI classifica	
			_	
Are climatic/hydrologic conditions on the site ty	pical for this time of year?	Yes ● No ○	(If no, explain in Re	•
Are Vegetation , Soil , or Hydrolo	ogy L significantly disturb	ped? Are "Normal	Circumstances" pre	sent? Yes No
Are Vegetation , Soil , or Hydrolo	ogy 🗌 naturally problema	tic? (If needed, e	explain any answers	in Remarks.)
Summary of Findings - Attach site		ng point location	s, transects, ir	mportant features, etc.
Hydrophytic Vegetation Present? Yes	No •			
Hydric Soil Present? Yes	No •	Is the Sampled Area within a Wetland?	Yes 🔾 No 💿	
Wetland Hydrology Present? Yes	No •			
Remarks: (Explain alternative procedures here	or in a senarate report)			
Hydrology				
Wetland Hydrology Indicators:	abook all that apply)			(minimum of 2 required)
Primary Indicators (minimum of one required; Surface Water (A1)			Surface Soil Crac	
High Water Table (A2)	Water-Stained Leaves (B9) Aquatic Fauna (B13)		☑ Drainage Pattern☑ Moss Trim Lines	
Saturation (A3)	Marl Deposits (B15)		Dry Season Wate	• •
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burrows	
Sediment Deposits (B2)	Oxidized Rhizospheres along	Living Roots (C3)		e on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C		Stunted or Stress	- · · · ·
Algal Mat or Crust (B4)	Recent Iron Reduction in Till		Geomorphic Posi	
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)	(,	Shallow Aquitard	
☐ Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		Microtopographic	
Sparsely Vegetated Concave Surface (B8)	outer (Explain in Normanie)		FAC-neutral Test	(D5)
Field Observations: Surface Water Present? Yes No No				
	Depth (inches):			
Water Table Present? Yes No •	Depth (inches):			Yes ○ No •
Saturation Present? (includes capillary fringe) Yes No •	Depth (inches):	Wetland Hydr	ology Present?	Tes Unio S
Describe Recorded Data (stream gauge, monito	oring well, aerial photos, previo	ous inspections), if avail	able:	
Remarks:				

/EGETATION - Use scientific names of pl			minant ecies?		Sampling Point: AN31 Upland				
Tree Stratum (Plot size:)	Absolute % Cover	Re	I.Strat.	Indicator Status	Dominance Test worksheet:				
	0		0.0%	Status	Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)				
		\Box	0.0%		That are OBL, FACW, OF FAC:				
		Π.	0.0%		Total Number of Dominant				
3.		\Box	0.0%		Species Across All Strata: 4 (B)				
ł		Η.	0.0%		Percent of dominant Species				
 		\Box	0.0%		That Are OBL, FACW, or FAC: 25.0% (A/B)				
·		\Box	0.0%		Prevalence Index worksheet:				
		ш. - то	tal Cove		Total % Cover of: Multiply by:				
Sapling/Shrub Stratum (Plot size: 15')	0	= 10	itai Cove	ľ	0BL species 0 x 1 = 0				
. Populus tremula	10	✓	47.6%	FACU					
Prunus serotina	3		14.3%	FACU					
Acer saccharum		✓	23.8%	FACU-	FAC species $0 \times 3 = 0$				
Quercus rubra	3		14.3%	FACU-	FACU speci es $\frac{86}{9}$ x 4 = $\frac{344}{9}$				
5			0.0%		UPL species $0 \times 5 = 0$				
5.	0		0.0%	-	Column Totals: 124 (A) 420 (B)				
, ·	0		0.0%		Prevalence Index = B/A = 3.387				
lerb Stratum (Plot size: 5')		= To	tal Cove	r	Hydrophytic Vegetation Indicators:				
1 Dubus shares	45		14 (0)	FACIL	Rapid Test for Hydrophytic Vegetation				
1.Rubus alumnus		□ .	14.6%	FACU-	☐ Dominance Test is > 50%				
2.Solidago canadensis			48.5%	FACU	uata ili kemarks or on a separate sneet)				
3. Onoclea sensibilis		V ,	32.0%	FACW					
4.Spiraea alba 5.		Η.	4.9%	FACW+					
		Η.	0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)				
6	0_	Η.	0.0%		¹ Indicators of hydric soil and wetland hydrology mus				
7	0_	Н.	0.0%		be present, unless disturbed or problematic.				
8 9.		Н.	0.0%		Definitions of Vegetation Strata:				
9 <u>. </u>		Η.	0.0%		Seminors of Vegetation Strata.				
		Н.	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter				
1		Н.	0.0%		at breast height (DBH), regardless of height.				
2.	0	Ш.	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and				
Noody Vine Stratum (Plot size:)	103	= To	tal Cove	r	greater than 3.28 ft (1m) tall				
 1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless				
2		\Box	0.0%		size, and woody plants less than 3.28 ft tall.				
3			0.0%	-	Marahanina Allamarahanina arratarihan 0.00 %				
3 4			0.0%	-	Woody vine - All woody vines greater than 3.28 ft in height.				
т.			tal Cove						
					H. danabatin				
					Hydrophytic Vegetation Present? Yes No No				

Remarks. (Include prioto numbers here of on a separate sheet.)

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN31 Upland

Type: C=Concen Hydric Soil Indi Histosol (A1) Histic Epiped Black Histic (Hydrogen Su Stratified Lay Depleted Beld Thick Dark St Sandy Muck I Sandy Gleyec Sandy Redox Stripped Mate Dark Surface	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)		Color (moist)	Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) (dox (A16) (LRR K, L, R) (t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)				
7-12 12-16 16-24 Type: C=Concen Hydric Soil Indi Histosol (Al) Histic Epipede Black Histic (Al) Stratified Lay Depleted Bele Thick Dark Stratified Lay Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mata	10YR 4/3 2.5Y 5/1 10YR 4/6 Intration. D=Depletion dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)	100% 100% 100%	Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Sandy Loam Medium Sand Sandy Loam PL=Pore Lining. M= Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surface Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) (dox (A16) (LRR K, L, R) (t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)				
Type: C=Concen Hydric Soil Indi Histosol (A1) Histic Epiped Black Histic (Hydrogen Su Stratified Lay Depleted Beld Thick Dark St Sandy Muck I Sandy Gleyec Sandy Redox Stripped Mate Dark Surface	2.5Y 5/1 10YR 4/6 Intration. D=Depletion dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)	100% 100%	Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Medium Sand Sandy Loam PL=Pore Lining. M= Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surface Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) (dox (A16) (LRR K, L, R) (t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)				
Type: C=Concen Hydric Soil Indi Histosol (A1) Histic Epipede Black Histic (A) Hydrogen Sul Stratified Lay Depleted Bele Thick Dark St Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mate	ntration. D=Depletion dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)	100%	Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Sandy Loam 2Location: PL=Pore Lining. M=1 Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surface Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) dox (A16) (LRR K, L, R) t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)				
Type: C=Concen Hydric Soil Indi Histosol (A1) Histic Epiped Black Histic (Hydrogen Su Stratified Lay Depleted Beld Thick Dark St Sandy Muck I Sandy Gleyec Sandy Redox Stripped Mata	ntration. D=Depletion dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)	n. RM=Reduc	Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	PL=Pore Lining. M=I Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) dox (A16) (LRR K, L, R) t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)				
Hydric Soil Indi Histosol (A1) Histic Epipede Black Histic (A) Hydrogen Sul Stratified Lay Depleted Bele Thick Dark St Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mate	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) dox (A16) (LRR K, L, R) t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)				
Hydric Soil Indi Histosol (A1) Histic Epipede Black Histic (A) Hydrogen Sul Stratified Lay Depleted Bele Thick Dark St Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mate	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) dox (A16) (LRR K, L, R) t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)				
Hydric Soil Indi Histosol (A1) Histic Epipede Black Histic (A) Hydrogen Sul Stratified Lay Depleted Bele Thick Dark St Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mate	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) dox (A16) (LRR K, L, R) t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)				
Hydric Soil Indi Histosol (A1) Histic Epipede Black Histic (A) Hydrogen Sul Stratified Lay Depleted Bele Thick Dark St Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mate	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) dox (A16) (LRR K, L, R) t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)				
Hydric Soil Indi Histosol (A1) Histic Epipede Black Histic (A) Hydrogen Sul Stratified Lay Depleted Bele Thick Dark St Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mate	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) dox (A16) (LRR K, L, R) t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)				
Hydric Soil Indi Histosol (A1) Histic Epipede Black Histic (A) Hydrogen Sul Stratified Lay Depleted Bele Thick Dark St Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mate	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) dox (A16) (LRR K, L, R) t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)				
Hydric Soil Indi Histosol (A1) Histic Epipede Black Histic (A) Hydrogen Sul Stratified Lay Depleted Bele Thick Dark St Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mate	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) dox (A16) (LRR K, L, R) t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)				
Hydric Soil Indi Histosol (A1) Histic Epipede Black Histic (A) Hydrogen Sul Stratified Lay Depleted Bele Thick Dark St Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mate	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) dox (A16) (LRR K, L, R) t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)				
Hydric Soil Indi Histosol (A1) Histic Epipede Black Histic (A) Hydrogen Sul Stratified Lay Depleted Bele Thick Dark St Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mate	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) dox (A16) (LRR K, L, R) t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)				
Hydric Soil Indi Histosol (A1) Histic Epipede Black Histic (A) Hydrogen Sul Stratified Lay Depleted Bele Thick Dark St Sandy Muck I Sandy Gleyece Sandy Redox Stripped Mate	dicators:) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Indicators for Prob 2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	olematic Hydric Soils: () (LRR K, L, MLRA 149B) dox (A16) (LRR K, L, R) t or Peat (S3) (LRR K, L, R) () (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)				
Histosol (A1) Histic Epipedi Black Histic (Hydrogen Sul Stratified Lay Depleted Beld Thick Dark Sul Sandy Muck I Sandy Gleyect Sandy Redox Stripped Mate) don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)	11)	MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	2 cm Muck (A10) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7) Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	(LRR K, L, MLRA 149B) (dox (A16) (LRR K, L, R) (t or Peat (S3) (LRR K, L, R) () (LRR K, L) () Surface (S8) (LRR K, L) (e (S9) (LRR K, L) (HRR K, L) (HRR K, L) (HRR K, L) (HRR K, L)				
Histic Epipedo Black Histic (a Hydrogen Su Stratified Lay Depleted Beld Thick Dark Su Sandy Muck I Sandy Gleyect Sandy Redox Stripped Mate Dark Surface	don (A2) (A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)	11)	MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	B) Coast Prairie Red 5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	lox (A16) (LRR K, L, R) t or Peat (S3) (LRR K, L, R) t') (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)				
Black Histic (a) Hydrogen Sul Stratified Lay Depleted Beld Thick Dark St Sandy Muck I Sandy Gleyed Sandy Redox Stripped Matr Dark Surface	(A3) ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)	11)	☐ Thin Dark Surface (S9) (LRR R, MLRA 149) ☐ Loamy Mucky Mineral (F1) LRR K, L) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Matrix (F3) ☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7)	5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surface Iron-Manganese Piedmont Floodp	t or Peat (S3) (LRR K, L, R) (') (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)				
Hydrogen Sul Stratified Lay Depleted Beld Thick Dark Sul Sandy Muck I Sandy Gleyed Sandy Redox Stripped Matr Dark Surface	ulfide (A4) yers (A5) elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)	11)	Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	5 cm Mucky Peat Dark Surface (S7 Polyvalue Below Thin Dark Surfact Iron-Manganese Piedmont Floodp	7) (LRR K, L) Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)				
Stratified Lay Depleted Bele Thick Dark Strain Sandy Muck I Sandy Gleyect Sandy Redox Stripped Mate Dark Surface	yers (A5) elow Dark Surface (A Surface (A12) . Mineral (S1) ed Matrix (S4) x (S5)	11)	Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodp	Surface (S8) (LRR K, L) e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)				
Depleted Beld Thick Dark St Sandy Muck I Sandy Gleyec Sandy Redox Stripped Mate Dark Surface	elow Dark Surface (A Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)	.11)	Redox Dark Surface (F6) Depleted Dark Surface (F7)	☐ Thin Dark Surfac☐ Iron-Manganese☐ Piedmont Floodp	e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)				
Thick Dark Su Sandy Muck I Sandy Gleyect Sandy Redox Stripped Mate Dark Surface	Surface (A12) Mineral (S1) ed Matrix (S4) x (S5)	,	Depleted Dark Surface (F7)	☐ Iron-Manganese ☐ Piedmont Floodp	Masses (F12) (LRR K, L, R)				
Sandy Muck I Sandy Gleyec Sandy Redox Stripped Mati Dark Surface	Mineral (S1) ed Matrix (S4) x (S5)			Piedmont Floodp					
Sandy Gleyed Sandy Redox Stripped Matr Dark Surface	ed Matrix (S4) x (S5)		Redox Depressions (F8)		Piedmont Floodplain Soils (F19) (MLRA 149B)				
Stripped Mati					Mesic Spodic (TA6) (MLRA 144A, 145, 149B)				
Dark Surface	trix (S6)			Red Parent Mate					
					rk Surface (TF12)				
	e (S7) (LRR R, MLRA	149B)		Other (Explain in					
Indicators of hy	ydrophytic vegetatio	n and wetlan	d hydrology must be present, unless disturbed or						
estrictive Lave	er (if observed):								
Type:	o. (0200.10 2).								
Depth (inches)	s):			Hydric Soil Present?	Yes 🔾 No 💿				
emarks:									



AN31 Wetland



AN31 Upland



AN31 Wetland

Project/Site: Antrim Wind Project		City/County: Antrim		Sampling Date: 22-Aug-11			
Applicant/Owner: Eolian Renewable Ene	ergy, LLC	Sta	te: NH	Sampling Point: AN32 wetland			
Investigator(s): AF JG		Section, Township, Range:	S. T.				
Landform (hillslope, terrace, etc.): For	notslope	Local relief (concave, convex, r		Slope: 0.0 % / 0.0 °			
Subregion (LRR or MLRA):	<u> </u>		· ·				
	Lat.:	Lonç		Datum:			
Soil Map Unit Name:			NWI classifi	cation: PSS			
Are climatic/hydrologic conditions on	the site typical for this time of ye	ear? Yes No	(If no, explain in	•			
Are Vegetation \square , Soil \square ,	or Hydrology 🗌 significant	ly disturbed? Are "Normal	Circumstances" p	resent? Yes No			
Are Vegetation, Soil,	or Hydrology 🔲 naturally p	problematic? (If needed,	explain any answe	ers in Remarks.)			
Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.							
J	Yes No						
Hydric Soil Present?	Yes ● No ○	Is the Sampled Area within a Wetland?	Yes ● No ○				
Wetland Hydrology Present?	Yes ● No ○						
I hadrala ma							
Hydrology							
Wetland Hydrology Indicators:	and the state of t		$\overline{}$	rs (minimum of 2 required)			
Primary Indicators (minimum of one			Surface Soil Cr				
Surface Water (A1) High Water Table (A2)	Water-Stained Lea	, ,	✓ Drainage Patte				
Saturation (A3)	☐ Aquatic Fauna (B1:☐ Marl Deposits (B1:☐		Moss Trim Line	ater Table (C2)			
Water Marks (B1)	Hydrogen Sulfide (Crayfish Burro				
Sediment Deposits (B2)		eres along Living Roots (C3)		ble on Aerial Imagery (C9)			
Drift deposits (B3)	Presence of Reduc			essed Plants (D1)			
Algal Mat or Crust (B4)		ction in Tilled Soils (C6)	✓ Geomorphic Po	` ,			
☐ Iron Deposits (B5)	Thin Muck Surface	• •	Shallow Aquita	ird (D3)			
☐ Inundation Visible on Aerial Imagery (` '	Microtopograp	hic Relief (D4)			
Sparsely Vegetated Concave Surface		·	▼ FAC-neutral Te	est (D5)			
Field Observations:							
Surface Water Present? Yes	No Depth (inches):						
Water Table Present? Yes	No Depth (inches):			Yes No			
Saturation Present? (includes capillary fringe) Yes	No Depth (inches):	Wetland Hydi	ology Present?	Yes ♥ NO ∪ 			
Describe Recorded Data (stream gauge	ge, monitoring well, aerial photo	os, previous inspections), if avai	able:				
Remarks:							

