

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP- 90

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 00% (A/B)

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by:

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Plantago lanceolata</u>	<u>60</u>	<u>YES</u>	<u>FACU</u>
2. <u>Lotus corniculatus</u>	<u>30</u>	<u>YES</u>	<u>FACU</u>
3. <u>Fragaria virginiana</u>	<u>20</u>	<u>NO</u>	<u>FACU</u>
4. <u>Daucus carota</u>	<u>10</u>	<u>NO</u>	<u>FACU</u>
5. <u>Hesperis sp.</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
  - Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

**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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

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

SOIL

Sampling Point: DP-80

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0-9	10YR 3/4	100	—	—	—	—	Silt/loam
9-12	10YR 4/4	100	—	—	—	—	Silt/loam

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- Hydric Soil Indicators:**
- Histosol (A1)
  - Histic Epipedon (A2)
  - Black Histic (A3)
  - Hydrogen Sulfide (A4)
  - Stratified Layers (A5)
  - Depleted Below Dark Surface (A11)
  - Thick Dark Surface (A12)
  - Sandy Mucky Mineral (S1)
  - Sandy Gleyed Matrix (S4)
  - Sandy Redox (S5)
  - Stripped Matrix (S6)
  - Dark Surface (S7) (LRR R, MLRA 149B)
  - Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
  - Thin Dark Surface (S9) (LRR R, MLRA 149B)
  - Loamy Mucky Mineral (F1) (LRR K, L)
  - Loamy Gleyed Matrix (F2)
  - Depleted Matrix (F3)
  - Redox Dark Surface (F6)
  - Depleted Dark Surface (F7)
  - Redox Depressions (F8)
- Indicators for Problematic Hydric Soils<sup>3</sup>:**
- 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, M)
  - 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)
  - Red Parent Material (F21)
  - Very Shallow Dark Surface (TF12)
  - Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock/Gravel

Depth (inches): 12"

Hydric Soil Present? Yes  No

Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/11/2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-31  
 Investigator(s): DJL Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Till plain Local relief (concave, convex, none): concave Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): LRR-R Lat: 79.133101 Long: 42.432769 Datum: NAD 83  
 Soil Map Unit Name: Chautauqua Silty Loam (C1B) NWM classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>WL-X2</u>
Remarks: (Explain alternative procedures here or in a separate report.)    	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) _____ Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) _____ Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (Inches): <u>18+</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (Inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (Inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks: <u>Former ag ponds flat drain to wetland associated with stream ST-15</u>	

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP- 81

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Utricularia oryzoides</u>	<u>20</u>	<u>YES</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Scirpus cyperinus</u>	<u>20</u>	<u>YES</u>	<u>OBL</u>	
3. <u>Typha sp.</u>	<u>10</u>	<u>NO</u>	<u>OBL</u>	
4. <u>Spergularia sp.</u>	<u>10</u>	<u>NO</u>	<u>OBL</u>	
5. <u>Lemna sp.</u>	<u>5</u>	<u>NO</u>	<u>OBL</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>65</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<u>725</u> <u>13</u>				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

**SOIL**

Sampling Point: DP- 81

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- |   |  |  |
|---|--|--|
| <b>Hydric Soil Indicators:</b>                                |  | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>          |
| <input type="checkbox"/> Histosol (A1)                        | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)       |
| <input type="checkbox"/> Histic Epipedon (A2)                 | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)       | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)     |
| <input type="checkbox"/> Black Histic (A3)                    | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)             | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)  |
| <input checked="" type="checkbox"/> Hydrogen Sulfide (A4)     | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                        | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)             |
| <input type="checkbox"/> Stratified Layers (A5)               | <input type="checkbox"/> Depleted Matrix (F3)                            | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)     |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)    | <input type="checkbox"/> Redox Dark Surface (F6)                         | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)           |
| <input type="checkbox"/> Thick Dark Surface (A12)             | <input type="checkbox"/> Depleted Dark Surface (F7)                      | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)             | <input type="checkbox"/> Redox Depressions (F8)                          | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)             |  | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)   |
| <input type="checkbox"/> Sandy Redox (S5)                     |  | <input type="checkbox"/> Red Parent Material (F21)                   |
| <input type="checkbox"/> Stripped Matrix (S6)                 |  | <input type="checkbox"/> Very Shallow Dark Surface (TF12)            |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) |  | <input type="checkbox"/> Other (Explain in Remarks)                  |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b>	Hydric Soil Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Type: _____ Depth (inches): _____	

Remarks:  
*mucky soils strong hydrogen sulfide odor detected*



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/11/2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-82  
 Investigator(s): DJL Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Fertile Plain Local relief (concave, convex, none): Convex Slope (%): 7-8  
 Subregion (LRR or MLRA): LRR-R Lat: 79.1334 Long: 42.432916 Datum: NAD 83  
 Soil Map Unit Name: Chautauqua silt loam (ckc) NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____ No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>	
Remarks: (Explain alternative procedures here or in a separate report.)		

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p> <input type="checkbox"/> Surface Water (A1)                      <input type="checkbox"/> Water-Stained Leaves (B9)  <input type="checkbox"/> High Water Table (A2)                  <input type="checkbox"/> Aquatic Fauna (B13)  <input type="checkbox"/> Saturation (A3)                            <input type="checkbox"/> Marl Deposits (B15)  <input type="checkbox"/> Water Marks (B1)                         <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  <input type="checkbox"/> Sediment Deposits (B2)                 <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)  <input type="checkbox"/> Drift Deposits (B3)                       <input type="checkbox"/> Presence of Reduced Iron (C4)  <input type="checkbox"/> Algal Mat or Crust (B4)                  <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)  <input type="checkbox"/> Iron Deposits (B5)                         <input type="checkbox"/> Thin Muck Surface (C7)  <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)   <input type="checkbox"/> Other (Explain in Remarks)  <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)                 </p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p> <input type="checkbox"/> Surface Soil Cracks (B6)  <input type="checkbox"/> Drainage Patterns (B10)  <input type="checkbox"/> Moss Trim Lines (B16)  <input type="checkbox"/> Dry-Season Water Table (C2)  <input type="checkbox"/> Crayfish Burrows (C8)  <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)  <input type="checkbox"/> Stunted or Stressed Plants (D1)  <input type="checkbox"/> Geomorphic Position (D2)  <input type="checkbox"/> Shallow Aquitard (D3)  <input type="checkbox"/> Microtopographic Relief (D4)  <input type="checkbox"/> FAC-Neutral Test (D5)                 </p>
<p><b>Field Observations:</b></p> <p>Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____</p> <p>Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____</p> <p>Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____                  (includes capillary fringe)</p>	<p><b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/></p>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <u>No wetland hydrology indicators present</u>	



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP- 82

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				
1. <u>Acer saccharum</u>	<u>60</u>	<u>Yes</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. <u>Prunus serotina</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )				
1. <u>Acer saccharum</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
2. <u>Malus sp.</u>	<u>10</u>	<u>No</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )				
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>				
_____ = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: DP- 22

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-10	10YR 3/4	100	—	—	—	—	Silt/loam	
10-18	10YR 3/6	100	—	—	—	—	Silt/loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- |  |  |  |
|--|--|--|
| <p><b>Hydric Soil Indicators:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Histosol (A1)</li> <li><input type="checkbox"/> Histic Epipedon (A2)</li> <li><input type="checkbox"/> Black Histic (A3)</li> <li><input type="checkbox"/> Hydrogen Sulfide (A4)</li> <li><input type="checkbox"/> Stratified Layers (A5)</li> <li><input type="checkbox"/> Depleted Below Dark Surface (A11)</li> <li><input type="checkbox"/> Thick Dark Surface (A12)</li> <li><input type="checkbox"/> Sandy Mucky Mineral (S1)</li> <li><input type="checkbox"/> Sandy Gleyed Matrix (S4)</li> <li><input type="checkbox"/> Sandy Redox (S5)</li> <li><input type="checkbox"/> Stripped Matrix (S6)</li> <li><input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)</li> <li><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)</li> <li><input type="checkbox"/> Loamy Gleyed Matrix (F2)</li> <li><input type="checkbox"/> Depleted Matrix (F3)</li> <li><input type="checkbox"/> Redox Dark Surface (F6)</li> <li><input type="checkbox"/> Depleted Dark Surface (F7)</li> <li><input type="checkbox"/> Redox Depressions (F8)</li> </ul> | <p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)</li> <li><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</li> <li><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)</li> <li><input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)</li> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)</li> <li><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)</li> <li><input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)</li> <li><input type="checkbox"/> Red Parent Material (F21)</li> <li><input type="checkbox"/> Very Shallow Dark Surface (TF12)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul> |
|--|--|--|

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
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Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/12/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-86  
 Investigator(s): M. Baberg D. Lockwood Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.128943 Long: 42.433243 Datum: NAD 83  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>WL-42</u>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2)                      ___ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3)                                ___ Marl Deposits (B15) ___ Water Marks (B1) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)                   ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)                         ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)                     ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)                         ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	___ Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>0-5"</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>0"</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: DP- 810

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <i>Tsuga canadensis</i>	90	Y	FACU	
2. <i>Betula alleghaniensis</i>	10	N	FAC	
3.				Prevalence Index worksheet: Total % Cover of: <u>100</u> = Total Cover Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>40</u> x 3 = <u>120</u> FACU species <u>130</u> x 4 = <u>520</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>175</u> (A) <u>650</u> (B) Prevalence Index = B/A = <u>3.71</u>
4.				
5.				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input checked="" type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6.				
7.				Definitions of Vegetation Strata: <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
8.				
Sapling/Shrub Stratum (Plot size: 15')				Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u>
1. <i>Tsuga canadensis</i>	40	Y	FACU	
2. <i>Betula alleghaniensis</i>	30	Y	FAC	
3.				Remarks: (Include photo numbers here or on a separate sheet.)  species have adapted to wet conditions through morphological adaptations – fluted trunks and shallow roots. - Eastern Hemlock
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
Herb Stratum (Plot size: 5')				
1. <i>Osmunda cinnamomea</i>	5	Y	FACW	
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
Woody Vine Stratum (Plot size: 30')				
1. NOT APPLICABLE				
2.				
3.				
4.				

SOIL

Sampling Point: DP- 86

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-6	2.5Y <sup>2.5/1</sup>	95	10YR 5/8	5	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>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

Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/12/13  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-87  
 Investigator(s): M. BOBERG D. LOCKWOOD Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 35  
 Subregion (LRR or MLRA): LRR-R Lat: 79.128876 Long: 42.433716 Datum: NAD 83  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1)                      ___ Water-Stained Leaves (B9) ___ High Water Table (A2)                 ___ Aquatic Fauna (B13) ___ Saturation (A3)                           ___ Marl Deposits (B15) ___ Water Marks (B1)                        ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)                ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)                      ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)                 ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)                        ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)    ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	



VEGETATION – Use scientific names of plants.

Sampling Point: DP- 87

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Tsuga canadensis</u>	<u>90</u>	<u>Y</u>	<u>FACU</u>
2. <u>Betula alleghaniensis</u>	<u>10</u>	<u>N</u>	<u>FAC</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

100 = Total Cover

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Tsuga canadensis</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>
2. <u>Betula alleghaniensis</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

20 = Total Cover

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Dryopteris aristata</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

5 = Total Cover

Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NOT APPLICABLE</u>	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

0 = Total Cover

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>5</u>	x 1 = <u>5</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>20</u>	x 3 = <u>60</u>
FACU species <u>100</u>	x 4 = <u>400</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>125</u> (A)	<u>465</u> (B)

Prevalence Index = B/A = 3.72

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
  - Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No

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

**SOIL**

Sampling Point: DP- 87

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
<u>2</u>								<u>leaf litter</u>
<u>0-1</u>	<u>2.5Y 2.5/1</u>	<u>100</u>						
<u>1-2</u>	<u>2.5Y 4/1</u>	<u>100</u>						
<u>2-12</u>	<u>2.5Y 4/4</u>	<u>80</u>	<u>2.5Y 4/1</u>	<u>5</u>	<u>D</u>	<u>m</u>	<u>SIL</u>	
			<u>10YR 4/6</u>	<u>5</u>	<u>C</u>	<u>m</u>	<u>SIL</u>	
			<u>2.5Y 7/3</u>	<u>10</u>	<u>C</u>	<u>m</u>	<u>SIL</u>	
<u>12-20</u>	<u>2.5Y 5/6</u>	<u>80</u>	<u>2.5Y 7/3</u>	<u>10</u>	<u>C</u>	<u>m</u>	<u>SIL</u>	
			<u>10YR 4/6</u>	<u>10</u>	<u>C</u>	<u>m</u>	<u>SIL</u>	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>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 X

Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/12/2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP- 91  
 Investigator(s): DJL, MAR Section, Township, Range: Villena  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave Slope (%): 0.00  
 Subregion (LRR or MLRA): LRR-R Lat: 79.121921 Long: 42.439258 Datum: NAD 83  
 Soil Map Unit Name: Alden mucky silt loam (Ad) NWM classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>WL-AB</u>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1)      _____ Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2)      _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3)      _____ Marl Deposits (B15) _____ Water Marks (B1)      _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2)      _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3)      _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4)      _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5)      _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7)      _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> _____ Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>41</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:   	

VEGETATION – Use scientific names of plants.

Sampling Point: DP-9

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Lactuca arvensis</u>	<u>70</u>	<u>YES</u>	<u>OBL</u>
2. <u>Melissa sp.</u>	<u>20</u>	<u>NO</u>	<u>FACW</u>
3. <u>Juncus effusus</u>	<u>10</u>	<u>NO</u>	<u>FACW</u>
4. <u>Nasturtium officinale</u>	<u>10</u>	<u>NO</u>	<u>OBL</u>
5. <u>Sp. 10</u>	<u>10</u>	<u>NO</u>	<u>FAC</u>
6.			
7.			
8.			
9.			
10.			
11.			
12.			

Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by:

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
  - Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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

**SOIL**

Sampling Point: DP- 91

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-10	10YR 2/1	95	7.5YR 3/4	5	C	M	Silt/clay	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>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

Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/12/2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP- 92  
 Investigator(s): DSL, MAB Section, Township, Range: Villava  
 Landform (hillslope, terrace, etc.): Till Plain Local relief (concave, convex, none): Concave Slope (%): 3-10  
 Subregion (LRR or MLRA): LRR-R Lat: 79.121797 Long: 42.439597 Datum: NAD 83  
 Soil Map Unit Name: Chautauqua Silt loam (CkA) NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1)                      ___ Water-Stained Leaves (B9) ___ High Water Table (A2)                   ___ Aquatic Fauna (B13) ___ Saturation (A3)                            ___ Marl Deposits (B15) ___ Water Marks (B1)                         ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)                 ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)                        ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)                   ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)                         ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)   ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-92

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				
1.	<u>50</u>	<u>YES</u>	<u>FACU</u>	
2.	<u>40</u>	<u>YES</u>	<u>FACU</u>	
3.	<u>5</u>	<u>NO</u>	<u>FACU</u>	
4.	<u>5</u>	<u>NO</u>	<u>FACU</u>	
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	<u>100</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )				
1.				
2.				
3.				
4.				
	<u>0</u>	= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)  				

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by:

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

**SOIL**

Sampling Point: DP-92

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-5	10YR 3/3	100						
5-16	10YR 4/4	100						
16-20	10YR 4/3	100						

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<p><b>Hydric Soil Indicators:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Histosol (A1)</li> <li><input type="checkbox"/> Histic Epipedon (A2)</li> <li><input type="checkbox"/> Black Histic (A3)</li> <li><input type="checkbox"/> Hydrogen Sulfide (A4)</li> <li><input type="checkbox"/> Stratified Layers (A5)</li> <li><input type="checkbox"/> Depleted Below Dark Surface (A11)</li> <li><input type="checkbox"/> Thick Dark Surface (A12)</li> <li><input type="checkbox"/> Sandy Mucky Mineral (S1)</li> <li><input type="checkbox"/> Sandy Gleyed Matrix (S4)</li> <li><input type="checkbox"/> Sandy Redox (S5)</li> <li><input type="checkbox"/> Stripped Matrix (S6)</li> <li><input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)</li> <li><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)</li> <li><input type="checkbox"/> Loamy Gleyed Matrix (F2)</li> <li><input type="checkbox"/> Depleted Matrix (F3)</li> <li><input type="checkbox"/> Redox Dark Surface (F6)</li> <li><input type="checkbox"/> Depleted Dark Surface (F7)</li> <li><input type="checkbox"/> Redox Depressions (F8)</li> </ul>	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)</li> <li><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</li> <li><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)</li> <li><input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)</li> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)</li> <li><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)</li> <li><input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)</li> <li><input type="checkbox"/> Red Parent Material (F21)</li> <li><input type="checkbox"/> Very Shallow Dark Surface (TF12)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul>
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<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b>	
Type: _____	
Depth (inches): _____	
	Hydric Soil Present?    Yes _____    No <u>X</u>

Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/12/2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-93  
 Investigator(s): DJL, MAB Section, Township, Range: Villanova  
 Landform (hillslope, terrace, etc.): Till Plain Local relief (concave, convex, none): concave Slope (%): 3-8  
 Subregion (LRR or MLRA): LRR-R Lat: 79.122045 Long: 42.440547 Datum: NAD 83  
 Soil Map Unit Name: Buck silt loam (B=0) NWI classification: PEM  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>WL-A6</u>
Remarks: (Explain alternative procedures here or in a separate report.)  	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>41</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: DP- 93

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				
1.	<u>40</u>	<u>YES</u>	<u>FACW</u>	
2.	<u>30</u>	<u>YES</u>	<u>OBL</u>	
3.	<u>20</u>	<u>NO</u>	<u>FACW</u>	
4.	<u>10</u>	<u>NO</u>	<u>FACW</u>	
5.	<u>5</u>	<u>NO</u>	<u>FULL</u>	
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	<u>105</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )				
1.				
2.				
3.				
4.				
	<u>0</u>	= Total Cover		

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

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**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by:

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

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**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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**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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

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**Hydrophytic Vegetation Present?** Yes  No

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

**SOIL**

Sampling Point: DP- 93

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
<u>0-8</u>	<u>10YR 2/1</u>	<u>90</u>	<u>7.5YR 3/4</u>	<u>10*</u>	<u>C</u>	<u>M</u>	<u>Silt/Clay</u>	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- |  |   |  |
|--|---|--|
| <p><b>Hydric Soil Indicators:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Histosol (A1)</li> <li><input type="checkbox"/> Histic Epipedon (A2)</li> <li><input type="checkbox"/> Black Histic (A3)</li> <li><input type="checkbox"/> Hydrogen Sulfide (A4)</li> <li><input type="checkbox"/> Stratified Layers (A5)</li> <li><input type="checkbox"/> Depleted Below Dark Surface (A11)</li> <li><input type="checkbox"/> Thick Dark Surface (A12)</li> <li><input type="checkbox"/> Sandy Mucky Mineral (S1)</li> <li><input type="checkbox"/> Sandy Gleyed Matrix (S4)</li> <li><input type="checkbox"/> Sandy Redox (S5)</li> <li><input type="checkbox"/> Stripped Matrix (S6)</li> <li><input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)</li> <li><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)</li> <li><input type="checkbox"/> Loamy Gleyed Matrix (F2)</li> <li><input type="checkbox"/> Depleted Matrix (F3)</li> <li><input checked="" type="checkbox"/> Redox Dark Surface (F6)</li> <li><input type="checkbox"/> Depleted Dark Surface (F7)</li> <li><input type="checkbox"/> Redox Depressions (F8)</li> </ul> | <p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)</li> <li><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</li> <li><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)</li> <li><input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)</li> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)</li> <li><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)</li> <li><input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)</li> <li><input type="checkbox"/> Red Parent Material (F21)</li> <li><input type="checkbox"/> Very Shallow Dark Surface (TF12)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul> |
|--|---|--|

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: <u>Rak/Brawl</u></p> <p>Depth (inches): <u>8</u></p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/12/2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-94  
 Investigator(s): DJL, MAR Section, Township, Range: V11E10VA  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): level Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): LRR-R Lat: 79.122055 Long: 42.440708 Datum: NAD 83  
 Soil Map Unit Name: Rusty Giltloam (P-16) NWM classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP- 94

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: 20')				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	0	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: 15')				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	0	= Total Cover		
<b>Herb Stratum</b> (Plot size: 5')				
1.	60	YES	FACU	<i>Trifolium repens</i>
2.	40	YES	FAC	<i>Poa sp.</i>
3.	20	NO	FACU	<i>Plantago lanceolata</i>
4.	10	NO	FACU	<i>Taraxacum officinale</i>
5.	10	NO	FACU	<i>Solanum carolinense</i>
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	140	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: 30')				
1.				
2.				
3.				
4.				
	70	= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				

  

<b>Dominance Test worksheet:</b>	
Number of Dominant Species That Are OBL, FACW, or FAC:	1 (A)
Total Number of Dominant Species Across All Strata:	2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	50% (AB)
<b>Prevalence Index worksheet:</b>	
Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____	(A) _____ (B) _____
Prevalence Index = B/A = _____	
<b>Hydrophytic Vegetation Indicators:</b>	
<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
<input type="checkbox"/> 2 - Dominance Test is >50%	
<input type="checkbox"/> 3 - Prevalence Index is $\geq 3.0^1$	
<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Definitions of Vegetation Strata:</b>	
<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
<b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>	

**SOIL**

Sampling Point: DP-74

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-8	10YR 3/3	100					silt/loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- |   |  |  |
|---|--|--|
| <b>Hydric Soil Indicators:</b>                                |  | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>          |
| <input type="checkbox"/> Histosol (A1)                        | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)       |
| <input type="checkbox"/> Histic Epipedon (A2)                 | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)       | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)     |
| <input type="checkbox"/> Black Histic (A3)                    | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)             | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                        | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)             |
| <input type="checkbox"/> Stratified Layers (A5)               | <input type="checkbox"/> Depleted Matrix (F3)                            | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)     |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)    | <input type="checkbox"/> Redox Dark Surface (F6)                         | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)           |
| <input type="checkbox"/> Thick Dark Surface (A12)             | <input type="checkbox"/> Depleted Dark Surface (F7)                      | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)             | <input type="checkbox"/> Redox Depressions (F8)                          | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)             |  | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)   |
| <input type="checkbox"/> Sandy Redox (S5)                     |  | <input type="checkbox"/> Red Parent Material (F21)                   |
| <input type="checkbox"/> Stripped Matrix (S6)                 |  | <input type="checkbox"/> Very Shallow Dark Surface (TF12)            |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) |  | <input type="checkbox"/> Other (Explain in Remarks)                  |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: <u>Rock/Gravel</u> Depth (inches): <u>8</u>	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/13/2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-100  
 Investigator(s): D. L. MAB Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Till Plain Local relief (concave, convex, none): convex Slope (%): 2-3%  
 Subregion (LRR or MLRA): LRR-R Lat: 79.129245 Long: 42.441146 Datum: NAD 83  
 Soil Map Unit Name: Chautauque silt loam (Gk) NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)  	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1)                      ___ Water-Stained Leaves (B9) ___ High Water Table (A2)                  ___ Aquatic Fauna (B13) ___ Saturation (A3)                            ___ Marl Deposits (B15) ___ Water Marks (B1)                         ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)                 ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)                        ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)                   ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)                         ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)    ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (Inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (Inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (Inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <u>No wetland hydrology indicators present</u>	

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-100

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Prunus serotina</u>	<u>40</u>	<u>Yes</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. <u>Rubinia pseudoacacia</u>	<u>50</u>	<u>Yes</u>	<u>FACU</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>90</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Prunus serotina</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>80</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Rosa multiflora</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. <u>Lonicera tatarica</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>15</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____				
3. _____				
4. _____				
<u>0</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>

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

Photos 131

**SOIL**

Sampling Point: DP-109

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-3	10YR 3/3	100	—	—	—	—	Silt/clay	
0-12	10YR 4/4	100	—	—	—	—	Silt/clay	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- |   |  |  |
|---|--|--|
| <b>Hydric Soil Indicators:</b>                                |  | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>          |
| <input type="checkbox"/> Histosol (A1)                        | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)       |
| <input type="checkbox"/> Histic Epipedon (A2)                 | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)       | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)     |
| <input type="checkbox"/> Black Histic (A3)                    | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)             | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                        | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)             |
| <input type="checkbox"/> Stratified Layers (A5)               | <input type="checkbox"/> Depleted Matrix (F3)                            | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)     |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)    | <input type="checkbox"/> Redox Dark Surface (F6)                         | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)           |
| <input type="checkbox"/> Thick Dark Surface (A12)             | <input type="checkbox"/> Depleted Dark Surface (F7)                      | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)             | <input type="checkbox"/> Redox Depressions (F8)                          | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)             |  | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)   |
| <input type="checkbox"/> Sandy Redox (S5)                     |  | <input type="checkbox"/> Red Parent Material (F21)                   |
| <input type="checkbox"/> Stripped Matrix (S6)                 |  | <input type="checkbox"/> Very Shallow Dark Surface (TF12)            |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) |  | <input type="checkbox"/> Other (Explain in Remarks)                  |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: Stone/gravel  
 Depth (inches): 12"

Hydric Soil Present? Yes  No

Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/13/2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-101  
 Investigator(s): DJL, MAB Section, Township, Range: V. Llerova  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): concave Slope (%): 3%  
 Subregion (LRR or MLRA): LRR-R Lat: 79.12813 Long: 42.441178 Datum: NAD 83  
 Soil Map Unit Name: Bastis Silt loam (Bast) NWI classification: P2M  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>W2-117</u>
Remarks: (Explain alternative procedures here or in a separate report.)  	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:  	



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-101

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Phalaris arundinacea</u>	<u>100</u>	<u>YES</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. <u>Juncus effusus</u>	<u>10</u>	<u>NO</u>	<u>FACW</u>	
3. <u>Scirpus atrovirens</u>	<u>20</u>	<u>YES</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>90</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)  <div style="text-align: center; font-size: 2em; font-family: cursive;">Photo 132</div>				

**SOIL**

Sampling Point: DP-101

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-12	19YR 5/1	90	7.5YR 3/1	10	C	29	Si. H. layers	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup>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

Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/13/2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-102  
 Investigator(s): DJL, MAR Section, Township, Range: Villanova  
 Landform (hillslope, terrace, etc.): Till plain Local relief (concave, convex, none): convex Slope (%): 3-5  
 Subregion (LRR or MLRA): LRR-R Lat: 79.128212 Long: 42.441125 Datum: NAD 83  
 Soil Map Unit Name: Basti Silty loam (Bsp) NW classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation no Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation no Soil no, or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: (Explain alternative procedures here or in a separate report.)		

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

Secondary Indicators (minimum of two required)

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Marl Deposits (B15)                        | <input type="checkbox"/> Moss Trim Lines (B16)                     |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks)                 | <input type="checkbox"/> Shallow Aquitard (D3)                     |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |   | <input type="checkbox"/> Microtopographic Relief (D4)              |
|  |   | <input type="checkbox"/> FAC-Neutral Test (D5)                     |

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches):  
 Water Table Present? Yes  No  Depth (inches):  
 Saturation Present? Yes  No  Depth (inches):  
 (includes capillary fringe)

Wetland Hydrology Present? Yes  No

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

Remarks: no wetland hydrology indicators present

VEGETATION - Use scientific names of plants.

Sampling Point: DP-102

**Tree Stratum** (Plot size: 30')

	Absolute % Cover	Dominant Species?	Indicator Status
1. Not Applicable			
2.			
3.			
4.			
5.			
6.			
7.			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

**Sapling/Shrub Stratum** (Plot size: 15')

	Absolute % Cover	Dominant Species?	Indicator Status
1. Not Applicable			
2.			
3.			
4.			
5.			
6.			
7.			

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 0	x 2 = 0
FAC species 0	x 3 = 0
FACU species 90	x 4 = 360
UPL species 0	x 5 = 0
Column Totals: 90 (A)	360 (B)

Prevalence Index = B/A = 4.0

**Herb Stratum** (Plot size: 5')

	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Distylichia glauca</i>	30	YES	FACU
2. <i>Polygonum frutescens</i>	20	YES	FACU
3. <i>Taraxacum officinale</i>	20	YES	FACU
4. <i>Thlaspi arvense</i>	10	NO	FACU
5. <i>Hesperis sp</i>	10	NO	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

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

**Woody Vine Stratum** (Plot size: 30')

	Absolute % Cover	Dominant Species?	Indicator Status
1. Not Applicable			
2.			
3.			
4.			

**Hydrophytic Vegetation Present?** Yes  No

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

Photo 133

**SOIL**

Sampling Point: DP-102

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
<u>0-12</u>	<u>10YR 2.3/4</u>	<u>100</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>silt/clay</u>	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>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 X

**Remarks:**



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/13/2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-103  
 Investigator(s): DJL MAB Section, Township, Range: Villanova  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): Concave Slope (%): 3-8  
 Subregion (LRR or MLRA): LRR-R Lat: 79.128876 Long: 42.440794 Datum: NAD 83  
 Soil Map Unit Name: Chautauqua silt loam (CkP) NWI classification: PERM  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>WL-A10</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<p><u>Secondary Indicators (minimum of two required)</u></p> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<p><b>Field Observations:</b></p> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (Inches): <u>1</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (Inches): <u>0</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (Inches): <u>0</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-102

<b>Tree Stratum</b> (Plot size: <u>30'</u> )				Absolute % Cover	Dominant Species?	Indicator Status
1.						
2.						
3.						
4.						
5.						
6.						
7.						
				<u>0</u> = Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )						
1.						
2.						
3.						
4.						
5.						
6.						
7.						
				<u>0</u> = Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5'</u> )						
1.	<u>Sarcocolla obtusa</u>	<u>40</u>	<u>YES</u>	<u>FACW</u>		
2.	<u>Epilobium sp.</u>	<u>5</u>	<u>NO</u>	<u>FAC</u>		
3.	<u>Scirpus atrovirens</u>	<u>20</u>	<u>YES</u>	<u>FACW</u>		
4.	<u>Poa sp.</u>	<u>20</u>	<u>YES</u>	<u>FAC</u>		
5.	<u>Galium sp.</u>	<u>10</u>	<u>NO</u>	<u>FAC</u>		
6.						
7.						
8.						
9.						
10.						
11.						
12.						
				<u>95</u> = Total Cover	<u>47.5</u>	<u>19</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )						
1.						
2.						
3.						
4.						
				<u>0</u> = Total Cover		

  

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

  

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

Photo 134

**Hydrophytic Vegetation Present?**

Yes  No

**SOIL**

Sampling Point: DP- 103

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-12	10 YR 3/1	90	7.5 YR 3/4	10	C	MS	Silt loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)</p>	<p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)</p> <p><input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)</p> <p><input type="checkbox"/> Red Parent Material (F21)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present?    Yes <input checked="" type="checkbox"/>    No <input type="checkbox"/></p>
<p>Remarks:</p>	



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/13/2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-104  
 Investigator(s): DJK, MAB Section, Township, Range: Villebova  
 Landform (hillslope, terrace, etc.): Till Plain Local relief (concave, convex, none): convex Slope (%): 3-5  
 Subregion (LRR or MLRA): LRR-R Lat: 79.128676 Long: 42.440764 Datum: NAD 83  
 Soil Map Unit Name: Chautauqua Silty-loam (14A) NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation no, Soil no, or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)  	

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<p><u>Secondary Indicators (minimum of two required)</u></p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<p><b>Field Observations:</b></p> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks: <u>No wetland hydrology indicators present</u>	

VEGETATION – Use scientific names of plants.

Sampling Point: DP-104

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
<u>0</u> = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
<u>0</u> = Total Cover			
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Dactylis glomerata</u>	<u>20</u>	<u>YES</u>	<u>FACW</u>
2. <u>Phleum pratense</u>	<u>20</u>	<u>YES</u>	<u>FACW</u>
3. <u>Trifolium repens</u>	<u>20</u>	<u>YES</u>	<u>FACW</u>
4. <u>Hesperis sp.</u>	<u>10</u>	<u>NO</u>	<u>FACW</u>
5. <u>Taraxacum officinale</u>	<u>10</u>	<u>NO</u>	<u>FACW</u>
6. <u>Plantago lanceolata</u>	<u>5</u>	<u>NO</u>	<u>FACW</u>
7. <u>Solanum carolinense</u>	<u>5</u>	<u>NO</u>	<u>FACW</u>
8.			
9.			
10.			
11.			
12.			
<u>90</u> = Total Cover <u>45</u> <u>15</u>			
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
<u>0</u> = Total Cover			

  

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)  
 Total Number of Dominant Species Across All Strata: 3 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_  
 OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_  
 FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_  
 FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_  
 FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_  
 UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_  
 Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)  
 Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.  
**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  
**Woody vines** – All woody vines greater than 3.28 ft in height.