VEGETATION - Use scientific names of pl	ants		ominant pecies?		Sampling Point: AN32 wetland
T (Not size)	Absolute	Re	el.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover			Status	Number of Dominant Species
1	0		0.0%		That are OBL, FACW, or FAC: 3 (A)
2	0	\vdash	0.0%		Total Number of Dominant
3	0_		0.0%		Species Across All Strata: 4 (B)
4	0_	H	0.0%		Percent of dominant Species
5	0	\vdash	0.0%		That Are OBL, FACW, or FAC: 75.0% (A/B)
6		H	0.0%		
7		Щ,			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')		= Tc	otal Cover	-	Total % Cover of: Multiply by:
1. Spiraea alba	50	V	83.3%	FACW+	0BL species 12 x 1 = 12
2. Acer rubrum	10		16.7%	FAC	FACW species $\frac{108}{10} \times 2 = \frac{216}{30}$
3.			0.0%		FAC species 10 x 3 = 30
4.	0		0.0%		FACU speci es $\frac{25}{2}$ x 4 = $\frac{100}{2}$
5.	0		0.0%		UPL species $0 \times 5 = 0$
6.	0		0.0%		Column Totals: 155 (A) 358 (B)
7.	0		0.0%		Prevalence Index = B/A = 2.310
	60	= To	tal Cover	•	Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size: 5')					Rapid Test for Hydrophytic Vegetation
1.Carex crinita	12	\square	12.6%	OBL	✓ Dominance Test is > 50%
2.Onoclea sensibilis	33	V	34.7%	FACW	✓ Prevalence Index is ≤3.0 ¹
3. Carex Intumescens	25	✓	26.3%	FACW+	Morphological Adaptations ¹ (Provide supporting
4. Rubus hispidus	0	\Box	0.0%	FACW	data in Remarks or on a separate sheet)
5. Solidago canadensis	25	V	26.3%	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
<u>6.</u>		Ц	0.0%		
7		Ц	0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8	0		0.0%		·
9	0		0.0%		Definitions of Vegetation Strata:
10			0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0		0.0%		at breast height (DBH), regardless of height.
12	0	Ш	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:)	95	= To	otal Cover	-	greater than 3.28 ft (1m) tall
	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
1			0.0%		size, and woody plants less than 3.28 ft tall.
2 3			0.0%		
			0.0%		Woody vine - All woody vines greater than 3.28 ft in
4		Ш,	0.076		height.

0 = Total Cover

Remarks: (Include photo numbers here or on a separate sheet.)

Yes ● No ○

Hydrophytic Vegetation

Present?

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN32 wetland

	ription: (Des	scribe to	the depth	needed to docu	ment the indi	cator or co	onfirm the	absence of indicators.)				
Depth (inches)	. Color (ı	Matrix	_ %	_ Color (mois	Redox Feat		Loc²	Texture	Remarks			
				Color (Illois	1) 76		LUC-		Remarks			
0-18	10YR	3/2	100%					Loam				
18-24	2.5Y	4/2	95%	10YR 5	5%	C		Sandy Loam				
									·			
						_		-				
1 Type: C=Con	centration D	=Depletion	n RM=Red	uced Matrix CS=C	overed or Coat	ed Sand Gr	ains 21 oca	ation: PL=Pore Lining. M=N				
Hydric Soil I		- Depiction	n. ruw-rea	acca mann, co-c		eu ounu or						
Histosol (Polyvalue	Below Surface	(S8) (I RR I	₹.		ematic nyunc sons :			
	pedon (A2)			MLRA 149		(50) (ERR 1	ν,		(LRR K, L, MLRA 149B)			
Black Hist				☐ Thin Dark	Surface (S9)	(LRR R, MLI	RA 149B)		ox (A16) (LRR K, L, R)			
	Sulfide (A4)			Loamy Mu	ıcky Mineral (F	1) LRR K, L)		or Peat (S3) (LRR K, L, R)			
	Layers (A5)			Loamy Gl	eyed Matrix (F2	2)		☐ Dark Surface (S7) (LRR K, L) ☐ Polyvalue Below Surface (S8) (LRR K, L)				
	Below Dark S	Surface (A	11)	Depleted	Matrix (F3)							
	Thick Dark Surface (A12) Redox Dark Surface (F6)						Thin Dark Surface					
Sandy Mu	ıck Mineral (S	51)		Depleted	Dark Surface (F	7)			Masses (F12) (LRR K, L, R) ain Soils (F19) (MLRA 149B)			
	Sandy Gleyed Matrix (S4) Redox Depressions (F8)						6) (MLRA 144A, 145, 149B)					
Sandy Re								Red Parent Mater				
	Matrix (S6)							Very Shallow Dark				
Dark Surf	ace (S7) (LRF	R R, MLRA	149B)					Other (Explain in				
3Indicators o	f hydronhytic	vegetatio	n and wetla	nd hydrology mus	t he nresent iii	nlass disturl	ned or probl		Normania)			
			Turia wetia	na nyarology mas	be present, a	ness distail	sea or probl	icinatio.				
Restrictive L	ayer (if obs	erved):										
Type:	1							Hydric Soil Present?	Yes No			
Depth (inc	nes):							,	100 0 110 0			
Remarks:												

Project/Site: Antrim Wind Project		City/County: Antrim		Sampling Date: 22-Aug-11
Applicant/Owner: Eolian Renewable Energy,	LLC	Sta	te: NH	Sampling Point: AN32 upland
Investigator(s): AF JG		Section, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.): Undu	ulating I	Local relief (concave, convex, n		
Subregion (LRR or MLRA):	Lat.:	Long	<u> </u>	Datum:
			-	
Soil Map Unit Name:			NWI classifi —	cation:
Are climatic/hydrologic conditions on the	site typical for this time of year	ar? Yes • No 🔾	(If no, explain in	•
Are Vegetation, Soil, or	Hydrology 🗌 significantly	y disturbed? Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation, Soil, or	Hydrology 🗌 naturally pr	oblematic? (If needed, e	explain any answe	ers in Remarks.)
Summary of Findings - Attach		ampling point location	s, transects,	important features, etc.
1 2 . 2	s O No O			
, , , , , , , , , , , , , , , , , , ,	s O No 💿	Is the Sampled Area within a Wetland?	Yes \bigcirc No $lacktriangle$	
Wetland Hydrology Present? Yes	s O No 💿			
Hydrology				
Wetland Hydrology Indicators:	المراجعة المطلق المراجعة المصادر			rs (minimum of 2 required)
Primary Indicators (minimum of one req Surface Water (A1)		(00)	Surface Soil Cr	
High Water Table (A2)	Water-Stained Leav☐ Aquatic Fauna (B13)	• •	☐ Drainage Patte	
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)
Water Marks (B1)	Hydrogen Sulfide O		Crayfish Burro	
Sediment Deposits (B2)		res along Living Roots (C3)		ble on Aerial Imagery (C9)
☐ Drift deposits (B3)	Presence of Reduce			essed Plants (D1)
☐ Algal Mat or Crust (B4)	Recent Iron Reducti	ion in Tilled Soils (C6)	Geomorphic Po	osition (D2)
Iron Deposits (B5)	Thin Muck Surface ((C7)	Shallow Aquita	rd (D3)
Inundation Visible on Aerial Imagery (B7)	U Otrici (Explain in No	emarks)	Microtopograp	
Sparsely Vegetated Concave Surface (B8)			FAC-neutral Te	est (D5)
Field Observations:				
Curiado Mator Froduiti	Depth (inches):			
Water Table Present? Yes O N	Depth (inches):			
Saturation Present? (includes capillary fringe) Yes N	o Depth (inches):	Wetland Hydr	ology Present?	Yes ○ No ●
Describe Recorded Data (stream gauge,	monitoring well, aerial photos	s, previous inspections), if avail	able:	
Remarks:				

VEGETATION - Use scientific names of pl			minant ecies?		Sampling	Point	: AN3	2 upland	
Tree Stratum (Plot size:)	Absolute % Cover	Re		Indicator Status	Dominance Test worksho	et:			
				Status	Number of Dominant Specie			1	(4)
			0.0%		That are OBL, FACW, or FAC	; :	-	1	(A)
2.		Η.	0.0%		Total Number of Dominant				
3		H	0.0%		Species Across All Strata:		_	3	(B)
1		H.	0.0%		Percent of dominant Spe	ries			
5		H	0.0%		That Are OBL, FACW, or FAC: 33.3%			(A/B)	
5 7		Π.	0.0%		Dravalance Index worksh				
-					Prevalence Index worksh Total % Cover of:		Aultiply	by:	
Sapling/Shrub Stratum (Plot size: 15')	0	= 10	tal Cove	r			/lultiply : 1 =		_
. Rhus copallinum	50	V	76.9%	NI		_			-
Pinus strobus	5		7.7%	FACU			2 =	-	-
3. Prunus serotina	5		7.7%	FACU	FAC speciles 15		3 =	45	-
1. Acer rubrum	5		7.7%	FAC			4 =	292	-
5.			0.0%		UPL speci es0	×	5 =	0	-
6.	0		0.0%		Column Totals: 13	((A)	413	(B)
7.	0		0.0%		Prevalence Index =	B/A =		3.153	
		= To	tal Cove	r	Hydrophytic Vegetation I	-			
Herb Stratum (Plot size: 5')					Rapid Test for Hydro			ation	
1 Pteridium aquilinum	20		17.2%	FACU	Dominance Test is		vegen	ation	
2. Rubus idaeus	10		8.6%	FAC-	Prevalence Index is ≤3.0 ¹				
3. Rubus allegheniensis	10		8.6%	FACU-	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)				
4. Solidago canadensis	33	\checkmark	28.4%	FACU					orting
5. Phalaris arundinacea	33	✓	28.4%	FACW+					olain)
6.Carex crinita	10		8.6%	OBL			Ū		-
7	0		0.0%		1 Indicators of hydric so				gy must
8	0		0.0%		be present, unless distu				
9	0		0.0%		Definitions of Vegeta	tion S	trata:		
10	0		0.0%		Tree - Woody plants, 3 in	. (7.6	cm) or	more in d	liamete
l1 <u>. </u>	0		0.0%		at breast height (DBH), r				
12	0		0.0%		Conting/objects Monday	lanta l	th.	n 2 in DE	الممما الا
	116	= To	tal Cove	r	Sapling/shrub - Woody p greater than 3.28 ft (1m)	tall	ess ma	ın 3 in. De	on and
Woody Vine Stratum (Plot size:)									
1	0	\square	0.0%		Herb - All herbaceous (n size, and woody plants le				rdless o
2		Н.	0.0%		Size, and woody plants is	:55 IIIa	111 3.20	ii iaii.	
3		\square	0.0%		Woody vine - All woody v	ines g	reater	than 3.28	ft in
4		\square	0.0%		height.				
	0	= To	tal Cove	r					
					Hydrophytic Vegetation Present? Yes	No	•		

Remarks. (Include prioto numbers here of on a separate sheet.)

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN32 upland

	ription: (Des	scribe to	the depth	needed to document the indicator or confirm the a	absence of indicators.)
Depth (inches)	. Color (ı	Matrix	_ %	Redox Features Color (moist) % Type 1 Loc2	Texture Remarks
				Color (moist) 28 Type 1 Loc-	
0-8	10YR	3/3	100%		Loam
8-13	10YR	4/3	100%		Sandy Loam
¹ Type: C=Con	centration. D	=Depletion	n. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	tion: PL=Pore Lining. M=Matrix
Hydric Soil I	Indicators:				Indicators for Problematic Hydric Soils: 3
Histosol ((A1)			Polyvalue Below Surface (S8) (LRR R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic Epi	pedon (A2)			MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
Black Hist	tic (A3)			☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)	☐ Dark Surface (S7) (LRR K, L)
Stratified Edyers (AS)		Loamy Gleyed Matrix (F2)☐ Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)		
Depleted Below Dark Surface (A11)			11)	Redox Dark Surface (F6)	☐ Thin Dark Surface (S9) (LRR K, L)
Depleted Dark Surface (A12)				Depleted Dark Surface (F7)	Iron-Manganese Masses (F12) (LRR K, L, R)
Sality Witch Willieral (31)				Redox Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B)
Sandy Re		34)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Matrix (S6)				Red Parent Material (TF2)
	face (S7) (LRI	R R. MLRA	149B)		☐ Very Shallow Dark Surface (TF12) ☐ Out (F. Living Bounds)
					U Other (Explain in Remarks)
			i and wella	and hydrology must be present, unless disturbed or proble	ernatic.
Restrictive L	ayer (if obs	erved):			
Type:					Hydric Soil Present? Yes No •
Depth (inc	hes):				Tes O NO O
Remarks:					



AN32 Upland



AN32 Wetland

Project/Site: Antrim Wind Project	City/	County: Antrim		Sampling Date: 22-Aug-11
Applicant/Owner: Eolian Renewable Energy, Ll		Sta	te: NH	Sampling Point: AN33 Wetland
Investigator(s): AF JG	Sci	ection, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.): Footslo		relief (concave, convex, n		Slope: 3.0 % / 1.7 °
Subregion (LRR or MLRA):	Lat.:		-	Datum:
	Lat	Long	-	
Soil Map Unit Name:			NWI classif	ication: PSS
Are climatic/hydrologic conditions on the si	te typical for this time of year?	Yes No	(If no, explain in	•
Are Vegetation . , Soil . , or Hy	drology significantly dist	urbed? Are "Normal	Circumstances" p	oresent? Yes No
Are Vegetation , Soil , or Hy	drology aturally problem	matic? (If needed, e	explain any answe	ers in Remarks.)
Summary of Findings - Attach	site map showing samp	oling point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes				
Hydric Soil Present? Yes	● No ○	Is the Sampled Area within a Wetland?	Yes ● No ○)
Wetland Hydrology Present? Yes	● No ○			
Hydrology				
Wetland Hydrology Indicators:	rod, chock all that apply)			ors (minimum of 2 required)
Primary Indicators (minimum of one requi Surface Water (A1)		2)	Surface Soil Co	
High Water Table (A2)	✓ Water-Stained Leaves (B¹☐ Aquatic Fauna (B13)	7)	Moss Trim Lin	
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)
☐ Water Marks (B1)	Hydrogen Sulfide Odor (0	21)	Crayfish Burro	
Sediment Deposits (B2)	Oxidized Rhizospheres al			ible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron	n (C4)	Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)		Shallow Aquita	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remark	s)	Microtopograp	
Sparsely Vegetated Concave Surface (B8)			✓ FAC-neutral Te	est (D5)
Field Observations:				
Surface Water Present? Yes No				
Water Table Present? Yes No	Depth (inches):	Watland Hydr	ology Present?	Yes ● No ○
Saturation Present? (includes capillary fringe) Yes No	Depth (inches):	0 Wetland Hydi	ology Present?	Tes © NO ©
Describe Recorded Data (stream gauge, m	onitoring well, aerial photos, pre	evious inspections), if avail	able:	
Remarks:				