  

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No

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

Photo 135

**SOIL**

Sampling Point: DP-104

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-12	10YR 7/2	100	—	—	—	—	silt/loam	
12-18	10YR 4/3	95	7.5YR 5/6	5	—	—	silt/loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>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

Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/19/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-200  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): N/A  
 Subregion (LRR or MLRA): LRR R Lat: 42.41111 Long: -79.128109 Datum: NAD 83  
 Soil Map Unit Name: As - Ashville silt loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>WL-A200(NFM)</u>
Remarks: (Explain alternative procedures here or in a separate report.) <i>This sample point represents the PEM wetland community of A200. The wetland is a vegetated ditch located within an active hayfield. Ditch appears to have been excavated several years ago to provide drainage. Normal circumstances are present.</i>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <i>Three primary &amp; one secondary hydrologic indicators were met. Hydrology appears primarily precipitation driven with possible groundwater influence.</i>	



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP- 350

Tree Stratum (Plot size: <u>30' x 10'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: <u>30' x 10'</u>)</b>				
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
_____ = Total Cover				
<b>Herb Stratum (Plot size: <u>30' x 10'</u>)</b>				
1. <u>Phragmites australis</u>	<u>58%</u>		<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
_____ = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>30' x 10'</u>)</b>				
1. <u>N/A</u>				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Remarks: (Include photo numbers here or on a separate sheet.) 90% hydrophytic vegetation regime met via the rapid test Vegetation plot was adjusted to account for the boundaries of a representative PEM component				

**SOIL**

Sampling Point: DP-200

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features			Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%					
0-7	2.5Y 3/2	100						Sandy loam	Mixed w/ roots
7-10	2.5Y 3/2	98	5YR 4/6	2	C	M		Sandy loam	
10-16	10YR 5/1	90	10YR 5/8	10	C	M		Sandy clay loam	Mixed w/ grass
16 <sup>7</sup>									Rock refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock  
 Depth (inches): 16"

Hydric Soil Present? Yes  No

**Remarks:**

Hydric soil indicators A11 & F3 were met.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/19/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-201  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): LRR R Lat: 42.411387 Long: -79.128414 Datum: NAD 83  
 Soil Map Unit Name: FrB - Fine silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>WL-A200(P55)</u>
Remarks: (Explain alternative procedures here or in a separate report.) <i>This sample point represents the P55 wetland community of WL-A200. The wetland is a vegetated ditch located within an active hayfield. Ditch appears to have been excavated several years ago to provide drainage. Normal circumstances are present.</i>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) _____ <input checked="" type="checkbox"/> High Water Table (A2) _____ <input checked="" type="checkbox"/> Saturation (A3) _____ _____ Water Marks (B1) _____ _____ Sediment Deposits (B2) _____ _____ Drift Deposits (B3) _____ _____ Algal Mat or Crust (B4) _____ _____ Iron Deposits (B5) _____ _____ Inundation Visible on Aerial Imagery (B7) _____ _____ Sparsely Vegetated Concave Surface (B8) _____ _____ Water-Stained Leaves (B9) _____ _____ Aquatic Fauna (B13) _____ _____ Marl Deposits (B15) _____ _____ Hydrogen Sulfide Odor (C1) _____ _____ Oxidized Rhizospheres on Living Roots (C3) _____ _____ Presence of Reduced Iron (C4) _____ _____ Recent Iron Reduction in Tilled Soils (C6) _____ _____ Thin Muck Surface (C7) _____ _____ Other (Explain in Remarks) _____	<b>Secondary Indicators (minimum of two required)</b> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No _____ Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <i>Three primary and one secondary hydrologic indicators were met. Hydrology appears precipitation driven, with a possible groundwater influence.</i>	

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-201

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>20' x 10'</u> )					
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
2.					
3.					
4.					
5.					
6.					
7.					
_____ = Total Cover					<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>20' x 10'</u> )					
1. <u>Salix herbina</u>	<u>70%</u>	<u>Y</u>	<u>OBL</u>		
2. <u>Populus deltoides</u>	<u>5%</u>	<u>N</u>	<u>FAC</u>		
3.					
4.					
5.					
6.					
7.					
<u>75</u> = Total Cover					
<b>Herb Stratum</b> (Plot size: <u>20' x 10'</u> )					
1. <u>Ilyssa latifolia</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>		
2. <u>Agrostis arvensis</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
<u>10</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Woody Vine Stratum</b> (Plot size: <u>20' x 10'</u> )					
1. <u>N/A</u>					
2.					
3.					
4.					
_____ = Total Cover					
<b>Definitions of Vegetation Strata:</b>					
<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.					
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>					
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation requirements met via the dominance test. Vegetative plot was adjusted to account for the boundaries (representative) of the PSS component.					

**SOIL**

Sampling Point: DP- 201

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-7	2.5Y 3/2	100					Sandy loam	Mixed with roots
7-10	2.5Y 3/2	98	5YR 4/6	2	C	m	Sandy loam	
10-16	10YR 5/1	90	10YR 5/8	10	C	M	Sandy clay loam	Mixed w/ gravel
16+								Rock refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock / Bedrock  
 Depth (inches): 10

Hydric Soil Present? Yes  No

**Remarks:**

Hydric soil indicators A11 & F3 were met.  
 Redox concentrations exhibited clear to sharp boundaries between 7-10" with diffuse boundaries from 10"-16".  
 Features were contemporary. Fragipan refusal was noted at 16"



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/19/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-202  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): LRR R Lat: 42 411661 Long: -79 128717 Datum: NAD 83  
 Soil Map Unit Name: EB-Erie silt loam 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>WL-A200 (PFO)</u>
Remarks: (Explain alternative procedures here or in a separate report.) <i>This sampling point represents the PFO community of WL-A200. Wetland is a vegetated ditch excavated to provide drainage for agricultural purposes. Disturbed is not new &amp; normal circumstances are present.</i>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1)      _____ Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2)      _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3)      _____ Marl Deposits (B15) _____ Water Marks (B1)      _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2)      _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3)      _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4)      _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5)      _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7)      _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>1 - 3'</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <i>Three primary and two secondary hydrologic indicators were met. Hydrology is precipitation driven with some groundwater influence.</i>	



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP- J02

Tree Stratum (Plot size: <u>20' x 10'</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u><i>Dalix nigra</i></u>	<u>60%</u>	<u>Y</u>	<u>OBL</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
2. <u><i>Populus deltoides</i></u>	<u>30%</u>	<u>Y</u>	<u>FAC</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
<u>90</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
Sapling/Shrub Stratum (Plot size: <u>20' x 10'</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover					
Herb Stratum (Plot size: <u>20' x 10'</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u><i>Cyperus arvensis</i></u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u><i>Typha latifolia</i></u>	<u>20%</u>	<u>Y</u>	<u>OBL</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
<u>40</u> = Total Cover					
Woody Vine Stratum (Plot size: <u>20' x 10'</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>N/A</u>	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.) <u>Hydrophytic vegetation requires to meet via dominance test</u> <u>Vegetation plot was adjusted to account for the boundary</u> <u>(representative) of the wetland. ~ 60% open, standing water,</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____	

**SOIL**

Sampling Point: DP- 202

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-7	2.5Y3/2	100					Sandy loam	Mixed w/ roots
7-10	2.5Y3/2	98	5YR 4/6	3	C		m Sandy loam	
10-16	10YR 5/1	90	10YR 5/8	10	C		m Sandy clay loam	Mixed w/ gravel
16 <sup>+</sup>								Rock refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- Hydric Soil Indicators:**
- Histosol (A1)
  - Histic Epipedon (A2)
  - Black Histic (A3)
  - Hydrogen Sulfide (A4)
  - Stratified Layers (A5)
  - Depleted Below Dark Surface (A11)
  - Thick Dark Surface (A12)
  - Sandy Mucky Mineral (S1)
  - Sandy Gleyed Matrix (S4)
  - Sandy Redox (S5)
  - Stripped Matrix (S6)
  - Dark Surface (S7) (LRR R, MLRA 149B)
  - Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
  - Thin Dark Surface (S9) (LRR R, MLRA 149B)
  - Loamy Mucky Mineral (F1) (LRR K, L)
  - Loamy Gleyed Matrix (F2)
  - Depleted Matrix (F3)
  - Redox Dark Surface (F6)
  - Depleted Dark Surface (F7)
  - Redox Depressions (F8)
- Indicators for Problematic Hydric Soils<sup>3</sup>:**
- 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, M)
  - 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)
  - Red Parent Material (F21)
  - Very Shallow Dark Surface (TF12)
  - Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 16

Hydric Soil Present? Yes X No     

Remarks:

9d hydric soil indicator F3 was met. Rock refusal was noted at 16" with each attempt. Refusal layer is partially restricting water percolation.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5-19-2016  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-203  
 Investigator(s): Zsiros, Jaime Section, Township, Range: NH  
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): None Slope (%): 8  
 Subregion (LRR or MLRA): LRR R Lat: 42.413148 Long: -79.130055 Datum: NAD 83  
 Soil Map Unit Name: Lnc - longford silt loam, s to 15% slopes NWI classification: Upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
If yes, optional Wetland Site ID: _____			

Remarks: (Explain alternative procedures here or in a separate report.)  
*Sample point represents the upland community surrounding WL# A200. The sampling point is located within an active hay field under agriculture for several years. Normal circumstances are present.*

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	<b>Secondary Indicators (minimum of two required)</b>
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
*No hydrology indicators present at sample point.*

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP- 203

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>5'</u> )					
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
	_____ = Total Cover			<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>5'</u> )					
1. <u>Not Applicable</u>					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
	_____ = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5'</u> )					
1. <u>Trifolium pratense</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Soraxacum officinale</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>		
3. <u>Phleum pratense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
4. <u>Trifolium repens</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
5. <u>Plantago lanceolata</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
6. <u>arctium minus</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
7. <u>Dactylis glomerata</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
8. <u>Phalaris arundinacea</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
9. _____					
10. _____					
11. _____					
12. _____					
	<u>100</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>5'</u> )					
1. <u>Not Applicable</u>				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
2. _____					
3. _____					
4. _____					
	_____ = Total Cover				
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>					
Remarks: (Include photo numbers here or on a separate sheet.) <u>Sampling point located within an island Hydrophytic vegetation regrowth mat, etc.</u>					

**SOIL**

Sampling Point: DP- 063

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%					
0-10	5.5Y 4/1	100						Silt loam	
10 <sup>+</sup>									Rock refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histic (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: N/A  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No X

**Remarks:**

*no hydric soil indicators met.*



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/19/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-204  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 3-5  
 Subregion (LRR or MLRA): LRR R Lat: 42 413473 Long: -79.134058 Datum: NAD 83  
 Soil Map Unit Name: ErB - Cric silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No ___ Hydric Soil Present? Yes <u>X</u> No ___ Wetland Hydrology Present? Yes <u>X</u> No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___ If yes, optional Wetland Site ID: <u>WL-A201</u>
Remarks: (Explain alternative procedures here or in a separate report.) This sample point represents the PEM wetland community of WLA-201. The system represents a mosaic system with approximately 2.5% upland inclusion exhibiting pits and mound topography in locations. Chapter 5 of the NCNE (Problematic vegetation) was utilized.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) ___ Surface Water (A1) <u>X</u> Water-Stained Leaves (B9) ___ High Water Table (A2)                      ___ Aquatic Fauna (B13) ___ Saturation (A3)                              ___ Marl Deposits (B15) ___ Water Marks (B1)                            ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)                    ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)                         ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)                     ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)                          ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)    ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <u>X</u> Surface Soil Cracks (B6) <u>X</u> Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes ___ No <u>X</u> Depth (inches): Water Table Present? Yes ___ No <u>X</u> Depth (inches): Saturation Present? Yes ___ No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No ___
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: One primary and four secondary hydrologic indicators were met. Hydrology is unique & may be resulting from agricultural tiles located on an adjacent property. Location of tiles was not observed. Other alterations may be contributing. Hydrology is likely precipitation influenced. Water level is precipitation amounts are lower than normal.	



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP- 204

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
				_____ = Total Cover
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )				
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
				_____ = Total Cover
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				
1. <u>Salicago mucoso</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Symphoricarpon premoithoides</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Veratrum viride</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>Impatiens capensis</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
5. <u>Rubus idaeus</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
6. <u>Onoclea sensibilis</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
7. <u>Pachera aurea</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
				<u>104</u> = Total Cover
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )				
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
				_____ = Total Cover

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

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**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by:

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

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**Hydrophytic Vegetation Indicators:**

\_\_\_ 1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

\_\_\_ 3 - Prevalence Index is ≤3.0<sup>1</sup>

\_\_\_ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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**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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

---

**Hydrophytic Vegetation Present?** Yes  No \_\_\_\_\_

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

Hydrophytic vegetation requirements were met via the dominance test. Vegetation was analyzed via a mosaic as outlined in Chapter 5. adjacent upland mounds & subsequent tree coverage were analyzed separately.

**SOIL**

Sampling Point: DP-204

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-10	10YR 3/1	100					loam	
10-20	10YR 4/2	80	7.5YR 5/6	20	C	m	silty loam	Mixed with gravel

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- Hydric Soil Indicators:**
- Histic Epipedon (A2)
  - Black Histic (A3)
  - Hydrogen Sulfide (A4)
  - Stratified Layers (A5)
  - Depleted Below Dark Surface (A11)
  - Thick Dark Surface (A12)
  - Sandy Mucky Mineral (S1)
  - Sandy Gleyed Matrix (S4)
  - Sandy Redox (S5)
  - Stripped Matrix (S6)
  - Dark Surface (S7) (LRR R, MLRA 149B)
  - Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
  - Thin Dark Surface (S9) (LRR R, MLRA 149B)
  - Loamy Mucky Mineral (F1) (LRR K, L)
  - Loamy Gleyed Matrix (F2)
  - Depleted Matrix (F3)
  - Redox Dark Surface (F6)
  - Depleted Dark Surface (F7)
  - Redox Depressions (F8)
- Indicators for Problematic Hydric Soils<sup>3</sup>:**
- 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, M)
  - 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)
  - Red Parent Material (F21)
  - Very Shallow Dark Surface (TF12)
  - Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: N/A  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present?    Yes     No

Remarks:  
 9d hydric soil indicators A11 & F3 were met.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/19/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-205  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): mound Local relief (concave, convex, none): Concave Slope (%): 8  
 Subregion (LRR or MLRA): LRR R Lat: 42.413406 Long: -79.133800 Datum: NAD 83  
 Soil Map Unit Name: EB-Brice silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation     , Soil     , or Hydrology      naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>    </u> No <u>X</u> Hydric Soil Present? Yes <u>    </u> No <u>X</u> Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u>    </u> No <u>X</u> If yes, optional Wetland Site ID: <u>    </u>
Remarks: (Explain alternative procedures here or in a separate report.) <i>This sample point represents the 25% upland mounds located within WL-A02, a mosaic wetland community.</i>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1)                      ___ Water-Stained Leaves (B9) ___ High Water Table (A2)                  ___ Aquatic Fauna (B13) ___ Saturation (A3)                            ___ Marl Deposits (B15) ___ Water Marks (B1)                         ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)                 ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)                        ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)                  ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)                         ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)    ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <u>    </u> No <u>    </u> Depth (inches): Water Table Present? Yes <u>    </u> No <u>    </u> Depth (inches): Saturation Present? Yes <u>    </u> No <u>    </u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks: <i>No hydrologic indicators were met.</i>	

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-005

Tree Stratum (Plot size: <u>10' x 7'</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u><i>Thuja canadensis</i></u>	<u>70%</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)	
2. <u><i>Acer saccharum</i></u>	<u>20%</u>	<u>Y</u>	<u>FACU</u>		
3. <u><i>Fraxinus americana</i></u>	<u>10%</u>	<u>N</u>	<u>FACU</u>		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
<u>100</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
Sapling/Shrub Stratum (Plot size: <u>10' x 7'</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>N/A</u>	_____	_____	_____		<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot size: <u>10' x 7'</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u><i>Mnium canadense</i></u>	<u>30%</u>	<u>Y</u>	<u>FACU</u>		<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
2. <u><i>Caulophyllum thalictroides</i></u>	<u>10%</u>	<u>Y</u>	<u>UPL</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
<u>30</u> = Total Cover					
Woody Vine Stratum (Plot size: <u>10' x 7'</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>N/A</u>	_____	_____	_____	<b>Remarks: (Include photo numbers here or on a separate sheet.)</b> <u>Hydrophytic vegetation requirements were not met. Vegetation plot was adjusted to the boundaries of a representative mound. Absolute cover represents cover of mound &amp; exclude adjacent PEM wetland.</u>	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____ = Total Cover					

**SOIL**

Sampling Point: DP-205

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-3	7.5YR 3/0	100					Clay loam	
3-10	10YR 3/1	100					Silt loam	
10 <sup>+</sup>								Root refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: N/A  
 Depth (Inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No X

**Remarks:**

No hydric soil indicator met. Root refusal noted at 10" with each profile attempt.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/19/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-206  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Soe slope hillslope Local Relief (concave, convex, none): Concave Slope (%): 3  
 Subregion (LRR or MLRA): LRR R Lat: 42 414842 Long: -79 134159 Datum: NAD 83  
 Soil Map Unit Name: FA - Fine silt loam, 0 to 3% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_, Soil X, or Hydrology \_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No ___ Hydric Soil Present? Yes <u>X</u> No ___ Wetland Hydrology Present? Yes <u>X</u> No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___ If yes, optional Wetland Site ID: <u>WL-A202</u>
Remarks: (Explain alternative procedures here or in a separate report.) <i>This sample point represents the PEM wetland community of A202. Wetland is located adjacent to an active agricultural field. Area may have undergone disturbances in the past, but normal circumstances prevail.</i>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1)      ___ Water-Stained Leaves (B9) ___ High Water Table (A2)      ___ Aquatic Fauna (B13) ___ Saturation (A3)      ___ Marl Deposits (B15) ___ Water Marks (B1)      ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)      ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)      ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)      ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)      ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)      ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No ___ Depth (inches): <u>1"</u> Water Table Present? Yes ___ No <u>X</u> Depth (inches): Saturation Present? Yes ___ No <u>X</u> Depth (inches): (Includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No ___
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <i>One primary &amp; one secondary hydrologic indicators met. Precipitation levels are below average and normal climatic conditions are not present.</i>	



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-206

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>5' r</u> )					
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>5' r</u> )					
1. <u>N/A</u>					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
_____ = Total Cover					
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )					
1. <u>Juncus effusus</u>	<u>70</u>	<u>Y</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Carex flacca</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>		
3. <u>Phalaris arundinacea</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
4. <u>Onoclea sensibilis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
<u>100</u> = Total Cover					
<b>Woody Vine Stratum</b> (Plot size: <u>5' r</u> )					
1. <u>N/A</u>				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
2. _____					
3. _____					
4. _____					
_____ = Total Cover					
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>					
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetative requirements met via the rapid test. Vegetative plot adjusted to a 5' r in all stratum to account for the wetland boundaries within the delineation area. * Carex species was estimated & based on conditions was determined to be wetland. No sporelets or perigynia to identify.					





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/19/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP- 207  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%): 8-15%  
 Subregion (LRR or MLRA): LRR R Lat: 42.415477 Long: -79.134268 Datum: NAD 83  
 Soil Map Unit Name: ErB - Cric silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <i>This sample point represents the upland community surrounding WL's A-202 &amp; A-203. Area is located in a hay field. Normal circumstances are present.</i>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks: <i>No hydrologic indicators met.</i>	

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-207

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30'</u> )					
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )					
1. <u>N/A</u>					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5'</u> )					
1. <u><i>Dactylis glomerata</i></u> <u>60</u>	<u>Y</u>	<u>FACU</u>			
2. <u><i>Solidago canadensis</i></u> <u>30</u>	<u>Y</u>	<u>FACU</u>			
3. <u><i>Phleum pratense</i></u> <u>5</u>	<u>N</u>	<u>FACU</u>			
4. <u><i>Jragaria vesca</i></u> <u>5</u>	<u>N</u>	<u>UPL</u>			
5. <u><i>Jaraxum officinale</i></u> <u>5</u>	<u>N</u>	<u>FACU</u>			
6. <u><i>Diarrhus canadensis</i></u> <u>3</u>	<u>N</u>	<u>UPL</u>			
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
<u>107</u> = Total Cover				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )					
1. <u>N/A</u>					
2. _____					
3. _____					
4. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>	
Remarks: (Include photo numbers here or on a separate sheet.) <u>Hydrophytic vegetation requirements not met. Sampling point is in an upland</u>					

**SOIL**

Sampling Point: DP-207

**Profile Description: (Describe to the depth needed to document the Indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-20	10YR 4/3	100					Silty Clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- |   |  |  |
|---|--|--|
| <b>Hydric Soil Indicators:</b>                                |  | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>          |
| <input type="checkbox"/> Histosol (A1)                        | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)       |
| <input type="checkbox"/> Histic Epipedon (A2)                 | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)       | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)     |
| <input type="checkbox"/> Black Histic (A3)                    | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)             | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                        | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)             |
| <input type="checkbox"/> Stratified Layers (A5)               | <input type="checkbox"/> Depleted Matrix (F3)                            | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)     |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)    | <input type="checkbox"/> Redox Dark Surface (F6)                         | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)           |
| <input type="checkbox"/> Thick Dark Surface (A12)             | <input type="checkbox"/> Depleted Dark Surface (F7)                      | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)             | <input type="checkbox"/> Redox Depressions (F8)                          | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)             |  | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)   |
| <input type="checkbox"/> Sandy Redox (S5)                     |  | <input type="checkbox"/> Red Parent Material (F21)                   |
| <input type="checkbox"/> Stripped Matrix (S6)                 |  | <input type="checkbox"/> Very Shallow Dark Surface (TF12)            |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) |  | <input type="checkbox"/> Other (Explain in Remarks)                  |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: <u>N/A</u> Depth (inches): _____	Hydric Soil Present?    Yes _____    No <u>X</u>
--	--

Remarks:  
*No hydric soil indicators were met.*



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/19/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-208  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 8-15  
 Subregion (LRR or MLRA): LRR R Lat: 42 416260 Long: -79,134420 Datum: NAD 83  
 Soil Map Unit Name: LNC - Longford silt loam, 8-15% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No ___ Hydric Soil Present? Yes <u>X</u> No ___ Wetland Hydrology Present? Yes <u>X</u> No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___ If yes, optional Wetland Site ID: <u>WL-A203(PEM)</u>
Remarks: (Explain alternative procedures here or in a separate report.) This sample point represents the PEM component of WL-A203. The system transitions into a PUBcaPSS. The PUB is NWI mapped.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1)      ___ Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2)      ___ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3)      ___ Marl Deposits (B15) ___ Water Marks (B1)      ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)      ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)      ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)      ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)      ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)      ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> ___ Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No ___ Depth (inches): <u>1'</u> Water Table Present? Yes <u>X</u> No ___ Depth (inches): <u>0</u> Saturation Present? Yes <u>X</u> No ___ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No ___
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Three primary and two secondary hydrologic indicators were met. Hydrology appears to stem from a drain tile as evidenced by flowing water at the edge of an agricultural field. Precipitation levels are below average for the year.	



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-208

	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>		
<b>Tree Stratum</b> (Plot size: <u>5' r</u> )					
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>5' r</u> )					
1. <u>N/A</u>					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )					
1. <u>Phalaris arundinacea</u>	<u>90%</u>	<u>Y</u>	<u>FACW</u>		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. <u>Syncha latifolia</u>	<u>5%</u>	<u>N</u>	<u>OBL</u>		
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
<u>95</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____	
<b>Woody Vine Stratum</b> (Plot size: <u>5' r</u> )					
1. <u>N/A</u>					
2. _____					
3. _____					
4. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation requirements met via the rapid test. Sampling plot was modified to a 5' radius to account for the wetland boundaries and exclude adjacent uplands.					

**SOIL**

Sampling Point: DP-208

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-16	10YR 3/1	97	7.5YR 4/6	3	C	m	Silt loam	
16 <sup>+</sup>								Rock/Bedrock refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)</p> <p><input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)</p> <p><input type="checkbox"/> Red Parent Material (F21)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: Rock/Bedrock  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks:  
 Hydric soil indicator F6 met Rock/Bedrock refusal noted at 16" with each attempt. Refusal layer is serving to restrict or partially restrict water percolation.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/19/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-209  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 8  
 Subregion (LRR or MLRA): LRR R Lat: 42.416689 Long: -79.134347 Datum: NAD 83  
 Soil Map Unit Name: Lnc - Longford silt loam, 5 to 15% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No ___ Hydric Soil Present? Yes <u>X</u> No ___ Wetland Hydrology Present? Yes <u>X</u> No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___ If yes, optional Wetland Site ID: <u>WL-A203(PSS)</u>
Remarks: (Explain alternative procedures here or in a separate report.) <i>This sampling point represents the PSS component of WL-A203. The wetland connects with a mapped PUBL (NWI) &amp; WL-A203PEN.</i>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1)      ___ Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2)      ___ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3)      ___ Marl Deposits (B15) ___ Water Marks (B1)      ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)      ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)      ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)      ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)      ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)      ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No ___ Depth (inches): <u>1-4"</u> Water Table Present? Yes <u>X</u> No ___ Depth (inches): <u>0</u> Saturation Present? Yes <u>X</u> No ___ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No ___
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <i>Three primary and two secondary hydrologic indicators met. Hydrology appears to stem from both precipitation &amp; groundwater. Precipitation levels are below average.</i>	

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-209

Tree Stratum (Plot size: <u>20 x 20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20 x 20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Betula heterophylla</u>	<u>20%</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Alnus incana</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>20' x 20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Cupressus perfoliatus</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Impatiens capensis</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Symphoricarpos racemosa</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
4. <u>Onoclea sensibilis</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
5. <u>Phalaris arundinacea</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
_____ = Total Cover				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>20' x 20'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) Hydric vegetation requires a wet site to meet the rapid test. Sampling plot was modified to account for a representative boundary of the wetland and its adjacent uplands.				

**SOIL**

Sampling Point: DP-209

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-16	10YR3/1	97	7.5YR4/6	3%	C	m	Silt loam	
16 <sup>+</sup>								Dark / Bedrock

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- |  |   |  |
|--|---|--|
| <p><b>Hydric Soil Indicators:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Histosol (A1)</li> <li><input type="checkbox"/> Histic Epipedon (A2)</li> <li><input type="checkbox"/> Black Histic (A3)</li> <li><input type="checkbox"/> Hydrogen Sulfide (A4)</li> <li><input type="checkbox"/> Stratified Layers (A5)</li> <li><input type="checkbox"/> Depleted Below Dark Surface (A11)</li> <li><input type="checkbox"/> Thick Dark Surface (A12)</li> <li><input type="checkbox"/> Sandy Mucky Mineral (S1)</li> <li><input type="checkbox"/> Sandy Gleyed Matrix (S4)</li> <li><input type="checkbox"/> Sandy Redox (S5)</li> <li><input type="checkbox"/> Stripped Matrix (S6)</li> <li><input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)</li> <li><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)</li> <li><input type="checkbox"/> Loamy Gleyed Matrix (F2)</li> <li><input type="checkbox"/> Depleted Matrix (F3)</li> <li><input checked="" type="checkbox"/> Redox Dark Surface (F6)</li> <li><input type="checkbox"/> Depleted Dark Surface (F7)</li> <li><input type="checkbox"/> Redox Depressions (F8)</li> </ul> | <p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)</li> <li><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</li> <li><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)</li> <li><input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)</li> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)</li> <li><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)</li> <li><input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)</li> <li><input type="checkbox"/> Red Parent Material (F21)</li> <li><input type="checkbox"/> Very Shallow Dark Surface (TF12)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul> |
|--|---|--|

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Dark / Bedrock

Depth (inches): 16"

Hydric Soil Present?    Yes     No

Remarks:

9 hydric soil indicator F6 met. Redox concentrations exhibited diffuse boundaries and were contemporary features. Restrictive layer is serving to restrict or partially restrict water percolation.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/20/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP- 212  
 Investigator(s): Zsiros, Jaime Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%): 3-5  
 Subregion (LRR or MLRA): LRR R Lat: 42.417370 Long: -79.137143 Datum: NAD 83  
 Soil Map Unit Name: ErB - Fine silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
--	---

Remarks: (Explain alternative procedures here or in a separate report.)  
*This sample point was taken within the flood plain of ST-A700 INT. The area exhibited some hydrophytic vegetation, but did not exhibit hydrology (natural or problematic) or hydric soils (natural or problematic) as outlined in Chapter 5 of the NCE Regional Manual.*

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
*No hydrologic indicators were met.*



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-2/2

Tree Stratum (Plot size: <u>5' ( )</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Sapling/Shrub Stratum (Plot size: <u>5' ( )</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Rubus idaeus</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>2</u>	x 2 = <u>4</u>
FAC species <u>2</u>	x 3 = <u>6</u>
FACU species <u>2</u>	x 4 = <u>8</u>
UPL species <u>1</u>	x 5 = <u>5</u>
Column Totals: <u>7</u> (A)	<u>23</u> (B)

Prevalence Index = B/A = 3.28

Herb Stratum (Plot size: <u>5' ( )</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Symphoricarpos racemosa</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>
2. <u>Impatiens capensis</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>
3. <u>Arctium minus</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>
4. <u>Demissaedtia punctilobula</u>	<u>5</u>	<u>N</u>	<u>UPL</u>
5. <u>Achillea millefolium</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
6. <u>Onoclea sensibilis</u>	<u>2</u>	<u>N</u>	<u>FACW</u>
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Woody Vine Stratum (Plot size: <u>5' ( )</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

**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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

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

Hydrophytic vegetation requirements was not achieved

Identified vegetation is frequently found growing in both wetland & upland conditions etc. the absence of hydric soils & hydrology are not reliable indication of a wetland.

**SOIL**

Sampling Point: DP- 12

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-16	10YR 3/6	100					Clay loam	
16 <sup>†</sup>							loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: loam  
 Depth (inches): 16"

Hydric Soil Present? Yes  No

Remarks:  
 No hydric soil indicators were met. The soil was analyzed in several locations for layers of sand or siltation that would be expected from the adjacent stream topping its banks, thereby, frequently flooding the area. No evidence of this was observed. It was determined that redox concentrations are not inhibited by the constant process of siltation (or new soil) as outlined in Chapter 5.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/20/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-213  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1-3  
 Subregion (LRR or MLRA): LRR R Lat: 42.417422 Long: -79.137526 Datum: NAD 83

Soil Map Unit Name: ErB - Fine silt loam, 3 to 8% slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>WL-A204</u>
Remarks: (Explain alternative procedures here or in a separate report.) <p><i>This sample point represents the PE m wetland community of WL-A204. The wetland is along an existing access road and includes large pockets of standing water. Normal circumstances are present.</i></p>	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1-6"</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	--

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

Remarks:  
*I see primary and one secondary hydrologic indicator met. Hydrology is precipitation driven.*

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-213

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>20' x 10'</u> )					
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>20' x 10'</u> )					
1. <u>N/A</u>					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$ <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>20' x 10'</u> )					
1. <u><i>Onoclea sensibilis</i></u>	<u>5</u>	<u>N</u>	<u>FACW</u>		<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. <u><i>Phalaris arundinacea</i></u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
3. <u><i>Carex flacca</i></u>	<u>15</u>	<u>I</u>	<u>OBL</u>		
4. <u><i>Pectanthera graminifolia</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
5. <u><i>Salicaria rugosa</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
6. <u><i>Poa compressa</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
<u>40</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____	
<b>Woody Vine Stratum</b> (Plot size: <u>20' x 10'</u> )					
1. _____					
2. _____					
3. _____					
4. _____					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.) <u>Hydrophytic vegetation requirements met via the rapid test</u> <u>Large component of wetland is standing water with little vegetation. Sampling point was adjusted to account for a representative area of the wetland boundary.</u>					

**SOIL**

Sampling Point: DP-213

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-4	10YR 3/3	98	10YR 4/6	2	C	m	Silty Clay loam	
4-13	10YR 4/3	95	5YR 3/3	5	C	m	Silty Clay loam	
13 <sup>†</sup>								Bedrock / Refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: Rock/Bedrock  
 Depth (inches): 13  
 Hydric Soil Present? Yes  No

Remarks:  
 9 of hydric soil indicators A11 & F3 were met  
 Redox concentrations were faint to distinct between 0-4" with diffuse boundaries  
 Redox concentrations between 4-13 exhibited sharp boundaries.  
 Based on hydrology & wetland vegetation features are assumed contemporaneous.  
 Refusal layer is serving to partially or completely restrict water percolation



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/20/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-214  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Indulating Slope (%): 3-5  
 Subregion (LRR or MLRA): LRR R Lat: 42.417896 Long: -79.138432 Datum: NAD 83  
 Soil Map Unit Name: EB-Crie silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>WL-A205</u>
Remarks: (Explain alternative procedures here or in a separate report.) <u>This sample point represents the PFO wetland community of WL-A205.</u>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1 - 3''</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <u>Two primary and two secondary hydrologic indicators met. Hydrology source is unknown, but may be resulting from agriculture &amp; is likely precipitation driven. The area has not received significant rainfall and is drier than what would be expected for this system.</u>	



VEGETATION – Use scientific names of plants.

Sampling Point: DP- 214

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				
1. <u>Betula alleghaniensis</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.6%</u> (AB)
2. <u>Fraxinus americana</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Juglans canadensis</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4. <u>Juglans grandifolia</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
5. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____	<u>80</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )				
1. <u>N/A</u>	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____	_____	_____	_____	
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				
1. <u>Poa annua</u>	<u>80</u>	<u>Y</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
2. <u>Imperata racemosa</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
3. <u>Dennisia punctilobula</u>	<u>2</u>	<u>N</u>	<u>UPL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	_____ = Total Cover
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____	<u>92</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )				
1. _____	_____	_____	_____	_____ = Total Cover
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Remarks: (Include photo numbers here or on a separate sheet.)				
<p><u>Betula &amp; Fraxinus roots are buttressed and include moss drum lines.</u></p> <p><u>Hydrophytic vegetation regime is met via the dominance test.</u></p>				

**SOIL**

Sampling Point: DP- 214

**Profile Description: (Describe to the depth needed to document the Indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-7	10YR 3/1	100		100			Sandy loam	
7-11	10YR 5/3	90	10YR 5/8	10	C	M	Silty clay loam	
11+							Clay pan	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- Hydric Soil Indicators:**
- Histosol (A1)
  - Histic Epipedon (A2)
  - Black Histic (A3)
  - Hydrogen Sulfide (A4)
  - Stratified Layers (A5)
  - Depleted Below Dark Surface (A11)
  - Thick Dark Surface (A12)
  - Sandy Mucky Mineral (S1)
  - Sandy Gleyed Matrix (S4)
  - Sandy Redox (S5)
  - Stripped Matrix (S6)
  - Dark Surface (S7) (LRR R, MLRA 149B)
  - Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
  - Thin Dark Surface (S9) (LRR R, MLRA 149B)
  - Loamy Mucky Mineral (F1) (LRR K, L)
  - Loamy Gleyed Matrix (F2)
  - Depleted Matrix (F3)
  - Redox Dark Surface (F6)
  - Depleted Dark Surface (F7)
  - Redox Depressions (F8)
- Indicators for Problematic Hydric Soils<sup>3</sup>:**
- 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, M)
  - 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)
  - Red Parent Material (F21)
  - Very Shallow Dark Surface (TF12)
  - Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Clay Pan

Depth (Inches): 11

Hydric Soil Present?    Yes     No

Remarks:

Redox concentrations exhibited diffuse to clear boundaries. The soil fell short of meeting F3 by 3 inches due to an encountered restrictive layer. This restrictive layer is serving to prevent the water table a restrict water percolation, a hydric soil is assumed based on the presence of hydrology & vegetation in accordance with the problematic soil section of Chapter 5 of the NCE Regional Supplement.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/20/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-215  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Undulating Slope (%): 0  
 Subregion (LRR or MLRA): LRR R Lat: 42.417904 Long: -79.137690 Datum: NAD 83  
 Soil Map Unit Name: Frb-Che silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <i>This sample point provides an upland sample point to WL-A204 &amp; 205. Sampling area is a Junco / Betula forest.</i>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks: <i>No hydrologic indicators met.</i>	

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-013

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30'</u> )					
1. <u>Betula alleghaniensis</u>	<u>80</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20%</u> (AB)	
2. <u>Thuja canadensis</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
<u>100</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )					
1. <u>Acer pensylvanicum</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
<u>10</u> = Total Cover					
<b>Herb Stratum</b> (Plot size: <u>5'</u> )					
1. <u>Desmodium punctilobus</u>	<u>15</u>	<u>Y</u>	<u>UPL</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Mnium canadense</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
<u>20</u> = Total Cover					
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )					
1. _____	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>	
Remarks: (Include photo numbers here or on a separate sheet.) <u>Hydrophytic vegetation requirements were not met</u> <u>5 crest ground was primarily unvegetated.</u>					

**SOIL**

Sampling Point: DP-215

**Profile Description: (Describe to the depth needed to document the Indicator or confirm the absence of Indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-4	10YR 2/1	100					Silt loam	
4-8	2.5Y 4/2	100					Silty clay loam	
8-20	2.5Y 5/6	100					Silty clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)
		<input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: N/A  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes \_\_\_\_\_    No X

Remarks:  
No hydric soil indicator was met.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/20/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP- 216  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 1-3  
 Subregion (LRR or MLRA): LRR R Lat: 42.417954 Long: -79.131952 Datum: NAD 83  
 Soil Map Unit Name: Frb - Fine silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>WL-A206</u>
Remarks: (Explain alternative procedures here or in a separate report.) <i>This sample point represents the PEM wetland community of A206. The area is an isolated wetland swale</i>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1''</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <i>One primary and two secondary hydrologic indicators met. Hydrology appears groundwater fed.</i>	



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-016

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>10' x 5'</u> )					
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>10' x 5'</u> )					
1. <u>N/A</u>					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
_____ = Total Cover					
<b>Herb Stratum</b> (Plot size: <u>10' x 5'</u> )					
1. <u>Phalaris arundinacea</u>	<u>95%</u>	<u>Y</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
<u>95</u> = Total Cover					
<b>Woody Vine Stratum</b> (Plot size: <u>10' x 5'</u> )					
1. <u>N/A</u>				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
2. _____					
3. _____					
4. _____					
_____ = Total Cover					
<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____					
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation requirements met via the rapid test. Sampling plot was adjusted to a representative portion of the wetland to also include adjacent upland vegetation.					

**SOIL**

Sampling Point: DP-216

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%					
0-6	2.5Y5/1	90	2.5Y6/8	10	C	M			
6+								Rock refusal	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock  
 Depth (inches): 6"

Hydric Soil Present? Yes  No

**Remarks:**

Hydric soil indicator F3 was met. Rock refusal is serving to restrict water movement. Several attempts were made to profile the soil at depth. Rock refusal was encountered with each attempt.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/24/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-224  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.):  floodplain  Local relief (concave, convex, none):  undulating  Slope (%):  0   
 Subregion (LRR or MLRA):  LRR R  Lat:  42.420078  Long:  -79.135927  Datum:  NAD 83   
 Soil Map Unit Name:  EoB - Fine silt loam, 3 to 8% slopes  NWI classification:  N/A   
 Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	If yes, optional Wetland Site ID: <u> WL - A209 </u>
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: (Explain alternative procedures here or in a separate report.)

*This sample point represents the PEM wetland community of WL-A209. The wetland abuts DT-A200 and ST-A202. Wetland is located in an active hayfield that has been under conversion for several years. Normal circumstances present.*

**HYDROLOGY**

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b>		<input checked="" type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches):	<b>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></b>
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches):	
Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches):	

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

Remarks:

*Water levels are low and the area has received below average snowfall (winter) & precipitation (spring), resulting in drier than normal conditions.*

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-234

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>5' r</u> )				
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
				_____ = Total Cover
<b>Sapling/Shrub Stratum</b> (Plot size: <u>5' r</u> )				
1. <u>N/A</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
				_____ = Total Cover
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )				
1. <u>Phalaris arundinacea</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Eleocharis palustris</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4. <u>Ranunculus acris</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
5. <u>Muhlenbergia schreberei</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
6. <u>Trifolium repens</u>	<u>0</u>	<u>N</u>	<u>FACU</u>	
7. <u>Taraxacum officinale</u>	<u>3</u>	<u>N</u>	<u>FACU</u>	
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
				_____ = Total Cover
<b>Woody Vine Stratum</b> (Plot size: <u>5' r</u> )				
1. <u>N/A</u>				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____				
3. _____				
4. _____				
				_____ = Total Cover
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____				
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation requirement met via the rapid test. Tree, shrub, & vine stratum modified to account for boundaries of wetland.				

**SOIL**

Sampling Point: DP-204

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-1	10YR 3/2	98	7.5YR 4/6	2	PL	m	Silt loam	
1-6	10YR 5/2	97	7.5YR 4/6	3	PL	m	Silt loam	
6-12+	2.5Y 5/3	70	10YR 4/6	30	C	M	SCL	rock refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock  
 Depth (inches): 12

Hydric Soil Present? Yes  No

**Remarks:**

Multiple soil pits attempted, rock refusal @ 12". Partial percolation @ rocks.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/24/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP- 225  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): 9 hillslope Local relief (concave, convex, none): none Slope (%): 8%  
 Subregion (LRR or MLRA): LRR R Lat: 42.421260 Long: -79.135806 Datum: NAD 83  
 Soil Map Unit Name: ErB-Cie Silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p><i>This sample point was taken in an active hayfield that exhibits hydrophytic vegetation. The ag field is drained by DT. A200 and likely contains tiles to remove water. area was determined to not meet the ACOE wetland criteria.</i></p>	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
*No hydrologic indicators were met. The area has received below normal precipitation. However, the area is not located in a landscape position likely to collect water. Problematic hydrology of Chapter 5 of the NCNE Regional Supplement was used to analyze.*



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP- 225

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	_____ = Total Cover			
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )				
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	_____ = Total Cover			
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				
1. <u>Quercus effusus</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Carex multinervis</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Muhlenbergia schreberi</u>	<u>15</u>	<u>N</u>	<u>FAC</u>	
4. <u>Phalaris arundinacea</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
5. <u>Poa annua</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	<u>90</u> = Total Cover			
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )				
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
	_____ = Total Cover			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (A/B)

---

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by:

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

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**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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**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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

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**Hydrophytic Vegetation Present?** Yes  No

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

Hydrophytic vegetation requirements met via the Rapid test.

SOIL

Sampling Point: DP- 225

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-16 16+	10YR 3/1	70	5YR 4/6	30	C	m	Silty clay loam	Rock refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- Hydric Soil Indicators:**
- Histosol (A1)
  - Histic Epipedon (A2)
  - Black Histic (A3)
  - Hydrogen Sulfide (A4)
  - Stratified Layers (A5)
  - Depleted Below Dark Surface (A11)
  - Thick Dark Surface (A12)
  - Sandy Mucky Mineral (S1)
  - Sandy Gleyed Matrix (S4)
  - Sandy Redox (S5)
  - Stripped Matrix (S6)
  - Dark Surface (S7) (LRR R, MLRA 149B)
  - Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
  - Thin Dark Surface (S9) (LRR R, MLRA 149B)
  - Loamy Mucky Mineral (F1) (LRR K, L)
  - Loamy Gleyed Matrix (F2)
  - Depleted Matrix (F3)
  - Redox Dark Surface (F6)
  - Depleted Dark Surface (F7)
  - Redox Depressions (F8)
- Indicators for Problematic Hydric Soils<sup>3</sup>:**
- 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, M)
  - 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)
  - Red Parent Material (F21)
  - Very Shallow Dark Surface (TF12)
  - Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 16

Hydric Soil Present?    Yes     No

Remarks:

Redox concentrations exhibited sharp boundaries and are consistent in chroma and value with select hydric soil indicators. Features are not contemporary. Problematic soils of chapter 5 of the NCNE manual were used to assess the area. Hydrology was also absent due to diking or draining of ag field.

Rock refusal layer may be serving to partially restrict water percolation.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/24/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-226  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%): 3-10  
 Subregion (LRR or MLRA): LRR R Lat: 42.421650 Long: -79.136511 Datum: NAD 83  
 Soil Map Unit Name: VaB-9 Dubois gravelly silt loam, 3 to 8% slopes Classification: N/A  
 Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p><i>This sample point represents the upland community surrounding WL-A2098. The sample location is within an active hay field that has been converted for several years. Normal circumstances are present.</i></p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: _____	
Remarks: <p><i>Precipitation is below average for the year. Climatic/hydrologic conditions are not normal. However, sampling area is within an upland had has little effect on hydrology as it applies to wetland indicators.</i></p>	

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP- 256

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30'</u> )					
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)	
2.					
3.					
4.					
5.					
6.					
7.					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>55</u> x 3 = <u>165</u> FACU species <u>45</u> x 4 = <u>180</u> UPL species _____ x 5 = _____ Column Totals: <u>100</u> (A) <u>345</u> (B)  Prevalence Index = B/A = <u>3.45</u>	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )					
1. <u>N/A</u>					
2.					
3.					
4.					
5.					
6.					
7.					
_____ = Total Cover					
<b>Herb Stratum</b> (Plot size: <u>5'</u> )					
1. <u>Muhlenbergia schneberi</u>	<u>55</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Dactylis glomerata</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>		
3. <u>Taraxacum officinale</u>	<u>10</u>	<u>N</u>	<u>FACU</u>		
4. <u>Infolium repens</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
5. <u>Plantago lanceolata</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
6.					
7.					
8.					
9.					
10.					
11.					
12.					
<u>100</u> = Total Cover					
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )					
1.					
2.					
3.					
4.					
_____ = Total Cover				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.) <u>Sampling area is within an upland. Hydrophytic vegetational requirements not met.</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>	

**SOIL**

Sampling Point: DP-006

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%					
0-7+	10YR 4/4	100						SL	rock refusal @ 7"

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock  
 Depth (inches): 7"

Hydric Soil Present? Yes  No

**Remarks:**

*No hydric soil indicator met*  
*Multiple pits attempted*



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/24/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP- 227  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N 1A  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR or MLRA): LRR R Lat: 42.421723 Long: -79.134614 Datum: NAD 83  
 Soil Map Unit Name: ValB - Valais gravelly silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No ___ Hydric Soil Present? Yes <u>X</u> No ___ Wetland Hydrology Present? Yes <u>X</u> No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___ If yes, optional Wetland Site ID: <u>WL-A210</u>
Remarks: (Explain alternative procedures here or in a separate report.) This sample point represents the PEM wetland community of WL-A210. The wetland is an isolated depression within the middle of a hayfield.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1)                      ___ Water-Stained Leaves (B9) ___ High Water Table (A2)                  ___ Aquatic Fauna (B13) ___ Saturation (A3)                            ___ Marl Deposits (B15) ___ Water Marks (B1)                         ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)                 ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)                        ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)                    ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)                         ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)    ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes ___ No <u>X</u> Depth (inches): Water Table Present? Yes ___ No <u>X</u> Depth (inches): Saturation Present? Yes ___ No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No ___
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: The area has received below average snowfall (winter) and precipitation (spring) events within the last several months. Hydrologic conditions are not normal, area clearly holds water during normal climatic conditions. Three secondary indicators were met.	



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-201

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>5' r</u> )					
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
2.					
3.					
4.					
5.					
6.					
7.					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>5' r</u> )					
1. <u>N/A</u>					
2.					
3.					
4.					
5.					
6.					
7.					
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )					
1. <u>Juncus effusus</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>		<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. <u>Saroparus cuspidatus</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>		
3. <u>Galium boreale</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>		
4. <u>Carex vulpinoidea</u>	<u>5</u>	<u>N</u>	<u>OBL</u>		
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
<u>55</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
<b>Woody Vine Stratum</b> (Plot size: <u>5' r</u> )					
1. <u>N/A</u>					
2.					
3.					
4.					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.) <u>Hydrophytic vegetation requirements met via the dominance test.</u>					

**SOIL**

Sampling Point: DP-227

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%					
0-5	10YR 3/1	90	5YR 4/6	10	L	MPL	Silty clay loam		
6-14	10YR 3/1	65	5YR 4/6	30	C	MPL	Silty clay loam		
14+			7.5YR 5/8	5	C	M		Rock refusal	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock  
Depth (inches): 14

Hydric Soil Present? Yes  No

**Remarks:**

Hydric soil indicator F6 was met. Redox concentrations exhibited sharp, clear, & diffused boundaries and were determined to be contemporary features. Rock refusal was noted at 14" with each attempt. appears to be serving as a partially restrictive layer.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/24/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP- 228  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): N/A  
 Subregion (LRR or MLRA): LRR R Lat: 42.421939 Long: -79.134165 Datum: NAD 83  
 Soil Map Unit Name: CkC - Chautauqua siltloam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No ___ Hydric Soil Present? Yes <u>X</u> No ___ Wetland Hydrology Present? Yes ___ No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___ If yes, optional Wetland Site ID: <u>WL- A211</u>
Remarks: (Explain alternative procedures here or in a separate report.) <p><i>This sample point represents a POPEM wetland community of A211. The wetland is an isolated depression that extends outside of our search area.</i></p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1)                      ___ Water-Stained Leaves (B9) ___ High Water Table (A2)                  ___ Aquatic Fauna (B13) ___ Saturation (A3)                            ___ Marl Deposits (B15) ___ Water Marks (B1)                         ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)                 ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)                        ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)                    ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)                         ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)    ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
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**Field Observations:**

Surface Water Present? Yes ___ No <u>X</u> Depth (inches):	<b>Wetland Hydrology Present? Yes <u>X</u> No ___</b>
Water Table Present? Yes ___ No <u>X</u> Depth (inches):	
Saturation Present? (includes capillary fringe) Yes ___ No <u>X</u> Depth (inches):	

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

Remarks:  
*Precipitation and snowfall (winter) were lower than average over the last several months. Otherwise, inundated systems are uncharacteristically dry. Two secondary hydrologic indicators were met.*

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-202

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>5' r</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>5' r</u> )				
1. <u>Gaultheria procumbens</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
_____ = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Typha latifolia</u>	<u>70</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Phalaris arundinacea</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
3. <u>Scirpus torreyana</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4. <u>Symphoricarpos racemosa</u>	<u>20</u>	<u>N</u>	<u>FACW</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>110</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>5' r</u> )				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation requirements met via the rapid test. Tree, shrub, & vine strata were adjusted to account for the wetland boundaries and exclude adjacent upland vegetation.				

**SOIL**

Sampling Point: DP-228

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%					
0-2	10YR 3/2	100						Silty clay loam	
2-9	10YR 3/2	98	7.5YR 5/6	5	C		m	Silty clay loam	
9-14	10YR 3/2	90	7.5YR 5/6	5	C		m	Silty clay loam	
14"			7.5YR 6/8	5	C		m	Mixed Lw gravel Rock refusal	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock  
Depth (Inches): 14"

Hydric Soil Present? Yes  No

**Remarks:**

Hydric soil indicator F6 was met. Redox concentrations exhibited a majority of diffuse boundaries and were contemporary features. Rock refusal noted at 14" with each attempt. Refusal layer appears to be partially restricting water percolation.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/24/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-339  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR or MLRA): LRR R Lat: 42.398366 Long: -79.137494 Datum: NAD 83  
 Soil Map Unit Name: L-3 - Longford silt loam, 3 to 8% slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: (Explain alternative procedures here or in a separate report.)			If yes, optional Wetland Site ID: <u>WL-A212</u>
<p><i>This sampling point represents the PEM wetland community of WL A12. The wetland is a small isolated depression within an agricultural field. Field has been converted for several years. Normal circumstances are present.</i></p>			

**HYDROLOGY**

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b>		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	

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

Remarks:  
*The area has received below average precipitation and the wetland is drier than normal. Based on landscape position the area will hold water following precipitation (normal) events and surface water (at a minimum) would likely be observed. A primary indicator is assessed.*



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP- 209

Tree Stratum (Plot size: <u>10' x 5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>10' x 5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>10' x 5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Juncus effusus</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Phalaris arundinacea</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
3. <u>Galium boreale</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>80</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' x 5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.   <b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation requirements met via the rapid test. Sampling plot was adjusted to account for wetland vegetation and exclude surrounding uplands.				