VEGETATION - Use scientific names of plan	nts	Domi			Sampling Point: AN33 Wetland			
	Absolute	Speci Rel.S		Indicator	Dominance Test worksheet:			
Tree Stratum (Plot size:)	% Cover	Cove	r	Status	Number of Dominant Species			
1	0		0.0%		That are OBL, FACW, or FAC: 4 (A)			
2	0	<u></u>	0.0%		Total Number of Dominant			
3	0	∐c	0.0%		Species Across All Strata: 5 (B)			
4	0		0.0%					
5	0		0.0%		Percent of dominant Species That Are ORL FACW or FAC: 80.0% (A/B)			
6	0		0.0%		That Are OBL, FACW, or FAC: 80.0% (A/B)			
7	0		0.0%		Prevalence Index worksheet:			
Sapling/Shrub Stratum (Plot size: 15')		= Total	l Cover		Total % Cover of: Multiply by:			
			0.007	E 4 0) 4 /	0BL speci es36 x 1 =36			
1. Cornus stolonifera			0.0%	FACW+	FACW species 70 x 2 = 140			
2. Viburnum dentatum			0.0%	FAC	FAC species 5 x 3 = 15			
3			0.0%		FACU speci es 33 x 4 = 132			
4			0.0%		UPL species $0 \times 5 = 0$			
5			0.0%		Column Totals: 144 (A) 323 (B)			
6			0.0%		Cordini Total's: 144 (A) 323 (5)			
7		ШС	0.0%		Prevalence Index = $B/A = 2.243$			
Herb Stratum (Plot size: 5')	10	= Total	l Cover		Hydrophytic Vegetation Indicators:			
1. Onoclea sensibilis	40	✓ 2	9.9%	EAC\A/	Rapid Test for Hydrophytic Vegetation			
2.Solidago canadensis	33		4.6%	FACU	✓ Dominance Test is > 50%			
3. Carex crinita	33		4.6%	OBL	✓ Prevalence Index is ≤3.0 ¹			
4. Rubus hispidus	25		8.7%	FACW	☐ Morphological Adaptations ¹ (Provide supporting			
5.Osmunda regalis	3		2.2%	OBL	data in Remarks or on a separate sheet)			
6.	0		0.0%	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)			
7.	0		0.0%		¹ Indicators of hydric soil and wetland hydrology must			
8.	0		0.0%		be present, unless disturbed or problematic.			
9.	0		0.0%		Definitions of Vegetation Strata:			
10.	0		0.0%					
11.	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
12.					at bleast height (DDH), regardless of height.			
· · · · · · · · · · · · · · · · · · ·	124		0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and			
Woody Vine Stratum (Plot size:)	134	= Total	Cover		greater than 3.28 ft (1m) tall			
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of			
2	0		0.0%		size, and woody plants less than 3.28 ft tall.			
3	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in			
4	0		0.0%		height.			
		_			l ~			

Hydrophytic Vegetation

Present?

Remarks: (Include photo numbers here or on a separate sheet.)

0 = Total Cover

Yes ● No ○

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN33 Wetland

	ription: (Des	scribe to	the depth	needed to doo	ument th	ne indica	ator or co	onfirm the	absence of indicators.)		
Depth (inches)	. Color (ı	Matrix	_ %	_ Color (mo	_	x Featu		Loc²	Texture	Remarks	
				COIOI (IIIC		70	Type	LUC-		Remarks	
0-14	10YR	3/2	100%						Loam		
14-20	2.5Y	5/2	90%	2.5Y	5/1	10%	D	M	Sand		
¹ Type: C=Con	centration. D	=Depletion	n. RM=Red	uced Matrix, CS	=Covered	or Coate	d Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=I	 Matrix	
Hydric Soil I		•									
Histosol (Polyvali	ue Below S	Surface (S8) (LRR	R,		iematic nyunc sons :	
	pedon (A2)			MLRA 1		•	, ((LRR K, L, MLRA 149B)	
☐ Black Hist				☐ Thin Da	rk Surface	e (S9) (L	RR R, ML	RA 149B)		ox (A16) (LRR K, L, R) or Peat (S3) (LRR K, L, R)	
Hydrogen	Sulfide (A4)				Mucky Mir		LRR K, L)			
Stratified	Layers (A5)			_	Gleyed Ma				☐ Dark Surface (S7) (LRR K, L) ☐ Polyvalue Below Surface (S8) (LRR K, L)		
✓ Depleted								e (S9) (LRR K, L)			
Thick Dar	k Surface (A1	12)			Dark Surfa					Masses (F12) (LRR K, L, R)	
	uck Mineral (S			_	d Dark Su)			lain Soils (F19) (MLRA 149B)	
	eyed Matrix (S4)		□ Redox i	Depression	15 (F8)			Mesic Spodic (TA	6) (MLRA 144A, 145, 149B)	
Sandy Re									Red Parent Material (TF2)		
	Matrix (S6)		4.400)						Very Shallow Dar		
	ace (S7) (LRI								Other (Explain in	Remarks)	
³ Indicators of	f hydrophytic	vegetatio	n and wetla	nd hydrology m	ust be pre	sent, unl	ess distur	bed or probl	lematic.		
Restrictive L	ayer (if obs	erved):									
Type:											
Depth (inc	hes):								Hydric Soil Present?	Yes ● No ○	
Remarks:											
i											

Project/Site: Antrim Wind Project			City/County	: Antrim		Sampling Date: 22-Aug-11
Applicant/Owner: Eolian Renewable Er	nergy, LLC			Sta	te: NH	Sampling Point: AN33 Upland
Investigator(s): AF JG			Section.	Township, Range:	S. T.	R.
Landform (hillslope, terrace, etc.):	Hillside		_	(concave, convex, r		Slope: 5.0 % / 2.9 °
Subregion (LRR or MLRA):		Lat.:		Long	1.:	Datum:
					NWI classif	
Soil Map Unit Name:						
Are climatic/hydrologic conditions o	n the site ty	pical for this time of y	ear? Y	′es ● No ○	(If no, explain in	· ·
Are Vegetation , Soil	, or Hydrolo	ogy 🗌 significant	ly disturbed?	Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation, Soil	, or Hydrold	ogy 🗌 naturally p	roblematic?	(If needed,	explain any answe	ers in Remarks.)
Summary of Findings - At		<u> </u>	ampling	point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present?		No •				
Hydric Soil Present?	Yes 🔾	No •		he Sampled Area hin a Wetland?	Yes \bigcirc No $lacktriangle$	
Wetland Hydrology Present?	Yes 🔾	No •				
Hydrology						
Wetland Hydrology Indicators:	a raquirad.	abaak all that annly)				rs (minimum of 2 required)
Primary Indicators (minimum of on Surface Water (A1)	e requirea;		(DO)		Surface Soil C	
High Water Table (A2)		Water-Stained Lea Aquatic Fauna (B1			☐ Drainage Patte	
Saturation (A3)		Marl Deposits (B15				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide			Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosph		ng Roots (C3)		ble on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduc	ed Iron (C4)		Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc	tion in Tilled S	oils (C6)	Geomorphic P	osition (D2)
☐ Iron Deposits (B5)		Thin Muck Surface	(C7)		Shallow Aquita	
Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surfac		Other (Explain in F	Remarks)		Microtopograp	
Sparsely vegetated Concave Surface	3 (88)				FAC-neutral To	est (D5)
Field Observations:						
Surface Water Present? Yes		Depth (inches):		_		
Water Table Present? Yes	No 💿	Depth (inches):				Yes ○ No •
Saturation Present? (includes capillary fringe) Yes	No 💿	Depth (inches):		wetiand Hydi —	rology Present?	Tes ○ INO ⑤
Describe Recorded Data (stream ga	uge, monito	oring well, aerial photo	os, previous i	nspections), if avai	lable:	
Remarks:						

/EGETATION - Use scientific names of pl			minant cies?		Sampling Point: AN33 Upland			
Tree Stratum (Plot size: 30')	Absolute % Cover	Rel	Strat.	Indicator Status	Dominance Test worksheet:			
Fogue grandifella		✓	33.3%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)			
A		<u> </u>	33.3%	FACU-	That are OBL, FACW, or FAC: 0 (A)			
Acer saccharum		<u> </u>			Total Number of Dominant			
_ Tsuga canadensis		_	33.3%	FACU	Species Across All Strata: 6 (B)			
•		H-	0.0%		Percent of dominant Species			
		H-	0.0%		That Are OBL, FACW, or FAC: 0.0% (A/			
		H-	0.0%					
		Ш_	0.0%		Prevalence Index worksheet:			
apling/Shrub Stratum (Plot size: 15')	30	= Tot	al Cove	r	Total % Cover of: Multiply by:			
. Fagus grandifolia	25	✓	41.7%	FACU	0BL species 0 x 1 = 0			
Populus tremula	15	~	25.0%	FACU	FACW species 10 x 2 = 20			
Pinus strobus			8.3%	FACU	FAC species 3 x 3 = 9			
Fraxinus pennsylvanica		\Box	16.7%	FACW	FACU speci es80 x 4 =320			
. Quercus rubra	5	$\overline{\Box}$	8.3%	FACU-	UPL species $\frac{75}{}$ x 5 = $\frac{375}{}$			
		\Box	0.0%		Column Totals: 168 (A) 724 (E			
i		\Box	0.0%		Prevalence Index = B/A = 4.310			
•			al Cove					
Herb Stratum (Plot size: 5')		- 100	ai cove	•	Hydrophytic Vegetation Indicators:			
1.Dennstaedtia punctilobula	75	✓	96.2%	UPL	Rapid Test for Hydrophytic Vegetation			
2.Malanthemum canadense			3.8%	FAC-	☐ Dominance Test is > 50%			
3.			0.0%		Prevalence Index is ≤3.0 ¹			
4.			0.0%		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
5.			0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)			
6.			0.0%		Problematic hydrophytic vegetation (Explain)			
7.			0.0%		¹ Indicators of hydric soil and wetland hydrology mu			
8.	0	\Box	0.0%		be present, unless disturbed or problematic.			
9.		\Box	0.0%		Definitions of Vegetation Strata:			
0.		\Box	0.0%		The second section of the section of the second section of the section of t			
1.		$\overline{\Box}$	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diame at breast height (DBH), regardless of height.			
2.			0.0%		at 27000t 1101g/11 (2 2 1.7); 10 gat aloos of 1101g/111			
- <u>·</u>		 - Tot	al Cove	- — — ·	Sapling/shrub - Woody plants less than 3 in. DBH an			
Noody Vine Stratum (Plot size:)	70	- 100	ai oove	•	greater than 3.28 ft (1m) tall			
	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless			
2	0		0.0%		size, and woody plants less than 3.28 ft tall.			
3			0.0%		Woody vine - All woody vines greater than 3.28 ft in			
4			0.0%		height.			
	0	= Tot	al Cove	r				
					Hydrophytic			
					Vegetation Present? Yes No •			

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN33 Upland

iption: (Describe	to the depth	needed to document the indicator or confirm the	absence of indicators.)			
		Redox Features Color (moist) 9/ Type 1 Lee?	Texture Remarks			
		Coloi (moist) 26 Type Loc-				
			Loam			
	3 100%		Loamy Sand			
		All the control of Control Con	Ation DI Donation M Makin			
· ·	letion. RIVI=Rea	uced Matrix, CS=Covered or Coated Sand Grains 2Loca	·			
			Indicators for Problematic Hydric Soils : 3			
			2 cm Muck (A10) (LRR K, L, MLRA 149B)			
			Coast Prairie Redox (A16) (LRR K, L, R)			
			5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
			Dark Surface (S7) (LRR K, L)			
	Δ (Λ11)		Polyvalue Below Surface (S8) (LRR K, L)			
	e (ATT)	Redox Dark Surface (F6)	Thin Dark Surface (S9) (LRR K, L)			
		Depleted Dark Surface (F7)	☐ Iron-Manganese Masses (F12) (LRR K, L, R)			
		Redox Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B)			
			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
			Red Parent Material (TF2)			
	ILRA 149B)		Very Shallow Dark Surface (TF12)			
			Other (Explain in Remarks)			
		ind hydrology must be present, unless disturbed or problem	ematic.			
-	d):					
			Hydric Soil Present? Yes ○ No ●			
nes): 15			Tryunc 3011 Fresent: Yes C NO C			
	Matrix (S6) are (S7) (LRR R, Medical to veger) Matrix Color (moist 10YR 3/ 2.5Y 5/ 2.5Y 5/	Matrix Color (moist)	Color (moist) % Color (moist) % Type Loc2 10YR 3/3 100% 2.5Y 5/3 100% 2.5Y 5/3 100% Polyvalue Below Surface (S8) (LRR R, MLRA 149B) MIRA 149B) Comp Mucky Mineral (F1) LRR K, L) Loamy Mucky Mineral (F1) LRR K, L) Loamy Gleyed Matrix (F2) Selow Dark Surface (A11) Cosurface (A12) Cosurface (A12) Cosurface (A12) Cosurface (A13) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Matrix (S4) More Matrix (S4) More Matrix (S4) More Matrix (S4) More Matrix (S6) More (S7) (LRR R, MLRA 149B) Mydrophytic vegetation and wetland hydrology must be present, unless disturbed or problems are (if observed): Mulliant Mulliant Mulliant Mulliant Mulliant Mydrology must be present, unless disturbed or problems are (if observed): Mulliant Mulliant Mulliant Mulliant Mydrology must be present, unless disturbed or problems are (if observed): Mulliant Mulliant Mulliant Mulliant Mydrology must be present, unless disturbed or problems are (if observed): Mulliant Mulliant Mulliant Mulliant Mydrology must be present, unless disturbed or problems are (if observed): Mulliant Mulliant Mulliant Mulliant Mydrology must be present, unless disturbed or problems are (if observed): Mulliant Mulliant Mulliant Mulliant Mydrology must be present, unless disturbed or problems are (if observed): Mulliant Mulliant Mulliant Mulliant Mydrology must be present, unless disturbed or problems are (if observed):			