**SOIL**

Sampling Point: DP-229

**Profile Description: (Describe to the depth needed to document the Indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-10	10YR3/2	75	7.5YR4/4	25	C	m	Silty clay loam	Mixed with roots
10-12	2.5Y5/3	40					Silty clay	
	10YR5/8	60						
12+								Compaction

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: N/A  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:  
 Hydric soil indicator F6 was met. Due to grazing by cows, soil is compacted. Several attempts were made to profile the soil at depth.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/24/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-030  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 3-8  
 Subregion (LRR or MLRA): LRR R Lat: 42.407072 Long: -79.169240 Datum: NAD 83  
 Soil Map Unit Name: CkB - Chautauqua silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No ___ Hydric Soil Present? Yes <u>X</u> No ___ Wetland Hydrology Present? Yes <u>X</u> No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___ If yes, optional Wetland Site ID: <u>WL-A213</u>
Remarks: (Explain alternative procedures here or in a separate report.) <i>This sample point represents the PSS wetland community of A213. System extends outside of search area and is likely isolated. Opens into a PEM outside of project corridor.</i>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2)      ___ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3)      ___ Marl Deposits (B15) ___ Water Marks (B1)      ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)      ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)      ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)      ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)      ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)      ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No ___ Depth (inches): <u>1''</u> Water Table Present? Yes <u>X</u> No ___ Depth (inches): <u>9''</u> Saturation Present? Yes <u>X</u> No ___ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No ___
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <i>area has received below normal precipitation over last several months. Hydrologic conditions are not typical for time of year.</i> <i>I saw primary and one secondary hydrologic indicators met</i>	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-36

Tree Stratum (Plot size: <u>10' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u><i>Fraxinus pennsylvanica</i></u>	<u>1</u>	<u>N</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)	
2. <u><i>Liriodendron tulipifera</i></u>	<u>1</u>	<u>N</u>	<u>FACU</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
<u>2</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
Sapling/Shrub Stratum (Plot size: <u>10' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u><i>Cornus amomum</i></u>	<u>30</u>	<u>Y</u>	<u>FACW</u>		<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u><i>Alnus incana</i></u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
3. <u><i>Fraxinus pennsylvanica</i></u>	<u>2</u>	<u>N</u>	<u>FACW</u>		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
<u>37</u> = Total Cover					
Herb Stratum (Plot size: <u>10' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u><i>Ludwigia peploides</i></u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
2. <u><i>Oenothera biennis</i></u>	<u>30</u>	<u>Y</u>	<u>FACW</u>		
3. <u><i>Solidago gigantea</i></u>	<u>15</u>	<u>N</u>	<u>FACW</u>		
4. <u><i>Viola labradorica</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
5. <u><i>Aquilegia perfoliatum</i></u>	<u>3</u>	<u>N</u>	<u>FACW</u>		
6. <u><i>Schoenoplectus holmboei</i></u>	<u>3</u>	<u>N</u>	<u>OBL</u>		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
<u>86</u> = Total Cover					
Woody Vine Stratum (Plot size: <u>10' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>N/A</u>	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation requirements met via the rapid test. Vegetation plot was adjusted to only include wetland boundaries within project corridor.					

**SOIL**

Sampling Point: DP-230

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-11	10YR3/1	98	10YR4/6	2	C	m	Silt loam	
11-20	10YR3/1	80	10YR5/6	10	C	m	Clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

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

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: N/A  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:  
 Hydric soil indicator F6 was met.  
 Redox concentrations were contemporary features generally exhibiting diffuse boundaries.



## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/24/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-231  
 Investigator(s): Zsiros, Jaime and Nicole Dutcher Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 15-20%  
 Subregion (LRR or MLRA): LRR R Lat: 42.407330 Long: -79.169167 Datum: NAD 83  
 Soil Map Unit Name: CKB - Chautauqua silt loam, 3 to 89 cm, 3 to 89 cm NWI classification: Upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="font-size: 1.2em; margin-top: 10px;">Upland soil pit for wetland WL-A213 about 100' SW, also for N/A 214.                  Upland forest dominated by Acer saccharum, little herbaceous ground cover</p>	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <p style="font-size: 1.2em; margin-top: 10px;">No hydrological indicators met. Not located in landscape position likely to collect water</p>	



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-231

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Acer saccharum</u>	<u>90</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
<u>90</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Acer saccharum</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>		<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Prunus pennsylvanica</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>		
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
<u>20</u> = Total Cover				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Acer saccharum</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
2. <u>Parthenocissus quinquefolia</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>		
3. <u>Rubus allegheniensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
4. <u>Fraxinus americana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>		
5. <u>Cornus florida</u>	<u>2</u>	<u>N</u>	<u>FACU</u>		
6. <u>Ribes cynosbati</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
<u>37</u> = Total Cover					
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Not Applicable</u>					
2. _____					
3. _____					
4. _____					
<u>0</u> = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)  <u>Deciduous hardwood forest, no hydrophytic veg. indicators met.</u>					

**SOIL**

Sampling Point: DP-231

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0-4	10YR 3/5	100				SiCL	
4-10	10YR 4/4	100				SiCL	
16+							root refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- |   |  |  |
|---|--|--|
| <b>Hydric Soil Indicators:</b>                                |  | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>          |
| <input type="checkbox"/> Histosol (A1)                        | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)       |
| <input type="checkbox"/> Histic Epipedon (A2)                 | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)       | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)     |
| <input type="checkbox"/> Black Histic (A3)                    | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)             | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                        | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)             |
| <input type="checkbox"/> Stratified Layers (A5)               | <input type="checkbox"/> Depleted Matrix (F3)                            | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)     |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)    | <input type="checkbox"/> Redox Dark Surface (F6)                         | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)           |
| <input type="checkbox"/> Thick Dark Surface (A12)             | <input type="checkbox"/> Depleted Dark Surface (F7)                      | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)             | <input type="checkbox"/> Redox Depressions (F8)                          | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)             |  | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)   |
| <input type="checkbox"/> Sandy Redox (S5)                     |  | <input type="checkbox"/> Red Parent Material (F21)                   |
| <input type="checkbox"/> Stripped Matrix (S6)                 |  | <input type="checkbox"/> Very Shallow Dark Surface (TF12)            |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) |  | <input type="checkbox"/> Other (Explain in Remarks)                  |

<sup>3</sup>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 X

Remarks:

Root refusal @ 16 inches depth. No hydric soil indicator met.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/24/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-232  
 Investigator(s): Zsiros, Jaime and Dutcher, Nicole Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): toe slope Local relief (concave, convex, none): Concave Slope (%): 2-5%  
 Subregion (LRR or MLRA): LRR R Lat: 42.408076 Long: -79.168890 Datum: NAD 83  
 Soil Map Unit Name: CKB-Chautauqua silt loam, 3 to 8% slope NYI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology Y naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>WL-A214</u>
Remarks: (Explain alternative procedures here or in a separate report.)  <p style="font-size: 1.2em;">PEM wetland that is horseshoe shaped and continues beyond the study limits at both ends. Hugs edge of forest and opens up into field.</p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: <p style="font-size: 1.1em;">No water table present or saturation, but area has had a dry winter/spring. Wetlands located at base of toe slope and edge of forest where geomorphic position would expect water to drain to. Precipitation levels are below average</p>			

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-232

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>10'</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100?</u> (A/B)
1. <u>Not Applicable</u>				
2.				
3.				
4.				
5.				
6.				
7.				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>10'</u> )				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
1. <u>Not Applicable</u>				
2.				
3.				
4.				
5.				
6.				
7.				
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Oenoclea sensibilis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
2. <u>Lysimachia nummularia</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Symphoricarpon panicum</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
4. <u>Agrostis scabra</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
5. <u>Vernonia noveboracensis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
6.				
7.				
8.				
9.				
10.				
11.				
12.				
<b>Woody Vine Stratum</b> (Plot size: <u>10'</u> )				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
1. <u>Not Applicable</u>				
2.				
3.				
4.				
<u>100</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<b>Remarks:</b> (Include photo numbers here or on a separate sheet.)				
<u>100</u> = Total Cover				
<u>∅</u> = Total Cover				
<p><i>Vegetative plot sizes adjusted due to site of wetlands and strata limits.</i></p>				

SOIL

Sampling Point: DP-232

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix		Redox Features			Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%					
0-8	10YR 3/1	95	7.5Y 4/6	5	C	PL	S.L		
8-16+	10YR 4/1	80	2.5Y 5/4	5	C	M	SiCL	root refusal	
			7.5YR 5/8	15	C	M	SiCL		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F24)	
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: <u>Rock</u> Depth (inches): <u>16"</u>	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:  
 Depleted matrix and redox dark surface indicators met. Root refusal @ 16" deep, multiple pits attempted. Redox concentrations along pore lining diffuse. Roots in soil to about 10" depth.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/25/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-233  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-3  
 Subregion (LRR or MLRA): LRR R Lat: 42.407951 Long: -79.167872 Datum: NAD 83  
 Soil Map Unit Name: CKB - Chautauqua silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No ___ Hydric Soil Present? Yes <u>X</u> No ___ Wetland Hydrology Present? Yes <u>X</u> No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___ If yes, optional Wetland Site ID: <u>WL-A215(PEM)</u>
Remarks: (Explain alternative procedures here or in a separate report.) This sample point represents a <u>PEM wetland community</u> of <u>A215</u> . The wetland transitions into a <u>PS5</u> and overall is an isolated system. The wetland is located on relatively flat terrain with a slight concavity.	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b> Surface Water Present? Yes ___ No <u>X</u> Depth (inches): Water Table Present? Yes ___ No <u>X</u> Depth (inches): Saturation Present? (includes capillary fringe) Yes ___ No <u>X</u> Depth (inches):	Wetland Hydrology Present? Yes <u>X</u> No ___
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Precipitation in the form of winter snow pack and spring rains is lower than average. All wetland systems within this area are drier than normal. The problematic hydrology section of Chapter 5 of the NCE manual was utilized. This wetland is located within a landscape position likely to collect water & would likely exhibit stronger hydro indicators under normal climatic conditions. The area exhibits hydrophytic vegetation & hydric soil & was considered to be a wetland.



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-233

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>5' r</u> )				
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2.				
3.				
4.				
5.				
6.				
7.				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>5' r</u> )				
1. <u>N/A</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
2.				
3.				
4.				
5.				
6.				
7.				
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )				
1. <u>Onoclea sensibilis</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Symphoricarpos racemosa</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Muhlenbergia schreberii</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
4. <u>Equisetum arvense</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
5. <u>Ranunculus acris</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
6. <u>Juncus effusus</u>	<u>3</u>	<u>N</u>	<u>FACW</u>	
7. <u>Juncus effusus</u>	<u>3</u>	<u>N</u>	<u>FACU</u>	
8. <u>Juncus effusus</u>	<u>3</u>	<u>N</u>	<u>FACU</u>	
9.				
10.				
11.				
12.				
<u>99</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>5' r</u> )				
1. <u>N/A</u>				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2.				
3.				
4.				
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) <u>Hydrophytic vegetation requirements met also the dominance test.</u>				
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

**SOIL**

Sampling Point: DP-233

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-5	10YR2/1	100						Silly Clay loam
5-11	10YR2/1	95	7.5Y4/6	5	C	m		Silly Clay loam
11-20	2.5Y5/2	80	10YR6/6	20	C	m		Sandy Clay loam

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: N/A  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

**Remarks:**

Hydric soil indicator F6 was met  
 Redox concentrations between 5-11" exhibited clear boundaries and concentrations between 11-20" exhibited diffuse boundaries. Features were considered contemporary



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/25/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-234  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-3  
 Subregion (LRR or MLRA): LRR R Lat: 42 407611 Long: -79 167717 Datum: NAD 83  
 Soil Map Unit Name: CKB - Chautauqua silt loam, 3 to 8% slope NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>WL-A215(PSS)</u>
Remarks: (Explain alternative procedures here or in a separate report.) <u>This sample point represents the PSS community of WL-A215. The system connects with WL-A215(PEM) and is isolated. Wetland is located within relatively flat terrain with slight concavity.</u>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches):	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Precipitation is below average (see comments in PEM section). Chapter 5 (Problematic hydrology) was used. The area exhibits a hydric soil and hydrophytic vegetation. It is located in a landscape position likely to collect water. A primary indicator is assumed under normal climatic conditions.

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP- 234

Tree Stratum (Plot size: <u>10' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Salix discolor</u>	<u>2</u>	<u>N</u>	<u>FACW</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

2 = Total Cover

Sapling/Shrub Stratum (Plot size: <u>10' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Alnus incana</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>
2. <u>Posa multiflora</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

70 = Total Cover

Herb Stratum (Plot size: <u>10' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Muhlenbergia Schreberi</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>
2. <u>Equisetum arvense</u>	<u>15</u>	<u>N</u>	<u>FAC</u>
3. <u>Symphotrichum punctatum</u>	<u>15</u>	<u>N</u>	<u>OBL</u>
4. <u>Cornus amomum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>
5. <u>Fraxinus pennsylvanica</u>	<u>3</u>	<u>N</u>	<u>FACW</u>
6. <u>Agrimonia parviflora</u>	<u>3</u>	<u>N</u>	<u>FAC</u>
7. <u>Alnus incana</u>	<u>3</u>	<u>N</u>	<u>FACW</u>
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

94 = Total Cover

Woody Vine Stratum (Plot size: <u>10' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

0 = Total Cover

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by:

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
  - Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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

Hydrophytic vegetation requirements met via the xx test sampling plot was adjusted to account for a representative portion of the wetland.

**SOIL**

Sampling Point: DP- 234

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-5	10YR 2/1	100					Salty Clay loam	
5-11	10YR 2/1	95	7.5Y 4/6	5	C	m	Salty Clay loam	
11-20	2.5Y 5/2	80	10YR 6/6	20	C	m	Sandy Clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: N/A  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

**Remarks:**

Hydric soil indicator F6 was met



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/25/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-235  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): N/A  
 Subregion (LRR or MLRA): LRR R Lat: 42.407794 Long: -79.167040 Datum: NAD 83  
 Soil Map Unit Name: CKB - Chautauqua silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No ___ Hydric Soil Present? Yes <u>X</u> No ___ Wetland Hydrology Present? Yes <u>X</u> No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___ If yes, optional Wetland Site ID: <u>WL-A216 (PSS)</u>
Remarks: (Explain alternative procedures here or in a separate report.) Sample point represents the PSS community of WL-A216. The system transitions into a P1M outside of delineation area. System is isolated.	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2)      ___ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3)      ___ Marl Deposits (B15) ___ Water Marks (B1)      ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)      ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)      ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)      ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)      ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)      ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No ___ Depth (inches): <u>3-4"</u> Water Table Present? Yes <u>X</u> No ___ Depth (inches): <u>0</u> Saturation Present? (includes capillary fringe) Yes <u>X</u> No ___ Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <u>X</u> No ___
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: The area has received below average precipitation and water levels are lower than expected. Four primary and two secondary hydrologic indicators met.	



VEGETATION - Use scientific names of plants.

Sampling Point: DP-235

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: 30' x 10')					
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)	
2.					
3.					
4.					
5.					
6.					
7.					
<u>0</u> = Total Cover					<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = <u>0</u> Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: 30' x 10')					
1. <u>Cornus amomum</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>		
2. <u>Populus tremuloides</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>		
3. <u>Alnus incana</u>	<u>3</u>	<u>N</u>	<u>FACW</u>		
4. <u>Acer rubrum</u>	<u>3</u>	<u>N</u>	<u>FAC</u>		
5. <u>Lonicera tatarica</u>	<u>2</u>	<u>N</u>	<u>FACU</u>		
6. <u>Flaxa multiflora</u>	<u>2</u>	<u>N</u>	<u>FACU</u>		
<u>40</u> = Total Cover					
<b>Herb Stratum</b> (Plot size: 30' x 10')					
1. <u>Oxycoccus sensibilis</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Carex crinita</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>		
3. <u>Alnus incana</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
4. <u>Cornus amomum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
5. <u>Galium boreale</u>	<u>2</u>	<u>N</u>	<u>FAC</u>		
6. <u>Muhlenbergia schreberia</u>	<u>2</u>	<u>N</u>	<u>FAC</u>		
7.					
8.					
9.					
10.					
11.					
12.					
<u>39</u> = Total Cover					
<b>Woody Vine Stratum</b> (Plot size: 30' x 10')					
1. <u>Not Applicable</u>					
2.					
3.					
4.					
<u>0</u> = Total Cover					
<b>Definitions of Vegetation Strata:</b> <b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> - All woody vines greater than 3.28 ft in height.					
<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____					
Remarks: (Include photo numbers here or on a separate sheet.) hydrophytic - no relative requirements met via the rapid test					





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/25/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-236  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 5-10%  
 Subregion (LRR or MLRA): LRR R Lat: 42.407795 Long: -79.166725 Datum: NAD 83  
 Soil Map Unit Name: CKB - Chautauqua silt loam, 3 to 8% slopes NWI classification: Upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Upland soil pit for wetlands A215 & A216. Upland area is an open field with mowed grass about 30' away near cabin. Field being used as path for ATVs, and evidence of being maintained for access to gas/oil storage tank.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: No hydrology indicators found. Precipitation levels are below average; however, hydrology would not be expected in this upland sampling area.	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP- 236

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Populus tremuloides</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.34%</u> (A/B)
2. <u>Fraxinus americana</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>30</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>				
1. <u>Rosa multiflora</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>5</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>5'</u>)</b>				
1. <u>Muhlenbergia schreberi</u>	<u>55</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. <u>Equisetum arvense</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
3. <u>Plantago lanceolata</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4. <u>Potentilla simplex</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
5. <u>Barbarea vulgaris</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
6. <u>Trifolium repens</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
7. <u>Erigeron philadelphicus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>100</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>				
1. <u>Not Applicable</u>	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>∅</u> = Total Cover				
<b>Remarks: (Include photo numbers here or on a separate sheet.)</b> <u>Not hydrophytic vegetation. Vegetation in open field.</u> <u>Normal circumstances, field cut every few years to maintain field track and maintained for gas storage tanks to the SE of plot.</u>				
				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/25/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-238  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): LRR R Lat: 42.410374 Long: -79.165103 Datum: NAD 83  
 Soil Map Unit Name: CKB-Chautauqua silt loam, 3 to 8% slope NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	If yes, optional Wetland Site ID: <u>WL-A217</u>
Wetland Hydrology Present? Yes <u>X</u> No _____	

Remarks: (Explain alternative procedures here or in a separate report.)  
*Sample point represents the PEM wetland community of A217. The wetland is located within a hayfield and is isolated. Hayfield has been converted for several years. Normal circumstances are present.*

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<u>Primary Indicators</u> (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input checked="" type="checkbox"/> Other (Explain in Remarks)	

<b>Field Observations:</b>	<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes _____ No <u>X</u> Depth (inches): _____	

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

Remarks:  
*The area has received below normal precipitation over the last several months, which is contributing to drier wetland systems. Under normal climatic conditions we would expect this system to hold water. Two secondary hydrologic indicators were met. In accordance with Chapter 5 of the NCEM Supplement, the area was determined to have a positive primary indicator.*



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP- 2381

Tree Stratum (Plot size: <u>40' x 10'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>∅</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: <u>40' x 10'</u>)</b>				
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>∅</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>40' x 10'</u>)</b>				
1. <u>Scirpus cyperinus</u>	<u>70</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Phalaris arundinacea</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
3. <u>Alnus incana</u>	<u>3</u>	<u>N</u>	<u>FACW</u>	
4. <u>Onoclea sensibilis</u>	<u>3</u>	<u>N</u>	<u>FACW</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>91</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>40' x 10'</u>)</b>				
1. _____				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____				
3. _____				
4. _____				
<u>∅</u> = Total Cover				
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____				
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation requirements met via the rapid test. Sampling plot was adjusted to account for a representative portion of the wetland to exclude adjacent upland vegetation.				