AN33 Wetland



AN33 Upland



AN33 Wetland



AN33 Wetland

Project/Site: Antrim Wind Project			City/Count	:y: Antrim		Sampling Date: 26-Sep-11
Applicant/Owner: Eolian Renewable 8	Energy, LLC			Sta	te: NH	Sampling Point: AN35 wetland
Investigator(s): AF JG			Section	, Township, Range:	S. T.	
Landform (hillslope, terrace, etc.):	Footslope		_	f (concave, convex, r		Slope: 5.0 % / 2.9 °
Subregion (LRR or MLRA):		Lat.:		Long		Datum:
			-			
Soil Map Unit Name:					INVVI CIASSIII	cation: PFO/PSS
Are climatic/hydrologic conditions	on the site typ	pical for this time of y	ear?	Yes ● No ○	(If no, explain in	·
Are Vegetation , Soil	, or Hydrolo	ogy 🗌 significant	lly disturbed	l? Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation . , Soil .	, or Hydrolo	ogy 🗌 naturally p	oroblematic [*]	? (If needed,	explain any answe	ers in Remarks.)
Summary of Findings - A			sampling	point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present?		No O				
Hydric Soil Present?		No O		the Sampled Area thin a Wetland?	Yes ● No C	
Wetland Hydrology Present?	Yes 💿	No O				
Hydrology						
Hydrology						
Wetland Hydrology Indicators:	no roquirod.	abaak all that annly)				rs (minimum of 2 required)
Primary Indicators (minimum of o	ie requireu; c		(DO)		Surface Soil Co	
✓ High Water Table (A2)		✓ Water-Stained Lea☐ Aquatic Fauna (B1			✓ Drainage Patte Moss Trim Lin	
Saturation (A3)		Marl Deposits (B15				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide			Crayfish Burro	
Sediment Deposits (B2)		✓ Oxidized Rhizosph		ving Roots (C3)		ble on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduc	ced Iron (C4)		Stunted or Str	essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc	ction in Tilled	Soils (C6)	Geomorphic P	osition (D2)
Iron Deposits (B5)		Thin Muck Surface	e (C7)		Shallow Aquita	
Inundation Visible on Aerial ImageSparsely Vegetated Concave Surfa		Other (Explain in F	Remarks)		Microtopograp	
Sparsely vegetated concave surfa	ле (во)				✓ FAC-neutral Te	est (D5)
Field Observations: Surface Water Present? Yes	O No ●					
		Depth (inches):				
Water Table Present? Yes		Depth (inches):	2	Wetland Hydi	rology Present?	Yes ● No ○
Saturation Present? (includes capillary fringe) Yes	No O	Depth (inches):	0		ology Fresent:	103 9 NO 9
Describe Recorded Data (stream g	auge, monito	ring well, aerial photo	os, previous	inspections), if avai	lable:	
Remarks:						

Tree Stratum (Plot size: 30') 1. Acer rubrum 2. Betula alleghanlensis 3. Fraxinus pennsylvanica 4. 5. 6. 7. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6.		Re	27.3% 27.3% 45.5%	Indicator Status FAC FAC	Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)			
1. Acer rubrum 2. Betula alleghaniensis 3. Fraxinus pennsylvanica 4. 5. 6.	15 25 0	✓	27.3% 27.3%	FAC	· · · · · · · · · · · · · · · · · · ·			
2. Betula alleghaniensis 3. Fraxinus pennsylvanica 4. 5. 6. 7.	15 25 0	V	27.3%		That are obe, thow, of the			
3. Fraxinus pennsylvanica 4. 5. 6. 7.	25 0 0	_						
4	0	\Box		FACW	Total Number of Dominant Species Across All Strata: 6 (B)			
5 5 7			0.0%		Species Across All Strata: 6 (B)			
5 7			0.0%		Percent of dominant Species			
7	•		0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)			
	0		0.0%		Prevalence Index worksheet:			
	55	= To	tal Cove		Total % Cover of: Multiply by:			
Sapling/Shrub Stratum (Plot size: 15')					OBL species 0 x 1 = 0			
1. Fraxinus pennsylvanica		\	66.7%	FACW	FACW species 115 x 2 = 230			
2. Ilex verticillata	10	✓.	33.3%	FACW+	FAC species $30 \times 3 = 90$			
3	0		0.0%		FACU species 0 x 4 = 0			
1		\square	0.0%		UPL species $0 \times 5 = 0$			
5		\square	0.0%		(7)			
5	0		0.0%					
7	0	Ш.	0.0%		Prevalence Index = B/A = 2.207			
Herb Stratum (Plot size: 5')	30	= To	tal Cove	=	Hydrophytic Vegetation Indicators:			
1 Oncolos concibilio	50	~	83.3%	FACW	Rapid Test for Hydrophytic Vegetation			
Condition Consumation Consumation Consumation Consumation Consumation Consumation Consumation Consumation Consumation Consumation Consumation Consumation Consumation Consumation	10		16.7%	FACW	✓ Dominance Test is > 50%			
3.	0	\Box	0.0%	TACW	✓ Prevalence Index is ≤3.0 ¹			
4.	0	\Box	0.0%		Morphological Adaptations ¹ (Provide supporting			
5.	0	\Box	0.0%		data in Remarks or on a separate sheet)			
6.	0	\Box	0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)			
7.	0	\Box	0.0%		¹ Indicators of hydric soil and wetland hydrology must			
8.	0	\Box	0.0%		be present, unless disturbed or problematic.			
9.	0	\Box	0.0%		Definitions of Vegetation Strata:			
10.	0	\Box	0.0%		Tree Manda plants 2 in (7.0 cm) or man in dispretant			
 11.	0	\Box	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
12.	0		0.0%					
		 = To	tal Cove		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall			
Woody Vine Stratum (Plot size:)					greater than 3.20 ft (1111) tall			
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless o			
2	0		0.0%		size, and woody plants less than 3.28 ft tall.			
3	0	\square	0.0%		Woody vine - All woody vines greater than 3.28 ft in			
4	0	\square	0.0%		height.			
	0	= To	tal Cove	=				

Remarks: (Include photo numbers here or on a separate sheet.)

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN35 wetland

	iption: (Des	scribe to	the depth	needed to d	ocument	the indic	ator or c	onfirm the	absence of indicators.)		
Depth (inches)	. Color (r	Matrix	_ %	_ Color (n		dox Featu %		Loc2	Texture	Remark	
0-8	10YR	3/2	100%	Coloi (II	ioist)		_ Type		Loam	Remark	<u> </u>
				10)/D	• • • •						
8-14	2.5Y	4/2	95%	10YR	4/6	5%	C		Fine Sandy Loam	Bedrock	
14+											
										_	
¹ Type: C=Con	centration. D	=Depletio	n. RM=Red	uced Matrix, C	S=Covere	ed or Coate	ed Sand G	ains ² Loc	ation: PL=Pore Lining. M=	Matrix	
Hydric Soil I	ndicators:								Indicators for Prob	lematic Hydric So	ils: 3
Histosol (A1)					v Surface ((S8) (LRR	R,		(LRR K, L, MLRA 14	
Histic Epi	pedon (A2)				. 149B)	(CO) (DD D MI	DA 140D)		lox (A16) (LRR K, L,	
Black Hist						ace (S9) (I				or Peat (S3) (LRR K	
	Hydrogen Sulfide (A4))	Dark Surface (S7			
	☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Relow Dark Surface (A11) ☐ Depleted Matrix (F3)							Polyvalue Below Surface (S8) (LRR K, L)			
	✓ Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Depleted Matrix (F3) Redox Dark Surface (F6)						Thin Dark Surface (S9) (LRR K, L)				
	,	•				Surface (F	7)			Masses (F12) (LRR H	
	ıck Mineral (S eyed Matrix (S			_	c Depress		,		☐ Piedmont Floodplain Soils (F19) (MLRA 149B) ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
Sandy Re		34)									5, 149B)
	Matrix (S6)								Red Parent Material (TF2) Very Shallow Dark Surface (TF12)		
	ace (S7) (LRF	R R, MLRA	149B)						Other (Explain in		
³ Indicators of				nd budrologu	must be n	rocont un	loce dictur	had ar prabl		Remarks)	
			ii aliu wetia	na nyarology	nust be p	resent, un	iess distui	bed of probl	lematic.		
Restrictive L	ayer (if obs	erved):									
Type:	hoo).								Hydric Soil Present?	Yes No	\circ
Depth (inc	nes):									100 - 110	
Remarks:											

Project/Site: Antrim Wind Project	City/Count	ty: Antrim		Sampling Date: 26-Sep-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH	Sampling Point: an35 upland
Investigator(s): AF JG	Section	n, Township, Range:	S. T.	 R.
Landform (hillslope, terrace, etc.): Footslope		f (concave, convex, n		Slope: 5.0 % / 2.9 °
Subregion (LRR or MLRA):	Lat.:	Long	 j.:	Datum:
Soil Map Unit Name:			NWI classifi	ication:
		Yes No		
Are climatic/hydrologic conditions on the site ty			(If no, explain in	
Are Vegetation . , Soil . , or Hydrol	ogy significantly disturbed	d? Are "Normal	Circumstances" p	present? Yes S NO C
Are Vegetation , Soil , or Hydrol	ogy naturally problematic	? (If needed, e	explain any answe	ers in Remarks.)
Summary of Findings - Attach site		point location	s, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes	No •			
Hydric Soil Present? Yes	NO 🤝 wi	the Sampled Area ithin a Wetland?	Yes \bigcirc No $lacktriangle$	
Wetland Hydrology Present? Yes	No •			
Remarks: (Explain alternative procedures here	or in a separate report.)			
Hydrology				
Wetland Hydrology Indicators:				ors (minimum of 2 required)
Primary Indicators (minimum of one required; Surface Water (A1)			Surface Soil C	
High Water Table (A2)	Water-Stained Leaves (B9)☐ Aquatic Fauna (B13)		☐ Drainage Patte	
Saturation (A3)	Marl Deposits (B15)			ater Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burro	
Sediment Deposits (B2)	Oxidized Rhizospheres along Liv	ving Roots (C3)		ible on Aerial Imagery (C9)
☐ Drift deposits (B3)	Presence of Reduced Iron (C4)			ressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled	Soils (C6)	Geomorphic P	osition (D2)
Iron Deposits (B5)	☐ Thin Muck Surface (C7)		Shallow Aquita	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		_	ohic Relief (D4)
Sparsely Vegetated Concave Surface (B8)			FAC-neutral To	est (D5)
Field Observations:				
Surface Water Present? Yes No No	Depth (inches):			
Water Table Present? Yes No •	Depth (inches):	_		
Saturation Present? (includes capillary fringe) Yes No •	Depth (inches):	Wetland Hydr	ology Present?	Yes O No 🗨
Describe Recorded Data (stream gauge, monite	oring well, aerial photos, previous	inspections), if avail	able:	
Remarks:				
iverial ks.				

VEGETATION - Use scientific names of pla	nts		ominant pecies?		Sampling Point: an35 upland			
Tree Stratum (Plot size: 30')	Absolute % Cover		el.Strat. over	Indicator Status	Dominance Test worksheet:			
1. Quercus rubra	33	V	46.5%	FACU-	Number of Dominant Species That are OBL, FACW, or FAC: (A)			
Fagus grandifolia Pinus strobus Acer saccharum	10		28.2% 11.3% 14.1%	FACU FACU-	Total Number of Dominant Species Across All Strata: 7 (B)			
5	0		0.0%	TACU-	Percent of dominant Species That Are OBL, FACW, or FAC:28.6% (A/B)			
7. Sapling/Shrub Stratum (Plot size: 15')	0	 = To	0.0% otal Cove	r	Prevalence Index worksheet: Total % Cover of: Multiply by:			
1. Fagus grandifolia 2. Fraxinus pennsylvanica 3. 4. 5. 6. 7.	10 0 0 0		60.0% 40.0% 0.0% 0.0% 0.0% 0.0%	FACU FACW	OBL species 0 x 1 = 0 FACW species 10 x 2 = 20 FAC species 15 x 3 = 45 FACU species 111 x 4 = 444 UPL species 10 x 5 = 50 Column Totals: 146 (A) 559 (B) Prevalence Index = B/A = 3.829			
Herb Stratum (Plot size: 5') 1 .Trientalis borealis 2 .Aralia nudicaulis	15	= To	30.0% 50.0%	FAC FACU	Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation Dominance Test is > 50%			
3. Dennstaedtia punctilobula 4. 5.			20.0%	UPL	□ Prevalence Index is ≤3.0 ¹ □ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

= Total Cover

= Total Cover

0

0

0

0

50

0

0

0

0

Remarks: (Include photo numbers here or on a separate sheet.)

Woody Vine Stratum (Plot size:_____)

7.

8.

9.

10.

11.

12.

¹ Indicators of hydric soil and wetland hydrology must

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter

Sapling/shrub - Woody plants less than 3 in. DBH and

Herb - All herbaceous (non-woody) plants, regardless of

No 💿

Woody vine - All woody vines greater than 3.28 ft in

be present, unless disturbed or problematic.

at breast height (DBH), regardless of height.

size, and woody plants less than 3.28 ft tall.

Yes \bigcirc

Definitions of Vegetation Strata:

greater than 3.28 ft (1m) tall..

height.

Hydrophytic Vegetation

Present?

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an35 upland

Profile Desci	ription: (Desc	ribe to	the depth	needed to document the indicator or confirm the	absence of indicators.)	
Depth (inches)		Watrix		Redox Features		B I .
	Color (m		%	Color (moist) % Type 1 Loc²	Texture	Remarks
0-6	10YR	3/2	100%		Loam	
6-11	10YR	4/6	100%		Fine Sandy Loam	
11-16	10YR	4/4	100%		Fine Sandy Loam	
			-			
¹ Type: C=Con	centration. D=	Depletio	n. RM=Rec	luced Matrix, CS=Covered or Coated Sand Grains ² Loc	ation: PL=Pore Lining. M=Matrix	(
Hydric Soil	Indicators:				Indicators for Problema	itic Hydric Soils: 3
Histosol (Polyvalue Below Surface (S8) (LRR R,	2 cm Muck (A10) (LRF	
	pedon (A2)			MLRA 149B)	Coast Prairie Redox (A	
Black His				Thin Dark Surface (S9) (LRR R, MLRA 149B)	5 cm Mucky Peat or Pe	
	n Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)	Dark Surface (S7) (LR	
	Layers (A5)			☐ Loamy Gleyed Matrix (F2) ☐ Depleted Matrix (F3)	Polyvalue Below Surfa	
Depleted Below Dark Surface (A11)				Redox Dark Surface (F6)	Thin Dark Surface (S9)) (LRR K, L)
	k Surface (A12	•		Depleted Dark Surface (F7)	☐ Iron-Manganese Mass	es (F12) (LRR K, L, R)
	uck Mineral (S1			Redox Depressions (F8)	Piedmont Floodplain S	oils (F19) (MLRA 149B)
	eyed Matrix (S	4)		☐ Redux Depressions (1 0)	Mesic Spodic (TA6) (M	ILRA 144A, 145, 149B)
Sandy Re					Red Parent Material (7	F2)
	Matrix (S6)				Very Shallow Dark Sur	face (TF12)
Dark Surf	face (S7) (LRR	R, MLRA	(149B)		Other (Explain in Rem	arks)
³ Indicators o	f hydrophytic \	egetatio/	n and wetla	and hydrology must be present, unless disturbed or prob	lematic.	
Restrictive L	ayer (if obse	rved):				
Type:	•					
Depth (inc	:hes):				Hydric Soil Present?	Yes O No 💿
Remarks:						
Kemarks.						



AN35 Wetland

Project/Site: Antrim Wind Project	ct		City/County: A	ntrim		Sampling Date: 27-Sep-11
Applicant/Owner: Eolian Renev	vable Energy, LLC		_	Sta	te: NH	Sampling Point: an36 wetland
Investigator(s): AF JG			Section, Tow	nship, Range:	S. T.	
Landform (hillslope, terrace, e	tc.): Saddle		Local relief (con			Slope: 0.0% / 0.0°
Subregion (LRR or MLRA):	- Cadalo	Lat.				
_		Lat.: _		Long	-	Datum:
Soil Map Unit Name:					NWI classifi	cation: PFO
Are climatic/hydrologic condit	ions on the site ty	oical for this time of ye	ear? Yes	● No ○	(If no, explain in	· ·
Are Vegetation . , Soil	, or Hydrold	ogy 🗌 significant	ly disturbed?	Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation, Soil	, or Hydrold	ogy 🗌 naturally p	roblematic?	(If needed, e	explain any answe	ers in Remarks.)
Summary of Findings	- Attach site	map showing s	ampling poi	nt location	s, transects,	important features, etc.
Hydrophytic Vegetation Prese		No O				
Hydric Soil Present?	Yes	No O		ampled Area Wetland?	Yes ● No ○	
Wetland Hydrology Present?	Yes 💿	No O				
Hydrology						
Wetland Hydrology Indicator		لا با سم خمطه الم با ممام				rs (minimum of 2 required)
Primary Indicators (minimum Surface Water (A1)	i or one required;		(0.0)		Surface Soil Cr	
✓ High Water Table (A2)		✓ Water-Stained Lear Aquatic Fauna (B13)	, ,		☐ Drainage Patte	
Saturation (A3)		Marl Deposits (B15				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide C			Crayfish Burro	
Sediment Deposits (B2)		✓ Oxidized Rhizosphe		onts (C3)		ble on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduc		JOIS (03)		essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduc		C6)	Geomorphic P	
☐ Iron Deposits (B5)		☐ Thin Muck Surface	(C7)		Shallow Aquita	ard (D3)
Inundation Visible on Aerial		Other (Explain in R	emarks)		Microtopograp	
Sparsely Vegetated Concave	Surface (B8)				✓ FAC-neutral Te	est (D5)
Field Observations:						
	res ○ No •	Depth (inches):				
Water Table Present?	res ● No O	Depth (inches):	1		ology Present?	Yes ● No ○
(includes capillary fringe)	'es ● No ○	Depth (inches):	0			res ⊕ No ∪
Describe Recorded Data (stre	eam gauge, monito	ring well, aerial photo	s, previous inspe	ections), if avail	able:	
Remarks:						

VEGETATION - Use scientific names of plants	Dominant Species 2
	Species?

Dominant Species?					Sampling Point: an36 wetland			
(0)	Absolute	Re	el.Strat.	Indicator	Dominance Test worksheet:			
Tree Stratum (Plot size: 30'	% Cover		-	Status	Number of Dominant Species			
1. Acer rubrum				FAC	That are OBL, FACW, or FAC: 5 (A)			
2	0		0.0%		Total Number of Dominant			
3	0		0.0%		Species Across All Strata: 5 (B)			
4	0	\square	0.0%		Demonstration of the set of the set of			
5	0	\square	0.0%		Percent of dominant Species That Are OBL, FACW, or FAC:100.0% (A/B)			
6	0	\square	0.0%		That the obe, then, of the			
7	0	Ш	0.0%		Prevalence Index worksheet:			
Sapling/Shrub Stratum (Plot size: 15')		= To	otal Cover	•	Total % Cover of: Multiply by:			
1. Acer rubrum	20	✓	34.5%	FAC	OBL species $3 \times 1 = 3$			
2. Betula alleghaniensis	20	V	34.5%	FAC	FACW species $23 \times 2 = 46$			
3. Fraxinus pennsylvanica	8		13.8%	FACW	FAC species <u>85</u> x 3 = <u>255</u>			
4. Viburnum lantanoides	10		17.2%	FAC	FACU speci es x 4 =0			
5.		\Box	0.0%		UPL species $0 \times 5 = 0$			
6.	0	\Box	0.0%		Column Totals: 111 (A) 304 (B)			
7	0		0.0%		Prevalence Index = B/A = 2.739			
		= Tc	otal Cover					
Herb Stratum (Plot size: 5')					Hydrophytic Vegetation Indicators:			
1.Betula alleghaniensis	15	✓	45.5%	FAC	Rapid Test for Hydrophytic Vegetation			
2.Osmunda regalis	3		9.1%	OBL	✓ Dominance Test is > 50%			
3.Osmunda cinnamomea	15	~	45.5%	FACW	✓ Prevalence Index is ≤3.0 ¹			
4.	0		0.0%		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
5.	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)			
6.	0		0.0%		Troblematic rigarophytic vegetation (Explain)			
7.	0		0.0%		1 Indicators of hydric soil and wetland hydrology must			
8.	0		0.0%		be present, unless disturbed or problematic.			
9.	0		0.0%		Definitions of Vegetation Strata:			
10.	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter			
11.	0		0.0%		at breast height (DBH), regardless of height.			
12.	0		0.0%					
	33	= Tc	otal Cover		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall			
Woody Vine Stratum (Plot size:)					grouter than 6.25 ft (fift) tall			
1	0	\square	0.0%		Herb - All herbaceous (non-woody) plants, regardless of			
2	0	\square	0.0%		size, and woody plants less than 3.28 ft tall.			
3		\square	0.0%		Woody vine - All woody vines greater than 3.28 ft in			
4		Ш	0.0%		height.			
	0 :	= To	otal Cover					
					Hydrophytic Vegetation			
					Present? Yes No			
Remarks: (Include photo numbers here or on a separate she	eet.)							
	•							

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an36 wetland

	ption: (Desci	ribe to th	e depth r	eeded to document the indicator or confirm the	absence of indicators.)	
Depth (inches)	Color (mo	Matrix _	%	Redox Features Color (moist) % Type 1 Loc²	Texture	Remarks
				Color (moist) % Type Loc2		Remarks
0-22	10YR	2/1	100%		Peat	
22+	2.5Y	5/1	100%		Gravelly Sand	
					-	
						·
1						
		Depletion.	RM=Redu	ced Matrix, CS=Covered or Coated Sand Grains ² Loca	ation: PL=Pore Lining. M=N	latrix
Hydric Soil I					Indicators for Probl	ematic Hydric Soils : ³
✓ Histosol (A				☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	2 cm Muck (A10)	(LRR K, L, MLRA 149B)
Histic Epip				Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redo	ox (A16) (LRR K, L, R)
Black Histi				Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat	or Peat (S3) (LRR K, L, R)
_	Sulfide (A4)			Loamy Gleyed Matrix (F2)	Dark Surface (S7)	(LRR K, L)
	ayers (A5)	· (144)		Depleted Matrix (F3)		Surface (S8) (LRR K, L)
	Below Dark Sur)	Redox Dark Surface (F6)	Thin Dark Surface	(S9) (LRR K, L)
_	Surface (A12)			Depleted Dark Surface (F7)	Iron-Manganese N	Masses (F12) (LRR K, L, R)
	ck Mineral (S1)			Redox Depressions (F8)	Piedmont Floodpla	ain Soils (F19) (MLRA 149B)
	yed Matrix (S4))				5) (MLRA 144A, 145, 149B)
Sandy Red					Red Parent Mater	
Stripped N	iatrix (S6) ice (S7) (LRR f	D MIDA 1	40D)		Very Shallow Dark	
					Other (Explain in	Remarks)
³ Indicators of	hydrophytic ve	egetation a	nd wetlan	d hydrology must be present, unless disturbed or probl	ematic.	
Restrictive La	yer (if obser	ved):				
Туре:						
Depth (inch	nes):				Hydric Soil Present?	Yes ● No ○
Remarks:					-	

	City/County: Antrim	Sampling Date: 27-Sep-11
Applicant/Owner: Eolian Renewable Energy, LLC	Str	ate: NH Sampling Point: an36 upland
Investigator(s): AF JG	Section, Township, Range:	S. T. R.
Landform (hillslope, terrace, etc.): Saddle	Local relief (concave, convex,	
Subregion (LRR or MLRA):	Lat.: Lon	g.: Datum:
Soil Map Unit Name:		NWI classification:
	I for this time of year? Yes No	
Are climatic/hydrologic conditions on the site typical		(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology	significantly disturbed? Are "Norma	l Circumstances" present? Yes
Are Vegetation , Soil , or Hydrology	naturally problematic? (If needed,	explain any answers in Remarks.)
Summary of Findings - Attach site ma		ns, transects, important features, etc.
Hydrophytic Vegetation Present? Yes O No		
Hydric Soil Present? Yes No	Within a Wetland?	Yes ○ No ●
Wetland Hydrology Present? Yes O No	•	
Remarks: (Explain alternative procedures here or in	n a separate report.)	
Hydrology		
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check	ek all that apply)	Secondary Indicators (minimum of 2 required)
Surface Water (A1)	11.5	Surface Soil Cracks (B6) Drainage Patterns (B10)
High Water Table (A2)	Water-Stained Leaves (B9) Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes No •	Depth (inches):	
	Depth (inches):	0 0
Surface Water Present? Water Table Present? Saturation Present? Yes No No No No No No No No	Depth (inches):	Irology Present? Yes ○ No •
Surface Water Present? Water Table Present? Yes No Yes No No Yes No No No No No No No No	Depth (inches): Wetland Hyd	
Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Pescribe Recorded Data (stream gauge, monitoring)	Depth (inches): Wetland Hyd	
Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Yes No Yes No Yes No No Yes No No Yes No No Yes No Yes No No Yes No No No Yes No No No Yes No No No No No No No No	Depth (inches): Wetland Hyd	
Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Pescribe Recorded Data (stream gauge, monitoring)	Depth (inches): Wetland Hyd	
Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Pescribe Recorded Data (stream gauge, monitoring)	Depth (inches): Wetland Hyd	
Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Pescribe Recorded Data (stream gauge, monitoring)	Depth (inches): Wetland Hyd	
Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Pescribe Recorded Data (stream gauge, monitoring)	Depth (inches): Wetland Hyd	

VEGETATION - Use scientific names of plants	Dominant Species? _	

vederation - ose scientific fiames of plan	its		ominant pecies?		Sampling Point: an36 upland
(0) 1 2 20	Absolute	Re	el.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')	% Cover		over	Status	Number of Dominant Species
1. Acer saccharum	15	✓	33.3%	FACU-	That are OBL, FACW, or FAC: 2 (A)
2. Fagus grandifolia	15	✓	33.3%	FACU	Total Number of Dominant
3. Betula alleghaniensis	15	✓	33.3%	FAC	Species Across All Strata: 8 (B)
4		Ш	0.0%		Percent of dominant Species
5			0.0%		That Are OBL, FACW, or FAC: 25.0% (A/B)
6			0.0%		
7		_	0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')	45	= To	otal Cove	ŗ	Total % Cover of: Multiply by: OBL species 0 x 1 = 0
1. Fagus grandifolia	8	~	30.8%	FACU	
2. Picea rubens	18	~	69.2%	FACU	
3.	0		0.0%		FAC species $20 \times 3 = 60$
4.	0		0.0%		FACU speci es $\frac{66}{2}$ x 4 = $\frac{264}{2}$
5	0		0.0%		UPL speci es x 5 = 0
6			0.0%		Column Totals: <u>86</u> (A) <u>324</u> (B)
7	0		0.0%		Prevalence Index = B/A = 3.767
	26	= To	otal Cove	r	Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size: 5')		_			Rapid Test for Hydrophytic Vegetation
1 .Aralia nudicaulis	5	V	33.3%	FACU	Dominance Test is > 50%
2.Fagus grandifolia	5	✓	33.3%	FACU	Prevalence Index is ≤3.0 ¹
3. Trientalis borealis	5	✓	33.3%	FAC	☐ Morphological Adaptations ¹ (Provide supporting
4	0	Ш	0.0%		data in Remarks or on a separate sheet)
5	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
6	0		0.0%		1
7	0		0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8	0		0.0%		Definitions of Vegetation Strata:
9	0		0.0%		Definitions of Vegetation Strata.
10	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11			0.0%		at breast height (DBH), regardless of height.
12	0	Ш	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:)	15	= To	otal Cove	r	greater than 3.28 ft (1m) tall
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
2	0		0.0%		size, and woody plants less than 3.28 ft tall.
3	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in
4	0		0.0%		height.
	0	= To	otal Cove	r	
Remarks: (Include photo numbers here or on a separate she	et.)				Hydrophytic Vegetation Present? Yes No No

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an36 upland

Profile Desci	ription: (Desc	ribe to	the depth	needed to document the indicator or confirm the	absence of indicators.)	
Depth (inches)		Watrix		Redox Features	·	
	Color (m		%	Color (moist) % Type 1 Loc²	Texture Remarks	<u> </u>
0-6	10YR	3/2	100%		Loam	
6-9	10YR	4/4	100%		Sandy Loam	
9-13	10YR	4/6	100%		Sandy Loam	
1 Type: C. Con		Doplotio	n DM Doo	luced Matrix, CS=Covered or Coated Sand Grains ² Loc.	etion, DL Poro Lining M Matrix	
• •		Беріецо	II. KIVI=Ket	diced Matrix, C3=Covered of Coated Sand Grains -Loc	•	2
Hydric Soil				Polyvalue Below Surface (S8) (LRR R,	Indicators for Problematic Hydric Soi	ils: 3
	pedon (A2)			MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 14	
Black His				☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L,	
	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat or Peat (S3) (LRR K	, L, R)
	Layers (A5)			Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L)	
	Below Dark Su	ırface (A	11)	☐ Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR K,	L)
	k Surface (A12		,	Redox Dark Surface (F6)	Thin Dark Surface (S9) (LRR K, L)	(
Sandy Mu	uck Mineral (S1)		Depleted Dark Surface (F7)	☐ Iron-Manganese Masses (F12) (LRR №☐ Piedmont Floodplain Soils (F19) (MLR	
	eyed Matrix (S4			Redox Depressions (F8)	Mesic Spodic (TA6) (MLRA 144A, 145	
Sandy Re					Red Parent Material (TF2)	, 1470)
Stripped	Matrix (S6)				Very Shallow Dark Surface (TF12)	
☐ Dark Surf	face (S7) (LRR	R, MLRA	149B)		Other (Explain in Remarks)	
³ Indicators o	f hydrophytic y	/eɑetatio	n and wetla	and hydrology must be present, unless disturbed or prob		
	ayer (if obse			3 33 1		
Type:	ayer (II obse	iveu).				
Depth (inc	hes).				Hydric Soil Present? Yes O No	lacktriangle
Remarks:						