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/25/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-239  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): hill slope Local relief (concave, convex, none): convex Slope (%): 15-20?  
 Subregion (LRR or MLRA): LRR R Lat: 42.410099 Long: -79.166206 Datum: NAD 83  
 Soil Map Unit Name: CKB - Chautauqua silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Upland soil pit to wetland WIA 2178 <sup>218</sup> upland in hardwood forest corridor delineated by field on west and east. Western NY has had a dry winter/spring season.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: No hydrologic indicators met. Mounded upland area, wetland hydrology not expected.	

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-239

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer saccharum</u>	<u>90</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. <u>Prunus serotina</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>100</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer saccharum</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>30</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Rubus allegheniensis</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Podophyllum peltatum</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Carex pensylvanica</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
4. <u>Erythronium americanum</u>	<u>30</u>	<u>Y</u>	<u>UPL</u>	
5. <u>Fraxinus americana</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>49</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____				
3. _____				
4. _____				
<u>0</u> = Total Cover				
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>				

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

*Mature hardwood forest with little shrub layer, and little ground cover. About 50% of area is open forest floor. Some dead/fallen trees on ground in forest.*





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/25/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-240  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1-3  
 Subregion (LRR or MLRA): LRR R Lat: 42.410305 Long: -79.166763 Datum: NAD 83  
 Soil Map Unit Name: BsB - Buxton silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___
Hydric Soil Present? Yes <u>X</u> No ___	If yes, optional Wetland Site ID: <u>WL-A018</u>
Wetland Hydrology Present? Yes <u>X</u> No ___	

Remarks: (Explain alternative procedures here or in a separate report.)

*Sampling point represents the PSS wetland community of A018. The wetland consists of a vegetated primarily linear swale depression in the middle of an active hay field under conversion for several years. Normal circumstances are present.*

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

**Field Observations:**

Surface Water Present? Yes \_\_\_ No X Depth (inches):  
 Water Table Present? Yes X No \_\_\_ Depth (inches): 10  
 Saturation Present? Yes X No \_\_\_ Depth (inches): 6  
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No \_\_\_

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

**Remarks:**

*Precipitation is below normal for the year. Water levels & wetland systems are lower than average. I see primary and three secondary hydrologic indicators were met.*









**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/25/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP- 241  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): 94% slope Local relief (concave, convex, none): none Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): LRR R Lat: 42.398408 Long: -79.136280 Datum: NAD 83  
 Soil Map Unit Name: LAB - Longford silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p><i>Sample point provides an upland compliment to NL-AJ28A219. Sampling location is within an agricultural field. Normal circumstances are present.</i></p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1)      ___ Water-Stained Leaves (B9) ___ High Water Table (A2)      ___ Aquatic Fauna (B13) ___ Saturation (A3)      ___ Marl Deposits (B15) ___ Water Marks (B1)      ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)      ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)      ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)      ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)      ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)      ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <u>X</u> Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u>
---	---

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

Remarks:  
*Precipitation levels are lower than than normal for this time of year. However, sampling location is within an upland and is not subject to wetland hydrologic indicators.*

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP- 241

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>N/A</u>				
2.				
3.				
4.				
5.				
6.				
7.				
	$\phi$	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>N/A</u>				
2.				
3.				
4.				
5.				
6.				
7.				
	$\phi$	= Total Cover		
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Salidago canadensis</u> 95	95	Y	FACU	
2. <u>Taraxacum officinale</u> 3	3	N	FACU	
3. <u>Croton minus</u> 3	3	N	FACU	
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	101	= Total Cover		
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>N/A</u>				
2.				
3.				
4.				
	$\phi$	= Total Cover		

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by:

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

\_\_\_ 1 - Rapid Test for Hydrophytic Vegetation

\_\_\_ 2 - Dominance Test is >50%

\_\_\_ 3 - Prevalence Index is  $\leq 3.0^1$

\_\_\_ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

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

Sampling location is within an upland. Hydrophytic vegetative requirements were not met.





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/25/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-242  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): LRR R Lat: 42.398427 Long: -79.134816 Datum: NAD 83  
 Soil Map Unit Name: LsB - Longford silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation N, Soil N, or Hydrology Y naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>WL-A219</u>
Remarks: (Explain alternative procedures here or in a separate report.) <p style="font-family: cursive;">Sample point represents the PEM wetland community of A219. The system is a roadside ditch, that is vegetated with hydrophytic vegetation.</p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1)      ___ Water-Stained Leaves (B9) ___ High Water Table (A2)      ___ Aquatic Fauna (B13) ___ Saturation (A3)      ___ Marl Deposits (B15) ___ Water Marks (B1)      ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)      ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)      ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)      ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)      ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)      ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks: <p style="font-family: cursive;">Precipitation levels are below normal. Under normal climatic conditions this portion of the ditch would hold water. Three secondary hydrologic indicators were met</p>	



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP- 243

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>20' x 4'</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. <u>Not Applicable</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>20' x 4'</u> )				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
1. <u>Not Applicable</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
<b>Herb Stratum</b> (Plot size: <u>20' x 4'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Typha latifolia</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Syntherisma numeraria</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<b>Woody Vine Stratum</b> (Plot size: <u>20' x 4'</u> )				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
1. <u>Not Applicable</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
_____ = Total Cover				
<b>Remarks:</b> (Include photo numbers here or on a separate sheet.) <u>Hydrophytic vegetation requirements met via the rapid test</u>				





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/25/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-244  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Flat to Convex Slope (%): 3-8  
 Subregion (LRR or MLRA): LRR R Lat: 42.391627 Long: -79.151443 Datum: NAD 83  
 Soil Map Unit Name: Bs15 - Bustin silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes ___ No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___
Hydric Soil Present? Yes ___ No ___	If yes, optional Wetland Site ID: <u>WL-A220</u>
Wetland Hydrology Present? Yes ___ No ___	

Remarks: (Explain alternative procedures here or in a separate report.)  
Sample point represents the PFA wetland community of WL-A220. The wetland abuts ST-A203 and maintains a connection with the stream.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

**Field Observations:**

Surface Water Present? Yes \_\_\_ No X Depth (inches):  
 Water Table Present? Yes X No \_\_\_ Depth (inches): 14  
 Saturation Present? Yes \_\_\_ No X Depth (inches):  
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No \_\_\_

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

**Remarks:**

Precipitation levels for the area are below normal for the year. Under normal climatic conditions we would expect to see elevated water levels. One primary and two secondary hydrologic indicators were met. Drainage channels leading to the adjacent ST-A203 are present. One primary and two secondary hydrologic indicators were met.

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-244

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>10' x 10'</u> )				
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>10' x 10'</u> )				
1. <u>N/A</u>				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Herb Stratum</b> (Plot size: <u>10' x 10'</u> )				
1. <u>Impatiens capensis</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. <u>Symphoricarpos racemosa</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Onoclea sensibilis</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>Galium aparine</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
				_____ = Total Cover
<b>Woody Vine Stratum</b> (Plot size: <u>10' x 10'</u> )				
1. <u>N/A</u>				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
2. _____				
3. _____				
4. _____				
				_____ = Total Cover
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation requires a 2m x 2m rapid test. Sampling plot was adjusted to account for the linear wetland boundaries within the delineation area.				

**SOIL**

Sampling Point: DP-244

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10YR 3/1	100					Clay loam	
5-13	10YR 2/1	95	5YR 4/6	3	C	PL	Clay Loam	
			5YR 4/6	2	C	M	Clay Loam	
13-16	10YR 3/1	100					Sandy loam	
16+								Bedrock refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Bedrock  
Depth (inches): 16

Hydric Soil Present? Yes  No

**Remarks:**

Soils meet hydric indicators. Bedrock refusal noted at 16" with each attempt



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauque County Sampling Date: 5/25/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-245  
 Investigator(s): Jaire Zsiros and Nicola Quirk Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 10%  
 Subregion (LRR or MLRA): LRR R Lat: 42.396800 Long: -79.151069 Datum: NAD83  
 Soil Map Unit Name: BsB - Buatisilt loam, 0 to 3% slopes NWI classification: Upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="font-family: cursive;">Upland soil pit for wetland WL-A220.                  Upland deciduous hardwood forest dominated by Acer saccharum. Area borders mowed field. Area of western NY has experienced hydrologic alteration.</p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <p style="font-family: cursive;">Does not meet hydrology indicators. Area not expected to retain water due to location on hill sloping toward open mowed field, and stream.</p>	



**VEGETATION – Use scientific names of plants.**

Sampling Point: DO-245

Tree Stratum (Plot size: <u>30' R</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer saccharum</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>16.66%</u> (A/B)
2. <u>Fagus grandifolia</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
3. <u>Prunus serotina</u>	<u>35</u>	<u>Y</u>	<u>FACU</u>	
4. <u>Fraxinus americana</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
5. _____				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
6. _____				
7. _____				
	<u>100</u>	= Total Cover		
<b>Sapling/Shrub Stratum (Plot size: <u>15' R</u>)</b>				
1. <u>Fraxinus americana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Rubus pennsylvanicus</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Fagus grandifolia</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4. _____				
5. _____				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
6. _____				
7. _____				
	<u>45</u>	= Total Cover		
<b>Herb Stratum (Plot size: <u>5' R</u>)</b>				
1. <u>Rubus pennsylvanicus</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
2. <u>Dryopteris expansa</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Molinia canadense</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4. <u>Miscanthus repens</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
5. <u>Acor sacciformis</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	<b>Remarks: (Include photo numbers here or on a separate sheet.)</b>  <u>Deciduous hardwood forest with mostly open understory and patches of herbaceous ground cover. Low tree canopy with a few tall trees.</u>
6. <u>Fraxinus americana</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
7. <u>Carex gracillima</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	<u>97</u>	= Total Cover		
<b>Woody Vine Stratum (Plot size: <u>30' R</u>)</b>				
1. <u>Not Applicable</u>				
2. _____				
3. _____				
4. _____				
	<u>∅</u>	= Total Cover		





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/26/10  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-246  
 Investigator(s): Nicole Outcher, Jaime Zsicos Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 25%  
 Subregion (LRR or MLRA): LRR Q Lat: 42.391792 Long: -79.148165 Datum: NAO 83  
 Soil Map Unit Name: CKB-Chautauque silt loam, 3 to 8% slopes NWI classification: Upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="font-size: 1.2em; font-family: cursive;">Upland data point, no wetland features nearby. Located on a hillslope, moderate slope, along boundary line of property owners. Possibly used as a utility track.</p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (Inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (Inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (Inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks: <p style="font-size: 1.2em; font-family: cursive;">No hydrology indicators found, area covered with stand forest. Precipitation levels are below average for the year.</p>	

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-246

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Tsuga Canadensis</u>	<u>80</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. <u>Betula alleghaniensis</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>100</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Betula alleghaniensis</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Rubus pensilvanicus</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>40</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Rubus pensilvanicus</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$ <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Acer saccharum</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Oxalis expansis</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
4. <u>Maianthemum canadense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
5. <u>Oxalis montana</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>85</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____				
3. _____				
4. _____				
<u>0</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>

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

Upland forest with mature trees, moderate shrub layer, with about 75% ground cover. Many down trees cut and rot upped. No hydrologic vegetation.





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/26/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-247  
 Investigator(s): Zsiros, Jaime and Nicole Dutcher Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Concave Slope (%): 40-50?  
 Subregion (LRR or MLRA): LRR R Lat: 42.392562 Long: -79.143132 Datum: NAD 83  
 Soil Map Unit Name: CKC - Chautauqua silt loam, 8 to 15% slopes NWI classification: Upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No ___ Hydric Soil Present? Yes <u>X</u> No ___ Wetland Hydrology Present? Yes <u>X</u> No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___ If yes, optional Wetland Site ID: <u>WL-A021</u>
Remarks: (Explain alternative procedures here or in a separate report.)  <p style="font-size: 1.2em;">PEM wetland in concave section of hillslope. Wetland runs length of hillslope starting at about midway down. Area has received below average snow and rainfall so far this year.</p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes ___ No <u>X</u> Depth (inches): Water Table Present? Yes <u>X</u> No ___ Depth (inches): <u>11</u> Saturation Present? (includes capillary fringe) Yes <u>X</u> No ___ Depth (inches): <u>5</u>	Wetland Hydrology Present? Yes <u>X</u> No ___
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:  <p style="font-size: 1.2em;">Soil is saturated with some parts of wetland having water table at 3', mostly along edge of flagged wetland and outside of study area.                  Geomorphic positioning being used due to concave surface of 40-50% hillslope.</p>	



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP- 247

Tree Stratum (Plot size: <u>15' R</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.67</u> (A/B)
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15' R</u> )				
1. <u>Rubus idaeus</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2.				
3.				
4.				
5.				
6.				
7.				
<u>10</u> = Total Cover				
Herb Stratum (Plot size: <u>5' R</u> )				
1. <u>Carex VALPINOIDEA</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Rubus idaeus</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Onoclea sensibilis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4. <u>Solidago rugosa</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
5. <u>Symphoricarpon panicum</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
6. <u>Juncus effusus</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
7. <u>Muhlenbergia Schreberi</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
8.				
9.				
10.				
11.				
12.				
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>15' R</u> )				
1. <u>Not Applicable</u>				
2.				
3.				
4.				
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				
<p><u>Adjusted radius of Tree and shrub Stratum in Calculations based on July 2008</u></p>				
			<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____	





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/26/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-248  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): none Slope (%): 5%  
 Subregion (LRR or MLRA): LRR R Lat: 42.393311 Long: -79.141769 Datum: NAD 83  
 Soil Map Unit Name: FE - Fluvaquents - Udifluvents complex, frequently flooded NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Hydic Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: (Explain alternative procedures here or in a separate report.)			If yes, optional Wetland Site ID: _____
<p>Per wetland at toe slope. Wetland fed by groundwater and runoff, from hill slopes due to position along toe slope and valley. wetlands located in old flood plain of stream ST-A204. Area has received below average snow/rainfall for the of year.</p>			

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>	
<b>Primary Indicators (minimum of one is required; check all that apply)</b>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input type="checkbox"/> FAC-Neutral Test (D5)	
<b>Field Observations:</b>		<b>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></b>	
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____		
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____		
Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____		
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			
<p>Wetlands fed by groundwater and runoff from hill slopes due to position at toe slope and in valley between two slopes each w/ about 40-50% slope. This area has also received below average snow + rainfall for area, and would expect area due to location and perennial stream to have soil saturation + high water table normally.</p>			

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP- 248

Tree Stratum (Plot size: <u>10'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)														
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
<u>∅</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>10</u></td> <td>x 1 = <u>10</u></td> </tr> <tr> <td>FACW species <u>43</u></td> <td>x 2 = <u>86</u></td> </tr> <tr> <td>FAC species <u>17</u></td> <td>x 3 = <u>51</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 = <u>80</u></td> </tr> <tr> <td>UPL species <u>10</u></td> <td>x 5 = <u>50</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>277</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>2.77</u>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>43</u>	x 2 = <u>86</u>	FAC species <u>17</u>	x 3 = <u>51</u>	FACU species <u>20</u>	x 4 = <u>80</u>	UPL species <u>10</u>	x 5 = <u>50</u>	Column Totals: <u>100</u> (A)	<u>277</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>10</u>	x 1 = <u>10</u>																	
FACW species <u>43</u>	x 2 = <u>86</u>																	
FAC species <u>17</u>	x 3 = <u>51</u>																	
FACU species <u>20</u>	x 4 = <u>80</u>																	
UPL species <u>10</u>	x 5 = <u>50</u>																	
Column Totals: <u>100</u> (A)	<u>277</u> (B)																	
<u>∅</u> = Total Cover																		
<u>∅</u> = Total Cover																		
<u>∅</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
<b>Herb Stratum (Plot size: <u>3'</u>)</b>																		
1. <u>Demissa punctilobula</u>	<u>10</u>	<u>N</u>	<u>UPL</u>															
2. <u>Tussilago farfara</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Onoclea sensibilis</u>	<u>10</u>	<u>N</u>	<u>FACW</u>															
4. <u>Phalaris arundinacea</u>	<u>33</u>	<u>Y</u>	<u>FACW</u>															
5. <u>Ranunculus acris</u>	<u>2</u>	<u>N</u>	<u>FAC</u>															
6. <u>Galium asprellum</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
7. <u>Symphoricarpon panicum</u>	<u>5</u>	<u>N</u>	<u>OBL</u>															
8. <u>Solidago rugosa</u>	<u>10</u>	<u>N</u>	<u>FAC</u>															
9. <u>Trillium flexipes</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
10.																		
11.																		
12.																		
<u>100</u> = Total Cover																		
<u>∅</u> = Total Cover				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
<u>∅</u> = Total Cover																		
<u>∅</u> = Total Cover																		
<u>∅</u> = Total Cover																		
<u>∅</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>														
<b>Remarks: (Include photo numbers here or on a separate sheet.)</b>  Vegetation plot radii were adjusted due to size of wetland (to stay in center) and due to edge of study area. Hydrophytic vegetation requirements met via the prevalence index.																		