AN36 Wetand

ible Energy, LLC		County: Antrim		Sampling Date: 27-Sep-11
		Stat	e: NH	Sampling Point: an37 wetland
	Se	ction, Township, Range:	S. T.	
:.): Terrace		relief (concave, convex, n		Slope: 0.0% / 0.0°
	 Lat.:	Long		Datum:
			-	
			— INVVI CIASSIII	cation: PFO
ons on the site ty	pical for this time of year?	Yes ● No ∪	(If no, explain in	
, or Hydrol	ogy 🗌 significantly distu	urbed? Are "Normal	Circumstances" p	resent? Yes No
, or Hydrol	ogy 🗌 naturally problem	natic? (If needed, e	xplain any answe	ers in Remarks.)
- Attach site	map showing samp	ling point location	s, transects,	important features, etc.
	No O			
	_	vithin a Wetland?	Yes 💿 No 🗆	
Yes 💿	No O			
				() ()
	check all that apply)			
one required,)		
	_	,		
	Marl Deposits (B15)			ater Table (C2)
	Hydrogen Sulfide Odor (C	1)	Crayfish Burro	ws (C8)
	Oxidized Rhizospheres alo	ng Living Roots (C3)	Saturation Vision	ble on Aerial Imagery (C9)
	Presence of Reduced Iron	(C4)	Stunted or Str	essed Plants (D1)
	Recent Iron Reduction in	Tilled Soils (C6)		
2000 (DZ)	Thin Muck Surface (C7)			, ,
nagery (B7) Surface (B8)	Other (Explain in Remarks	·)	✓ Microtopograp✓ FAC-neutral To	
es • No O	Depth (inches):	1		
es • No ·	-	0		M. Q. N. O.
	Depth (inches):	0	ology Present?	Yes ● No ○
	, or Hydrold , or Hydrold , or Hydrold Attach site Yes Yes Yes Perpocedures here continuous procedures here to one required;	, or Hydrology	, or Hydrology	ons on the site typical for this time of year? Yes No (If no, explain in , or Hydrology significantly disturbed? Are "Normal Circumstances" p , or Hydrology naturally problematic? (If needed, explain any answer. Attach site map showing sampling point locations, transects, not? Yes No Is the Sampled Area within a Wetland? Yes No No Yes No Yes No No Yes No No Yes No No Yes No

VEGETATION - Use scientific names of pla	ants
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VEGETATION - Use scientific names of p	iaiits		ominant pecies?		Sampling Point: an37 wetland
Tree Stratum (Plot size: 30')	Absolute % Cover	Re		Indicator Status	Dominance Test worksheet:
4 4 1	20	_	100.0%		Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)
1. Acer rubrum 2.			0.0%	TAC	That are Obl., FACW, OF FAC.
			0.0%		Total Number of Dominant
3			0.0%		Species Across All Strata: 5 (B)
4					Percent of dominant Species
5			0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
6		Н	0.0%		
7		Ш	0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')	20	= To	otal Cove	r	Total % Cover of: Multiply by:
1. Acer rubrum	10	V	28.6%	FAC	OBL species 3 x 1 = 3
2. Betula alleghaniensis	20	<u>✓</u>	57.1%	FAC	FACW species $10 \times 2 = 20$
2 Vanadadum aamuudaanuu			14.3%	FACW-	FAC species50 x 3 =150
			0.0%	TACV	FACU species x 4 =0
			0.0%		UPL species $0 \times 5 = 0$
5					Column Totals: 63 (A) 173 (B)
6			0.0%		
7		\Box	0.0%		Prevalence Index = B/A = 2.746
Herb Stratum (Plot size: 5')	35	= To	otal Cove	r	Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation
1. Osmunda cinnamomea	5	✓	62.5%	FACW	
2.Carex lurida	3	✓	37.5%	OBL	
3.	0		0.0%		✓ Prevalence Index is ≤3.0 ¹
4.	0		0.0%		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
6.			0.0%		Problematic rigurophytic vegetation (Explain)
7.			0.0%		¹ Indicators of hydric soil and wetland hydrology must
8.		П	0.0%		be present, unless disturbed or problematic.
9.	0	\Box	0.0%		Definitions of Vegetation Strata:
10.		\Box	0.0%		The Mandagan O's (7.0 and an and in Francisco
 11.		\Box	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
12.			0.0%		at steast noight (2217), regardless of height
· -		т.	otal Cove		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size:)	8	= 10	otal Cove	ľ	greater than 3.28 ft (1m) tall
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
2	0		0.0%		size, and woody plants less than 3.28 ft tall.
3	0	$\overline{\Box}$	0.0%		Mandada Allandada and a constant and a constant
4	0	\Box	0.0%		Woody vine - All woody vines greater than 3.28 ft in height.
T			-	-	Thoight.
	0	= 10	otal Cove	ľ	
					Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an37 wetland

0-10 10YR 3/2 100% Muck	(inches)	_	Matrix	- %	Redox Features Color (moist) % Type 1 Loc²	Texture	Remarks
ppe: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Location: PL=Pore Lining. M=Matrix price: Soil Indicators: Indicators for Problematic Hydric Soils: 3	0.10				Color (moist) % Type Loc-		Remarks
rpe: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains **Location:** PL=Pore Lining. M=Matrix **Indicators for Problematic Hydric Soils:** Indicators for Problematic Hydric Soils:** **Istiosol (A1)						_	
Histosol (A1)	10-15	2.5Y	4/2	100%		Fine Sandy Loam	
Histosol (A1)							
Histosol (A1)							
Histosol (A1)							
Histosol (A1)							
Histosol (A1)							
Histosol (A1)							
Histosol (A1)							
Histosol (A1)							
Histosol (A1)							
Histosol (A1)							
Histosol (A1)							
Histosol (A1)							
Histosol (A1) Histosol (A2) Black Histic Epipedon (A2) Hydrogen Sulfide (A4) Depleted Below Matrix (F3) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Muck Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Mesic Spodic (TA6) (MLRA 144B) Mesic Spolic (TF12) Other (Explain in Remarks) Hydrio Sail Present 2 Mac (A10) Histic Epipedon (A2) Polyvalue Below Surface (S9) (LRR K, L, R) Stratified Layers (A5) Dark Surface (S7) (LRR K, L) Dark Surface (S7) (LRR K, L) Dark Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Dark Surface (S7) (LRR R, MLRA 149B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Dother (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	pe: C=Cond	centration. D=	=Depletio	n. RM=Redu	uced Matrix, CS=Covered or Coated Sand Grains ² L	ocation: PL=Pore Lining. M=I	Matrix
Histosol (A1) Histosol (A2) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Muck Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR K, L, R) Histosol (A1) Polyvalue Below Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) LRR K, L) Loamy Mucky Mineral (F1) LRR K, L) Dark Surface (S7) (LRR K, L) Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Polyvalue Below Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Bark Surface (S7) (LRR R, MLRA 149B) Thin Dark Surface (S7) (LRR R, MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Dark Surface (S7) (LRR R, MLRA 149B) Dark Surface (S7) (LRR R, MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Dark Surface (S7) (LRR R, MLRA 149B) Dark Surface (S7) (LRR R, MLRA 149B) Dark Surface (S7) (LRR R, MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Dark Surface (S7) (LRR R, MLRA 149B) Dark Surface (S7) (LRR R, MLRA 149B) Dark Surface (S7) (LRR R, MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Dark Surface (S7) (LRR R, MLRA 149B) Dark Surface (S7) (LRR R, MLRA 149B) Dark Surface (S7) (LRR R, MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Dark Surface (S7) (LRR R, MLRA 149B) Dark Surface (S8) (LRR R, L) Dark Surface (S9) (LRR R, L) Dar	dric Soil I	ndicators:				Indicators for Prob	lematic Hydric Soils : 3
Histic Epipedon (A2) Histic Epipedon (A2)] Histosol (/	A1)			Polyvalue Below Surface (S8) (LRR R,		ematic riyunc sons .
Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Muck Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR K, L) Depleted Dark Surface (F8) Redox Depressions (F8) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Redox Depressions (F8) Stripped Matrix (S6) Dark Surface (S7) Depleted Dark Surface (F8) Redox Depressions (F8) Stripped Matrix (S6) Dark Surface (S7) Redox Depressions (F8) Stripped Matrix (S6) Dark Surface (S7) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	Histic Epir	pedon (A2)			MLRA 149B)		
Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Muck Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) ndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Strictive Layer (if observed): Type:	,				Thin Dark Surface (S9) (LRR R, MLRA 149B)		
Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Muck Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Dark Surface (S7) (LRR R, MLRA 149B) Dark Surface (S7) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Tron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Redox Depressions (F8) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Type: Type:	Hydrogen	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)		
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Muck Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Dark Surface (S7) (LRR R, MLRA 149B) Dark Surface (S7) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) ndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	Stratified [Layers (A5)					
Thick Dark Surface (A12) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Red Parent Material (TF2) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Strictive Layer (if observed): Type: Wettin Sail Present? Max (P) Max (Depleted f	Below Dark S	urface (A	11)		<u> </u>	
Sandy Muck Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Type: Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144B) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) According to the department of the present of the p	Thick Darl	k Surface (A1	2)				
Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Strictive Layer (if observed): Type: Hydria Sail Present? Wesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) No. 20 N] Sandy Mu	ck Mineral (S	1)			_	
Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Strictive Layer (if observed): Type: Hydria Sail Present? Was Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Hydria Sail Present? Was Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Description: Hydria Sail Present? Was Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Description: Hydria Sail Present? Was Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Description: Hydria Sail Present?	Sandy Gle	yed Matrix (S	54)		Redox Depressions (F8)		
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Strictive Layer (if observed): Type: Hydria Sail Present? Was Remarks	Sandy Red	dox (S5)					
Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Strictive Layer (if observed): Type: Hydria Sail Present? Vea (P) Na (P)	☐ Stripped N	Matrix (S6)					
ndicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. strictive Layer (if observed): Type: Hydria Sail Present? Yea (1) No. (1) No. (2) No. (3) No. (4) No.	Dark Surfa	ace (S7) (LRR	R, MLRA	149B)			
Type: Hydrio Soil Procent? Yes A No			veretatio	n and wetlar	nd hydrology must be present upless disturbed or pr		Kemarksy
Type:			vegetatio	iii and wettai	in flydrology must be present, unless disturbed of pro-	objettiatic.	
Hydrig Sail Procent? Ves Ala	Indicators of						
Depth (inches):	Indicators of		erved):				
	ndicators of strictive La Type:	ayer (if obse	erved):			Hydria Sail Brasant?	Van (•) Na ()
	Indicators of estrictive La	ayer (if obse	erved):			Hydric Soil Present?	Yes ● No U
	Indicators of estrictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	ndicators of strictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes ● No ○
	ndicators of strictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes ● No ○
	ndicators of strictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes ● No ○
	ndicators of strictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	ndicators of strictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	ndicators of strictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	ndicators of strictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	ndicators of strictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	Indicators of estrictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	Indicators of estrictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	Indicators of estrictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	Indicators of estrictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes • No ·
	Indicators of estrictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	Indicators of estrictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	ndicators of estrictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No
	Indicators of estrictive La Type: Depth (inch	ayer (if obse	erved):			Hydric Soil Present?	Yes No

Project/Site: Antrim Wind Project	City/Cour	nty: Antrim	Sam	pling Date: 27-Sep-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	e: Sam	npling Point: an37 upland
Investigator(s): AF JG	Section	on, Township, Range:	S. T.	R.
Landform (hillslope, terrace, etc.): Hillside		ef (concave, convex, n		Slope: 25.0 % / 14.0 °
Subregion (LRR or MLRA):	Lat.:	Long	.:	Datum:
Soil Map Unit Name:			NWI classificatio	n:
Are climatic/hydrologic conditions on the site ty	pical for this time of year?	Yes ● No ○	— (If no, explain in Rema	arks.)
Are Vegetation , Soil , or Hydrol		ed? Are "Normal	Circumstances" preser	
Are Vegetation , Soil , or Hydrol	ogy aturally problemation	c? (If needed, e	xplain any answers in	Remarks.)
Summary of Findings - Attach site	map showing samplin			
Hydrophytic Vegetation Present? Yes	No •			
Hydric Soil Present? Yes		s the Sampled Area within a Wetland?	Yes O No 💿	
Wetland Hydrology Present?	No •	vitimi a victiana.	*	
Remarks: (Explain alternative procedures here	e or in a separate report.)			
Hydrology				
Wetland Hydrology Indicators:			Secondary Indicators (mi	•
Primary Indicators (minimum of one required;			Surface Soil Cracks (
Surface Water (A1)	Water-Stained Leaves (B9)		Drainage Patterns (E	
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B1	
Saturation (A3) Water Marks (B1)	Marl Deposits (B15)		Dry Season Water T	
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)	5 . (02)	Crayfish Burrows (C	
Drift deposits (B3)	Oxidized Rhizospheres along L			n Aerial Imagery (C9)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4 Recent Iron Reduction in Tiller		Stunted or Stressed Geomorphic Position	
Iron Deposits (B5)		u 30115 (Co)	Shallow Aquitard (D:	
Inundation Visible on Aerial Imagery (B7)	☐ Thin Muck Surface (C7) ☐ Other (Explain in Remarks)		Microtopographic Re	
Sparsely Vegetated Concave Surface (B8)			FAC-neutral Test (D	
Field Observations:				
Surface Water Present? Yes No •	Depth (inches):			
Water Table Present? Yes No •	Depth (inches):			es O No 💿
Saturation Present? (includes capillary fringe) Yes No •	Depth (inches):	Wetland Hydr	ology Present? Ye	S O NO O
Describe Recorded Data (stream gauge, monitor	oring well, aerial photos, previou	us inspections), if avail	able:	
Remarks:				

VEGETATION - Use scientific names of pla		_Sp	ominant pecies?		Sampling Point: an37 upland
Tree Stratum (Plot size: 30')	Absolute % Cover		el.Strat. over	Indicator Status	Dominance Test worksheet:
1. Quercus rubra	50	V	60.2%	FACU-	Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
2. Tsuga canadensis	33	V	39.8%	FACU	
3.	0		0.0%		Total Number of Dominant Species Across All Strata: 7 (B)
4.			0.0%		Species violes viii strata.
5	0		0.0%		Percent of dominant Species That Are ORL FACW or FAC: 28.6% (A/B)
6			0.0%		That Are OBL, FACW, or FAC:(A/B)
7	0		0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')		= To	otal Cove	er	Total % Cover of: Multiply by:
1	10	~	25.0%	FAC	0BL speci es 0 x 1 = 0
• •			37.5%	FACU	FACW species 0 x 2 = 0
Acer pensylvanicum Viburnum lantanoides	- - 15 - 15		37.5%	FAC	FAC species 25 x 3 = 75
A			0.0%	FAC	FACU species113 x 4 =452
			0.0%		UPL speci es x 5 =0
5 6	0		0.0%		Column Totals: 138 (A) 527 (B)
7			0.0%		Prevalence Index = B/A = 3.819
·	40	 = Tc	otal Cove		
Herb Stratum (Plot size: 5')			otal oove	·•	Hydrophytic Vegetation Indicators:
1.Aralia nudicaulis	5	✓	33.3%	FACU	Rapid Test for Hydrophytic Vegetation
2. Quercus rubra	10	✓	66.7%	FACU-	☐ Dominance Test is > 50%
3	0		0.0%		Prevalence Index is ≤3.0 ¹
4	0		0.0%		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
6	0		0.0%		
7	0		0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8	0		0.0%		· ·
Ι Ο	^		0.007		Definitions of Vegetation Strata:

0 _

0

0

0

0

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0 = Total Cover

= Total Cover

Remarks: (Include photo numbers here or on a separate sheet.)

10.

Woody Vine Stratum (Plot size: ______)

11.

12.

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter

Sapling/shrub - Woody plants less than 3 in. DBH and

Herb - All herbaceous (non-woody) plants, regardless of

No •

Woody vine - All woody vines greater than 3.28 ft in

at breast height (DBH), regardless of height.

size, and woody plants less than 3.28 ft tall.

Yes 🔾

greater than 3.28 ft (1m) tall..

height.

Hydrophytic Vegetation

Present?

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an37 upland

Profile Description: (Describe to the depth needed to do	cument the indicator or confirm the ab	sence of indicators.)
Depth Matrix (inches) Color (moist) % Color (m	Redox Features pist) % Type 1 Loc2	Texture Remarks
0-8 10YR 3/2 100%		Loam
8-16 10YR 4/4 100%		Sandy Loam Bedrock
16+		
¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS	=Covered or Coated Sand Grains ² Locatio	on: PL=Pore Lining. M=Matrix
Hydric Soil Indicators:		Indicators for Problematic Hydric Soils: 3
MIDA	ue Below Surface (S8) (LRR R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)
HISTIC Epipedon (AZ)	ark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
☐ DIACK HISTIC (AS)	Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
Trydrogen samae (A4)	Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L)
Stratifica Edycr3 (A3)	ed Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)
Depicted below bank surface (ATT)	Dark Surface (F6)	☐ Thin Dark Surface (S9) (LRR K, L)
	ed Dark Surface (F7)	Iron-Manganese Masses (F12) (LRR K, L, R)
Sandy Gleyed Matrix (S4)	Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Redox (S5)		Red Parent Material (TF2)
Stripped Matrix (S6)		Very Shallow Dark Surface (TF12)
Dark Surface (S7) (LRR R, MLRA 149B)		Other (Explain in Remarks)
³ Indicators of hydrophytic vegetation and wetland hydrology m	nust be present, unless disturbed or problem	
Restrictive Layer (if observed):		
Type: Bedrock		
Depth (inches): 16		Hydric Soil Present? Yes ○ No ●
Remarks:		
Normal No.		



AN37 Wetand

Project/Site: Antrim Wind Pro	ject		City/County:	Antrim		Sampling Date: 27-Sep-11
Applicant/Owner: Eolian Rene	wable Energy, LLC		-	Sta	te: NH	Sampling Point: an38 wetland
Investigator(s): AF JG			Section, Toy	vnship, Range:	S. T.	
Landform (hillslope, terrace,	etc.): Terrace		Local relief (cor			Slope: 0.0 % / 0.0 °
• • • •	1011400				-	
Subregion (LRR or MLRA):		Lat.: _		Long		Datum:
Soil Map Unit Name:					NWI classif	cation: PFO/PSS
Are climatic/hydrologic cond	itions on the site t	ypical for this time of ye	ear? Yes	● No ○	(If no, explain in	
Are Vegetation, Soil	, or Hydro	logy 🗌 significantl	ly disturbed?	Are "Normal	Circumstances" p	resent? Yes No
Are Vegetation, Soil	, or Hydro	logy 🗌 naturally pi	roblematic?	(If needed, e	explain any answe	ers in Remarks.)
Summary of Finding	s - Attach site	e map showing s	ampling po	int location	s, transects,	important features, etc.
Hydrophytic Vegetation Pres		No O				
Hydric Soil Present?	Yes ●	No O		Sampled Area a Wetland?	Yes ● No ○	
Wetland Hydrology Present?	Yes 💿	No O				
Hydrology						
Hydrology						
Wetland Hydrology Indicato		abook all that apply)				rs (minimum of 2 required)
Primary Indicators (minimu	n or one required;		(20)		Surface Soil C	
✓ High Water Table (A2)		✓ Water-Stained Leav☐ Aquatic Fauna (B13			☐ Drainage Patte ☐ Moss Trim Lin	
Saturation (A3)		Marl Deposits (B15)				ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide O			Crayfish Burro	
Sediment Deposits (B2)		Oxidized Rhizosphe		Roots (C3)		ble on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduce	0 0	.00.5 (55,		essed Plants (D1)
☐ Algal Mat or Crust (B4)		Recent Iron Reduct		(C6)	✓ Geomorphic P	osition (D2)
Iron Deposits (B5)		Thin Muck Surface	(C7)		Shallow Aquita	ard (D3)
Inundation Visible on Aeria		Other (Explain in Re	emarks)		Microtopograp	
Sparsely Vegetated Concav	e Surface (B8)				✓ FAC-neutral To	est (D5)
Field Observations:						
	Yes • No O	Depth (inches):	12			
Water Table Present?	Yes ● No ○	Depth (inches):	0			Yes ● No ○
(includes capillary fringe)	Yes No	Depth (inches):	0		ology Present?	res ⊕ No ∪ ————————————————————————————————————
Describe Recorded Data (str	eam gauge, monit	oring well, aerial photo	s, previous insp	ections), if avail	able:	
Remarks:						

VEGETATION - Use scientific names of pla	ants	DominantSpecies?		Sa	mpling Po	oint: an3	8 wetland	ı
Tree Stratum (Plot size: 30')	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test w	orksheet:			
1. Acer rubrum		100.0%	FAC	Number of Dominant That are OBL, FACW			4	(A)
2	0	0.0%		Total Number of Dor	almont			
3	0	0.0%		Species Across All St			4	(B)
4	0	0.0%				_		
5	0			Percent of domina That Are OBL, FAG			100.0%	(A/B)
5		0.0%		That Ale Obl, FAC	VV, OI FA	C		_ (/
7	0	0.0%		Prevalence Index v	vorksheet	:		
Sapling/Shrub Stratum (Plot size: 15')	20 :	= Total Cove	r	Total % Cov		Multiply	by:	_
1 11-11-11-11-1	50	100.0%	FACW+	OBL species	3	x 1 =	3	_
		0.0%	TACWT	FACW species	75	x 2 =	150	_
2		0.0%		FAC species	20	x 3 =	60	_
3		0.0%		FACU species	0	x 4 =	0	_
4 5		0.0%		UPL species	0	x 5 =	0	_
).		0.0%		Column Totals:	98	(A)	213	(B)
7.		0.0%		Prevalence In	dov D/A		2.173	-
		= Total Cove					2.173	
Herb Stratum (Plot size: 5')		- 10141 0010	•	Hydrophytic Veget				
1.Osmunda cinnamomea	10	✓ 35.7%	FACW	Rapid Test for	• • •		ation	
2. Iris versicolor	3	10.7%	OBL	✓ Dominance To				
				✓ Prevalence In	dex is ≤3	.0 +		
3. Coptis trifolia	15	✓ 53.6%	FACW			1 -		
		53.6%	FACW	Morphologica	l Adaptati			orting

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

0.0%

= Total Cover

= Total Cover

0

0

0

0

28

0

0

0

0

Remarks: (Include photo numbers here or on a separate sheet.)

Woody Vine Stratum (Plot size:_____)

7.

8.

9.

10.

11.

12.

¹ Indicators of hydric soil and wetland hydrology must

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter

Sapling/shrub - Woody plants less than 3 in. DBH and

Herb - All herbaceous (non-woody) plants, regardless of

No \bigcirc

Woody vine - All woody vines greater than 3.28 ft in

be present, unless disturbed or problematic.

at breast height (DBH), regardless of height.

size, and woody plants less than 3.28 ft tall.

Yes

Definitions of Vegetation Strata:

greater than 3.28 ft (1m) tall..

height.

Hydrophytic Vegetation

Present?

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: an38 wetland

	iption: (Des	scribe to	the depth	needed to document the indicator or confirm the a	absence of indicators.)
Depth (inches)	Color (r	Matrix	_ %	Redox Features Color (moist) % Type 1 Loc2	Texture Remarks
				Color (moist) 78 Type Loc-	
0-12	2.5Y	2/1	100%		Muck
12+	2.5Y	5/1	100%		Gravelly Sand
7.		=Depletio	n. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains ² Loca	tion: PL=Pore Lining. M=Matrix
Hydric Soil I					Indicators for Problematic Hydric Soils: 3
Histosol (Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	oedon (A2)			☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
Black Hist					5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
	Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)Loamy Gleyed Matrix (F2)	☐ Dark Surface (S7) (LRR K, L)
	Layers (A5)			Depleted Matrix (F2)	Polyvalue Below Surface (S8) (LRR K, L)
	Below Dark S		11)	Redox Dark Surface (F6)	☐ Thin Dark Surface (S9) (LRR K, L)
	k Surface (A1	•		Depleted Dark Surface (F7)	☐ Iron-Manganese Masses (F12) (LRR K, L, R)
	ck Mineral (S			Redox Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B)
	eyed Matrix (S	S4)		☐ Nedox Depressions (1 0)	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Re					Red Parent Material (TF2)
	Matrix (S6)				Very Shallow Dark Surface (TF12)
☐ Dark Surf	ace (S7) (LRF	R, MLRA	149B)		Other (Explain in Remarks)
³ Indicators of	f hydrophytic	vegetatio	n and wetla	and hydrology must be present, unless disturbed or proble	ematic.
Restrictive L	ayer (if obs	erved):			
Type:	•				
Depth (inc	hes):				Hydric Soil Present? Yes ● No ○
Remarks:					
Kemarks.					

Project/Site: Antrim Wind Project	City/Cour	nty: Antrim	Sampling Date: 27-Sep-11
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH Sampling Point: AN38 upland
Investigator(s): AF JG	Section	on, Township, Range:	S. T. R.
Landform (hillslope, terrace, etc.): Hillside		ef (concave, convex, n	
Subregion (LRR or MLRA):	Lat.:	Long	i.: Datum:
Soil Map Unit Name:			NWI classification:
		Yes ● No ○	
Are climatic/hydrologic conditions on the site ty			(If no, explain in Remarks.) Circumstances" present? Yes No No
Are Vegetation . , Soil . , or Hydrol			Circumstances" present? Yes No
Are Vegetation , Soil , or Hydrol	ogy	c? (If needed, e	explain any answers in Remarks.)
		g point location	s, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	No •		
Hydric Soil Present? Yes	NO S	s the Sampled Area within a Wetland?	Yes ○ No •
Wetland Hydrology Present? Yes	No •		
Remarks: (Explain alternative procedures here	or in a separate report.)		
Hydrology			
Wetland Hydrology Indicators:			Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required;	check all that apply)		Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)		Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)		Dry Season Water Table (C2)
Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along L	Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4	1)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tille	d Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	☐ Thin Muck Surface (C7)		Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)			FAC-neutral Test (D5)
Field Observations:			
Surface Water Present? Yes No •	Depth (inches):		
Water Table Present? Yes No •	Depth (inches):		
Saturation Present? (includes capillary fringe) Yes No •	Depth (inches):	Wetland Hydr	ology Present? Yes O No 💿
Describe Recorded Data (stream gauge, monito	oring well, aerial photos, previou	us inspections), if avail	able:
Remarks:			
romano.			

/EGETATION - Use scientific names of			ominant pecies?		Sampling Point: AN38 upland
Tree Stratum (Plot size: 30')	Absolute % Cover	Re	el.Strat.	Indicator Status	Dominance Test worksheet:
Dinus etrahus	22	✓	34.4%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)
) Forms grandifalla	22	V	34.4%	FACU	That are OBL, FACW, or FAC: 0 (A)
Ourselle miles	15		15.6%	FACU-	Total Number of Dominant
Quercus rubra	45		15.6%		Species Across All Strata: 5 (B)
Tsuga canadensis			0.0%	FACU	Percent of dominant Species
j			0.0%		That Are OBL, FACW, or FAC: 0.0% (A/B)
·			0.0%		P. J.
.					Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')	96	= Tc	otal Cove	ŗ	Total % Cover of: Multiply by: OBL species 0 x 1 = 0
. Fagus grandifolia	25	V	100.0%	FACU	
2.	0		0.0%		x
3.	0		0.0%		FAC species $0 \times 3 = 0$
	0		0.0%		FACU species $\frac{123}{9}$ x 4 = $\frac{492}{9}$
j	0		0.0%		UPL species $0 \times 5 = 0$
5.	0		0.0%		Column Totals: 123 (A) 492 (B)
7.			0.0%		Prevalence Index = B/A = 4.000
		= Tc	otal Cove	- <u> </u>	Trevalence maex
Herb Stratum (Plot size: 5')					Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation
1. Quercus rubra	1	✓	50.0%	FACU-	
2.Fagus grandifolia	1	✓	50.0%	FACU	☐ Dominance Test is > 50%
3	0		0.0%		Prevalence Index is ≤3.0 ¹
4	0		0.0%		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
6	0		0.0%		
7			0.0%		¹ Indicators of hydric soil and wetland hydrology must
8.	0		0.0%		be present, unless disturbed or problematic.
9	0		0.0%		Definitions of Vegetation Strata:
0.	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diamete
1.			0.0%		at breast height (DBH), regardless of height.
2.	0		0.0%		Configuration Was developed the City DDU and
	2	= To	otal Cove	r	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Noody Vine Stratum (Plot size:)					greater many engage in (vivi) tamin
1			0.0%		Herb - All herbaceous (non-woody) plants, regardless of
2			0.0%		size, and woody plants less than 3.28 ft tall.
3			0.0%		Woody vine - All woody vines greater than 3.28 ft in
4		Ш	0.0%		height.
	0	= To	otal Cove	r	
					Hydrophytic Vegetation
					Present? Yes No •

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN38 upland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth (inches)	. 0-1 (-	Matrix		Redox Features Color (moist) % Type 1 Loc ²	. Touton					
	Color (I		100%	Color (moist) % Type 1 Loc2	Texture Remarks					
0-5		3/2	100%		Loam					
5-7	2.5Y	6/1	100%		Fine Sandy Loam					
7-14	10YR	4/4	100%		Sandy Loam					
14-20	10YR	4/6	100%		Sandy Loam					
• •		=Depletio	n. RM=Red	luced Matrix, CS=Covered or Coated Sand Grains ² Loca	tion: PL=Pore Lining. M=Matrix					
Hydric Soil I					Indicators for Problematic Hydric Soils: 3					
Histosol (Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	2 cm Muck (A10) (LRR K, L, MLRA 149B)					
	pedon (A2)			☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)					
Black Hist	แต (A3) า Sulfide (A4)			Loamy Mucky Mineral (F1) LRR K, L)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)					
	Layers (A5)			Loamy Gleyed Matrix (F2)	☐ Dark Surface (S7) (LRR K, L)					
	Below Dark S	Surface (A	11)	Depleted Matrix (F3)	Polyvalue Below Surface (S8) (LRR K, L)					
	k Surface (A		,	Redox Dark Surface (F6)	Thin Dark Surface (S9) (LRR K, L)					
	uck Mineral (S			Depleted Dark Surface (F7)	☐ Iron-Manganese Masses (F12) (LRR K, L, R) ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)					
	eyed Matrix (Redox Depressions (F8)	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)					
Sandy Re	dox (S5)				Red Parent Material (TF2)					
Stripped I	Matrix (S6)				Very Shallow Dark Surface (TF12)					
☐ Dark Surf	face (S7) (LRI	R R, MLRA	149B)		Other (Explain in Remarks)					
³ Indicators o	f hydrophytic	vegetatio	n and wetla	and hydrology must be present, unless disturbed or proble						
Restrictive L	aver (if obs	erved):								
Type:		,.								
Depth (inc	:hes):				Hydric Soil Present? Yes ○ No •					
Remarks:					I					
1										



AN38 Wetland



AN38 Upland



AN38 Wetland



AN38 Wetland

Project/Site: Antrim Wind Project	City/Co	ounty: Antrim	Sampling Date: 30-Nov-11		
Applicant/Owner: Eolian Renewable Energy, LLC		Sta	te: NH	Sampling Point: AN41up	
Investigator(s): AF JG	Sec	tion, Township, Range:	S. T.		
Landform (hillslope, terrace, etc.): Toeslope		elief (concave, convex, n		Slope: 0.0 % / 0.0 °	
Subregion (LRR or MLRA): LRR R	Lat.:	Long	1.:	Datum:	
Soil Map Unit Name:			NWI classif		
			_		
Are climatic/hydrologic conditions on the site t	ypical for this time of year?	Yes ● No ○	(If no, explain in	•	
Are Vegetation , Soil , or Hydro	ology	rbed? Are "Normal	Circumstances" p	oresent? Yes No	
Are Vegetation, Soil, or Hydro	ology naturally problem	atic? (If needed, e	explain any answe	ers in Remarks.)	
Summary of Findings - Attach sit		ing point location	s, transects,	important features, etc.	
Hydrophytic Vegetation Present? Yes	No •				
Hydric Soil Present? Yes	No •	Is the Sampled Area within a Wetland?	Yes \bigcirc No $lacktriangle$)	
Wetland Hydrology Present? Yes	No •				
I hadrala ma					
Hydrology					
Wetland Hydrology Indicators:	, check all that apply)			ors (minimum of 2 required)	
Primary Indicators (minimum of one required Surface Water (A1)			Surface Soil C Drainage Patte		
High Water Table (A2)			Moss Trim Lin		
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)			
☐ Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burro		
Sediment Deposits (B2)	Oxidized Rhizospheres alor	•		ible on Aerial Imagery (C9)	
Drift deposits (B3)	Presence of Reduced Iron	(C4)	Stunted or Str	ressed Plants (D1)	
Algal Mat or Crust (B4)	Recent Iron Reduction in T	illed Soils (C6)	Geomorphic P	osition (D2)	
☐ Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquita		
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)			ohic Relief (D4)	
Sparsely vegetated Concave Surface (88)			FAC-neutral T	est (D5)	
Field Observations:					
Surface Water Present? Yes No No	Depth (inches):				
Water Table Present? Yes No No	Depth (inches):	Wetlend Hid	ology Present?	Yes ○ No ●	
Saturation Present? (includes capillary fringe) Yes No •	Depth (inches):	wetiand Hydr	ology Present?	Tes UNU U	
Describe Recorded Data (stream gauge, moni	toring well, aerial photos, prev	ious inspections), if avail	able:		
Remarks:					
Remarks:					

	lants	Dom Spec	inant ies?		Sampling Point: AN41up
Free Stratum (Plot size: 30')	Absolute % Cover	Rel.S	Strat.	Indicator Status	Dominance Test worksheet:
					Number of Dominant Species
Acer rubrum		$\overline{}$	33.3%	FAC	That are OBL, FACW, or FAC: 2 (A)
P. Fagus grandifolia			25.0%	FACU	Total Number of Dominant
Picea rubens	45		16.7%	FACU	Species Across All Strata: 10 (B)
Quercus rubra			25.0%	FACU-	Percent of dominant Species
5			0.0%		That Are OBL, FACW, or FAC: 20.0% (A/B)
5			0.0%		
7			0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')	60	= Tota	I Cove	r	Total % Cover of: Multiply by:
. Fagus grandifolia	10	✓ 4	10.0%	FACU	OBL species 0 x 1 = 0
Picea rubens			10.0%	FACU	FACW species $0 \times 2 = 0$
}. Pinus strobus			20.0%	FACU	FAC species $39 \times 3 = 117$
			0.0%		FACU speci es $\frac{120}{}$ x 4 = $\frac{480}{}$
5.			0.0%		UPL speci es $0 \times 5 = 0$
S	0		0.0%		Column Totals:159 (A)597 (B)
7.	0		0.0%		Prevalence Index = $B/A = 3.755$
	25	= Tota	I Cove	r	
Herb Stratum (Plot size: 5')					Hydrophytic Vegetation Indicators:
1. Dryopteris intermedia	15	Rapid Test for Hydrophytic Vegetation			
2. Gaultheria procumbens	15	✓ 2	20.3%	FACU	☐ Dominance Test is > 50%
3. Thelypteris noveboracensis	19	✓ 2	Prevalence Index is ≤3.0 ¹		
4. Lycopodium obscurum	25	✓ 3	33.8%	FACU	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5.	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
6.	0		0.0%		
7.	0		0.0%		¹ Indicators of hydric soil and wetland hydrology mus
8.	0		0.0%		be present, unless disturbed or problematic.
9.	0		0.0%		Definitions of Vegetation Strata:
0.	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
1.	0		0.0%		at breast height (DBH), regardless of height.
2.	0		0.0%		
		= Tota	I Cove	- ——— r	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Woody Vine Stratum (Plot size:)		_			groater than 6.20 ft (111) tall
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless
	0		0.0%		size, and woody plants less than 3.28 ft tall.
2			0.0%		Woody vine - All woody vines greater than 3.28 ft in
2			0.0%		height.

Remarks. (Include prioto numbers here of on a separate sheet.)

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN41up

	iption: (Des	cribe to	the depth	needed to	document	the indic	ator or co	nfirm the	absence of indicators.)		
Depth (inches)	Color (m	Matrix	_ %	_ Color (dox Featu %		Loc2	Texture	Remarks	
0-5	10YR	3/2	100%		illoist)		Туре		Loam	Remarks	_
5-12	10YR	4/3	100%						Sandy Loam		
12-15	2.5Y	5/2	95%	10YR	4/6	5%	C	M	Sandy Loam		
15+										stony refusal	
											_
											_
									-		—
											_
¹ Type: C=Con	centration. D=	=Depletio	n. RM=Rec	uced Matrix,	CS=Covere	ed or Coate	d Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=I	Matrix	
Hydric Soil I	ndicators:								Indicators for Prob	lematic Hydric Soils : 3	
Histosol (A1)					w Surface (S8) (LRR R	2,		(LRR K, L, MLRA 149B)	
Histic Epip	pedon (A2)				A 149B)	(00) (1				ox (A16) (LRR K, L, R)	
Black Hist	tic (A3)					ace (S9) (L				or Peat (S3) (LRR K, L, R)	
	Sulfide (A4)					Mineral (F1)			Dark Surface (S7		
	Layers (A5)				ny Gleyed leted Matri:	Matrix (F2)			Polyvalue Below	Surface (S8) (LRR K, L)	
	Below Dark St		11)		ox Dark Su				Thin Dark Surface	e (S9) (LRR K, L)	
	k Surface (A1:	•				Surface (F7	")		Iron-Manganese Masses (F12) (LRR K, L, R)		
	ick Mineral (S1				ox Depress		,		Piedmont Floodplain Soils (F19) (MLRA 149B)		
Sandy Ge	eyed Matrix (S	4)							Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	Matrix (S6)								Red Parent Material (TF2)		
	ace (S7) (LRR	R. MLRA	149B)						✓ Very Shallow Dark Surface (TF12)✓ Other (Explain in Remarks)		
										Remarks)	
	f hydrophytic v		n and wella	ina nyarology	must be p	resent, uni	ess disturb	ea or probl	iematic.		
Restrictive L	-	erved):									
Type: Bo									Hydric Soil Present?	Yes ○ No •	
Depth (inc	hes): 15								riyurio con ricscric.	163 © 140 ©	
Remarks:											

Project/Site: Antrim Wind Pro	ject	City/Count	ty: Antrim		Sampling Date: 30-Nov-11
Applicant/Owner: Eolian Rene	ewable Energy, LLC		Sta	te: NH	Sampling Point: AN41wet
Investigator(s): AF JG		Section	n, Township, Range:	S. T.	
Landform (hillslope, terrace,	etc.): Toeslope		f (concave, convex, n		Slope: 0.0 % / 0.0
Subregion (LRR or MLRA):	LRR R	Lat.:	Long	1.:	Datum:
Soil Map Unit Name:				-	ication: PFO
			Yes No	_	
Are climatic/hydrologic cond				(If no, explain in	· ,
Are Vegetation, Soil	, or Hydrold	ogy	d? Are "Normal	Circumstances" p	present? Yes 🙂 INU 🔾
Are Vegetation, Soil	, or Hydrolo	ogy naturally problematic	? (If needed, e	explain any answe	ers in Remarks.)
Summary of Finding			g point location	s, transects,	important features, etc.
Hydrophytic Vegetation Pre		No O	Also Commission America		
Hydric Soil Present?		NO U	the Sampled Area ithin a Wetland?	Yes ● No ○)
Wetland Hydrology Present	_? Yes 💿	No O			
Remarks: (Explain alterna	tive procedures here	or in a separate report.)			
Isolated PFO at toe of slop	e in a basin formation	on.			
Hydrology					
Wetland Hydrology Indicate	ors:	_		Secondary Indicato	ors (minimum of 2 required)
Primary Indicators (minimu	m of one required;	check all that apply)		Surface Soil Cr	racks (B6)
Surface Water (A1)		Water-Stained Leaves (B9)		Drainage Patte	erns (B10)
✓ High Water Table (A2)		Aquatic Fauna (B13)		Moss Trim Line	es (B16)
Saturation (A3)		Marl Deposits (B15)		Dry Season W	ater Table (C2)
Water Marks (B1)		Hydrogen Sulfide Odor (C1)		Crayfish Burro	ws (C8)
Sediment Deposits (B2)		Oxidized Rhizospheres along Liv			ble on Aerial Imagery (C9)
Drift deposits (B3)		Presence of Reduced Iron (C4)			essed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduction in Tilled	Soils (C6)	Geomorphic P	• •
☐ Iron Deposits (B5)		Thin Muck Surface (C7)		Shallow Aquita	
Inundation Visible on Aeria		Other (Explain in Remarks)		Microtopograp	
Sparsely Vegetated Concar	ve Surface (B8)			✓ FAC-neutral Te	est (D5)
Field Observations:					
Surface Water Present?	Yes O No 💿	Depth (inches):			
Water Table Present?	Yes No	Depth (inches):0			
Saturation Present? (includes capillary fringe)	Yes ● No ○	Depth (inches): 0	Wetland Hydr	rology Present?	Yes ● No ○
	ream gauge, monito	ring well, aerial photos, previous	inspections), if avail	lable:	
,	3 3 1		, ,		
Remarks:					
Sphagnum 50% cover.					

ree Stratum (Plot size: 30') Acer rubrum Fraxinus pennsylvanica	Absolute % Cover		I.Strat.	Indicator	Dominance Test worksheet:				
			ver	Status					
	33	V	76.7%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)				
· · ·	10	V	23.3%	FACW					
			0.0%		Total Number of Dominant Species Across All Strata: 5 (B)				
			0.0%		Species Across Air Strata.				
			0.0%		Percent of dominant Species				
			0.0%		That Are OBL, FACW, or FAC: 100.0% (A/				
		\Box	0.0%		Prevalence Index worksheet:				
		= To	tal Cove	r	Total % Cover of: Multiply by:				
apling/Shrub Stratum (Plot size: 15')		_	5515		0BL species 0 x 1 = 0				
Acer rubrum	10	✓.	55.6%	FAC	FACW species 60 x 2 = 120				
Betula alleghaniensis		✓.	44.4%	FAC	FAC species 51 x 3 = 153				
	0		0.0%						
	0		0.0%		racu species				
	0		0.0%		ort species x 5 =				
	0		0.0%		Column Totals:				
	0		0.0%		Prevalence Index = B/A = 2.459				
erb Stratum (Plot size: 5')		= To	tal Cove	r	Hydrophytic Vegetation Indicators:				
					Rapid Test for Hydrophytic Vegetation				
1 .Osmunda cinnamomea		✓.	100.0%	FACW	✓ Dominance Test is > 50%				
2		\sqcup	0.0%		✓ Prevalence Index is ≤3.0 ¹				
3	0	\sqcup	0.0%		☐ Morphological Adaptations ¹ (Provide supportin				
4		\sqcup	0.0%		data in Remarks or on a separate sheet)				
5		\sqsubseteq	0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)				
<u>6</u>		\sqsubseteq	0.0%						
7	0	\square	0.0%		¹ Indicators of hydric soil and wetland hydrology mube present, unless disturbed or problematic.				
8	0	\square	0.0%						
9	0	\sqcup	0.0%		Definitions of Vegetation Strata:				
0	0	\square	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diame				
1 <u>. </u>	0		0.0%		at breast height (DBH), regardless of height.				
2	0		0.0%		Sanling/chruh Woody plants loss than 3 in DRH a				
	50	= To	tal Cove	r	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall				
/oody Vine Stratum (Plot size:)									
•			0.0%		Herb - All herbaceous (non-woody) plants, regardles				
•	0	Ц.	0.0%		size, and woody plants less than 3.28 ft tall.				
			0.0%		Woody vine - All woody vines greater than 3.28 ft in				
•		Ш.	0.0%		height.				
	0	= To	tal Cove	r					

 $\label{lem:Remarks: (Include photo numbers here or on a separate sheet.)} \\$

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil Sampling Point: AN41wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth (inches)	Color (ı	Matrix	_ %		ox Features % Type 1	1002	Toyturo	Remarks		
				Color (moist)		LUC-	Texture	muck		
0-9	2.5Y	2/1	100%				sapric	organi c streaki ng		
9+	10YR	2/2	100%				Sandy Loam			
							-			
1		Daalatia	- DM D			21	tion DI Dona Linion M	Makaii		
		=Depletioi	n. RIVI=Rea	uced Matrix, CS=Covered	d or Coated Sand Grain	ns ² Loca	tion: PL=Pore Lining. M=			
Hydric Soil I					0 ((00) (100 =		Indicators for Pro	blematic Hydric Soils : ³		
Histosol (☐ Polyvalue Below MLRA 149B)	Surface (S8) (LRR R,		2 cm Muck (A10	D) (LRR K, L, MLRA 149B)		
	pedon (A2)				ce (S9) (LRR R, MLRA	149B)	Coast Prairie Re	edox (A16) (LRR K, L, R)		
Black Hist					lineral (F1) LRR K, L)	,	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
_	n Sulfide (A4) Layers (A5)			Loamy Gleyed M			Dark Surface (S7) (LRR K, L)			
	Below Dark S	Surface (A	11)	Depleted Matrix				V Surface (S8) (LRR K, L)		
	rk Surface (A1		11)	Redox Dark Surf			Thin Dark Surface (S9) (LRR K, L)			
	uck Mineral (S	•		Depleted Dark S	Surface (F7)			e Masses (F12) (LRR K, L, R)		
	eyed Matrix (Redox Depression	ons (F8)		Piedmont Floodplain Soils (F19) (MLRA 149B)			
Sandy Re		54)					Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
	Matrix (S6)						Red Parent Material (TF2)			
	face (S7) (LRF	R R. MLRA	149B)				✓ Very Shallow Dark Surface (TF12)✓ Other (Explain in Remarks)			
								n Remarks)		
			n and wetia	and hydrology must be pr	esent, uniess disturbe	a or proble	ematic.			
Restrictive L	ayer (if obs	erved):								
Type:							Hydric Soil Present?	? Yes ● No ○		
Depth (inc	ches):						nyunc son Present	r res S No C		
Remarks:										



AN41 Wetland