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/26/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-250  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hill slope Local relief (concave, convex, none): Convex Slope (%): 40-50%  
 Subregion (LRR or MLRA): LRR R Lat: 42.393156 Long: -79.141882 Datum: NAD 83  
 Soil Map Unit Name: Fo - ~~Frequent~~ ~~Upland~~ ~~complex~~, frequently flooded NWI classification: Upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="font-size: 1.2em; margin-top: 10px;">Upland data point/soil pt for WL-A221, WL-A222                  (Mixed deciduous + coniferous forest on hill slope, area bordered by wetland at bottom of slope and open field) appears. Area of NY has received below average snow + rainfall</p>	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>	<b>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></b>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <p style="font-size: 1.2em; margin-top: 10px;">No hydrology indicators met. Upland located on moderately steep hill slope                  No wetland hydrology expected.</p>	



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-250

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>15' R</u> )				
1. <u>Betula alleghoniensis</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66</u> (A/B)
2. <u>Thuja canadensis</u>	<u>65</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Alnus glutinosa</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>100</u> = Total Cover				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15' R</u> )				
1. <u>Betula alleghoniensis</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>40</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5' R</u> )				
1. <u>Not Applicable</u>	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>15' R</u> )				
1. <u>Not Applicable</u>	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Remarks: (Include photo numbers here or on a separate sheet.)  <u>Vegetation plot radii have been adjusted to consider that upland plot is in. Vegetation meets hydrophytic requirements based on a dominance of B. alleghoniensis. This species is almost always found in uplands within this region.</u>				





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/26/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-25a  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Concave Slope (%): 40-50  
 Subregion (LRR or MLRA): LRR R Lat: 42.392229 Long: -79.143149 Datum: NAD 83  
 Soil Map Unit Name: CkC - Chautauqua silt loam, 8 to 15% slope NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes ___ No ___ Hydric Soil Present? Yes ___ No ___ Wetland Hydrology Present? Yes ___ No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___ If yes, optional Wetland Site ID: <u>WL-A223</u>
Remarks: (Explain alternative procedures here or in a separate report.) Sample point represents the PE m. well of WL-A223. The system is isolated and is located on a steep hillslope. Normal circumstances are present.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<b>Primary Indicators</b> (minimum of one is required; check all that apply) <ul style="list-style-type: none"> <li><input type="checkbox"/> Surface Water (A1)</li> <li><input checked="" type="checkbox"/> High Water Table (A2)</li> <li><input checked="" type="checkbox"/> Saturation (A3)</li> <li><input type="checkbox"/> Water Marks (B1)</li> <li><input type="checkbox"/> Sediment Deposits (B2)</li> <li><input type="checkbox"/> Drift Deposits (B3)</li> <li><input type="checkbox"/> Algal Mat or Crust (B4)</li> <li><input type="checkbox"/> Iron Deposits (B5)</li> <li><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</li> <li><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</li> <li><input type="checkbox"/> Water-Stained Leaves (B9)</li> <li><input type="checkbox"/> Aquatic Fauna (B13)</li> <li><input type="checkbox"/> Marl Deposits (B15)</li> <li><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</li> <li><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</li> <li><input type="checkbox"/> Presence of Reduced Iron (C4)</li> <li><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</li> <li><input type="checkbox"/> Thin Muck Surface (C7)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul>	<b>Secondary Indicators</b> (minimum of two required) <ul style="list-style-type: none"> <li><input type="checkbox"/> Surface Soil Cracks (B6)</li> <li><input type="checkbox"/> Drainage Patterns (B10)</li> <li><input type="checkbox"/> Moss Trim Lines (B16)</li> <li><input type="checkbox"/> Dry-Season Water Table (C2)</li> <li><input type="checkbox"/> Crayfish Burrows (C8)</li> <li><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</li> <li><input type="checkbox"/> Stunted or Stressed Plants (D1)</li> <li><input checked="" type="checkbox"/> Geomorphic Position (D2)</li> <li><input type="checkbox"/> Shallow Aquitard (D3)</li> <li><input type="checkbox"/> Microtopographic Relief (D4)</li> <li><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</li> </ul>

<b>Field Observations:</b>	
Surface Water Present? Yes ___ No <u>X</u> Depth (inches): Water Table Present? Yes ___ No ___ Depth (inches): <u>5</u> Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): <u>0</u>	Wetland Hydrology Present? Yes <u>X</u> No ___

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

Remarks:  
 Two primary and two secondary hydrologic indicators met. Precipitation levels are below normal for the region. Saturation was noted from the surface to depth.

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP- 253

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>3' r</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	_____ = Total Cover			
<b>Sapling/Shrub Stratum</b> (Plot size: <u>3' r</u> )				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	_____ = Total Cover			
<b>Herb Stratum</b> (Plot size: <u>3' r</u> )				
1.	<u>45</u>	<u>Y</u>	<u>FAC</u>	<u><i>Carex acutiformis</i></u>
2.	<u>20</u>	<u>Y</u>	<u>FAC</u>	<u><i>Muhlenbergia schrebieri</i></u>
3.	<u>10</u>	<u>N</u>	<u>FACW</u>	<u><i>Onoclea sensibilis</i></u>
4.	<u>10</u>	<u>N</u>	<u>FACW</u>	<u><i>Poa annua</i></u>
5.	<u>10</u>	<u>N</u>	<u>FACW</u>	<u><i>Symphoricarpos pumilus</i></u>
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	<u>95</u> = Total Cover			
<b>Woody Vine Stratum</b> (Plot size: <u>3' r</u> )				
1.				
2.				
3.				
4.				
	_____ = Total Cover			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

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**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by:

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

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**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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**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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

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**Hydrophytic Vegetation Present?** Yes  No

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

Hydrophytic vegetation requirements met via the dominance test. Vegetation plot adjusted to a 3' r to account for water disturbance.





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/26/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-253  
 Investigator(s): Zsiros, Jaime and Nicole Dutcher Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1-5%  
 Subregion (LRR or MLRA): LRR R Lat: 42.389483 Long: -79.145153 Datum: NAD 83  
 Soil Map Unit Name: CKB-Chautauqua silt loam, 3 to 89 cm NWI classification: Upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No ___ Hydric Soil Present? Yes <u>X</u> No ___ Wetland Hydrology Present? Yes <u>X</u> No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___ If yes, optional Wetland Site ID: <u>WL-A224</u>
Remarks: (Explain alternative procedures here or in a separate report.) <p style="font-size: 1.2em; margin-top: 10px;">DEM wetland in depression in forest. Western NY has had below average snow/rainfall to date for the season.</p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<b>Primary Indicators (minimum of one is required; check all that apply)</b> ___ Surface Water (A1) <u>X</u> Water-Stained Leaves (B9) ___ High Water Table (A2)                ___ Aquatic Fauna (B13) ___ Saturation (A3)                            ___ Marl Deposits (B15) ___ Water Marks (B1)                        ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)                ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)                        ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)                    ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)                        ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)    ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
<b>Field Observations:</b>	
Surface Water Present? Yes ___ No <u>X</u> Depth (inches): Water Table Present? Yes ___ No <u>X</u> Depth (inches): Saturation Present? (includes capillary fringe) Yes ___ No <u>X</u> Depth (inches):	Wetland Hydrology Present? Yes <u>X</u> No ___
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	
Area has experienced below average snow/rainfall for the season. Wetland meets primary indicators of water-stained leaves. Wetland is expected to be found in this location because wetland is located in depression of mixed forest meeting geomorphic position.	



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-253

Tree Stratum (Plot size: <u>5'R</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
2.				
3.				
4.				
5.				
6.				
7.				
<u>∅</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: <u>5'R</u>)</b>				
1. <u>Not Applicable</u>				
2.				
3.				
4.				
5.				
6.				
7.				
<u>∅</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>5'R</u>)</b>				
1. <u>Dryopteris Cristata</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Salidago rigida</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Muhlenbergia Schreberi</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
4. <u>Tussilago farfara</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
<u>20</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>5'R</u>)</b>				
1. <u>Not Applicable</u>				
2.				
3.				
4.				
<u>∅</u> = Total Cover				
<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.				
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Remarks: (Include photo numbers here or on a separate sheet.)  <u>Vegetation is well adjusted to the wetland. Sparse vegetation in PEM wetland in forest. Downed log runs length of wetland w/ moss growing on top.</u>				





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/26/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-254  
 Investigator(s): Zsiros, Jaime and Nicka Dunbar Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): 10%  
 Subregion (LRR or MLRA): LRR R Lat: 42.389516 Long: -79.144664 Datum: NAD 83  
 Soil Map Unit Name: CKB - Chautauqua silt loam, 8 to 15% slope NWI classification: Upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No ___ Hydric Soil Present? Yes <u>X</u> No ___ Wetland Hydrology Present? Yes <u>X</u> No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___ If yes, optional Wetland Site ID: <u>WL-A 225</u>
Remarks: (Explain alternative procedures here or in a separate report.) Isolated PEM wetland in forest, about 75% saturated to surface w/ herbaceous cover. Areas up to small open water about 10ft x 6ft x 1/2ft off study site. Area of NY has received below average snow/melt.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) ___ Water Marks (B1) ___ Sediment Deposits (B2) ___ Drift Deposits (B3) ___ Algal Mat or Crust (B4) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Sparsely Vegetated Concave Surface (B8)	___ Water-Stained Leaves (B9) ___ Aquatic Fauna (B13) ___ Marl Deposits (B15) ___ Hydrogen Sulfide Odor (C1) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Presence of Reduced Iron (C4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Thin Muck Surface (C7) ___ Other (Explain in Remarks)	___ Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No ___ Depth (inches): <u>0"</u> Water Table Present? Yes <u>X</u> No ___ Depth (inches): <u>3"</u> Saturation Present? (includes capillary fringe) Yes <u>X</u> No ___ Depth (inches): <u>0"</u>		Wetland Hydrology Present? Yes <u>X</u> No ___	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			

Remarks:  
 Wetland saturated to surface of depression area that has drainage pattern leading to area of wetland w/ some 1/2ft deep standing water off study area. Area expected to be wetter during above rain/hydrologic conditions.

**VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				
2.				
3.				
4.				
5.				
6.				
7.				
	$\phi$	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				
2.				
3.				
4.				
5.				
6.				
7.				
	$\phi$	= Total Cover		
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Solidago rugosa</u>	17	Y	FAC	
2. <u>Packera aura</u>	15	Y	FACW	
3. <u>Oxalis stricta</u>	10	Y	FACW	
4. <u>Cornus alba</u>	10	Y	FACW	
5. <u>Tussilago farfara</u>	10	Y	FACU	
6. <u>Equisetum arvense</u>	3	N	FAC	
7.				
8.				
9.				
10.				
11.				
12.				
	65	= Total Cover		
Woody Vine Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				
2.				
3.				
4.				
	$\phi$	= Total Cover		

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by:

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is  $\leq 3.0^1$

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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

Vegetation plot radii were adjusted to accommodate for size of wetland. Hydrophytic vegetative requirements met via the dominance test.





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/26/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-255  
 Investigator(s): Zsiros, Jaime and Nicole Dutcher Section, Township, Range: NA  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): 5%  
 Subregion (LRR or MLRA): LRR R Lat: 42.389835 Long: -79.144875 Datum: NAD 83  
 Soil Map Unit Name: CKB-Chautauqua silt loam, 8 to 15% slopes NWI classification: Upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology W significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No ___ Hydric Soil Present? Yes <u>X</u> No ___ Wetland Hydrology Present? Yes <u>X</u> No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___ If yes, optional Wetland Site ID: <u>WL-A226</u>
Remarks: (Explain alternative procedures here or in a separate report.) <p style="font-size: 1.2em; font-family: cursive;">PEM wetland nested in forested system, extending beyond survey area to the East. Area of wetland will be removed below average rainfall for area in year.</p>	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes ___ No <u>X</u> Depth (inches): Water Table Present? Yes ___ No <u>X</u> Depth (inches): Saturation Present? Yes ___ No <u>X</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No ___
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <p style="font-size: 1.2em; font-family: cursive;">Area is very wet outside of survey area, water table and saturation of soil likely lower than normal due to below average rainfall for area. Area expected to have hydrology/wetland characteristics due to depression in forested area acting as a geomorphic position as an indicator. Drainage patterns are evident by markings flowing out of study area.</p>	



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-255

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>10'</u> )				
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>∅</u> = Total Cover				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>10'</u> )				
1. <u>Not Applicable</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>∅</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				
1. <u>Impatiens capensis</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Tussilago farfara</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
3. <u>Fraxinus pennsylvanica</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4. <u>Onoclea sensibilis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
5. <u>Podophyllum peltatum</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
6. <u>Glyceria striata</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>60</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>10'</u> )				
1. <u>Not Applicable</u>				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____				
3. _____				
4. _____				
<u>∅</u> = Total Cover				
<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____				
Remarks: (Include photo numbers here or on a separate sheet.)  About 30% of wetland has not been... ...				

**SOIL**

Sampling Point: DP-255

Profile Description: (Describe to the depth needed to document the Indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-7	10YR 2/1	95	5YR 5/6	5	C	m	SICL	
7-9	10YR 4/1	100%					SICL	
9-11	2.5Y 5/1	95	10YR 5/6	5	C	M	SICL	
11+								clay and rock refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock and Clay  
 Depth (inches): 11

Hydric Soil Present? Yes  No

**Remarks:**

This is a hydric soil because it has redox features in a dark surface that are diffuse. There is a depleted matrix starting @ 7 in. Depleted Matrix (F3) indicator would also most likely apply but could not get to a full blotch due to clay and rock refusal @ 11 in. depth, which is also a restrictive layer.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/26/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-256  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Ridge Local relief (concave, convex, none): Undulating Slope (%): 3-8  
 Subregion (LRR or MLRA): LRR R Lat: 42.389666 Long: -79.145693 Datum: NAD 83  
 Soil Map Unit Name: CKB-Chautauqua silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Sampling point represents the upland area immediately surrounding WL-A224, A225, and A226.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: No hydrologic indicators were met.	

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-056

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. <u>Juglans grandifolia</u>	<u>40</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Juglans carolinensis</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>90</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: <u>15</u>)</b> 1. <u>Juglans grandifolia</u> <u>15</u> <u>Y</u> <u>FACU</u> 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ _____ = Total Cover				
<b>Herb Stratum (Plot size: <u>5</u>)</b> 1. <u>Juglans grandifolia</u> <u>30</u> _____ <u>FACU</u> 2. <u>Potamogeton amplifolius</u> <u>20</u> _____ <u>FACU</u> 3. <u>Potamogeton amplifolius</u> <u>10</u> _____ <u>UPL</u> 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ 12. _____ _____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is $\leq 3.0^1$ ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Woody Vine Stratum (Plot size: <u>30</u>)</b> 1. _____ 2. _____ 3. _____ 4. _____ _____ = Total Cover				
<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
Remarks: (Include photo numbers here or on a separate sheet.) <u>Hydrophytic vegetation as required, not met.</u>				





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/27/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-257  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): LRR R Lat: 42.400247 Long: -79.159565 Datum: NAD 83  
 Soil Map Unit Name: LA B - Langford silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>WL-A227</u>
Remarks: (Explain alternative procedures here or in a separate report.) <u>Sample point represents the PEM wetland community of WL-A227. Wetland was created by historic agricultural fields and exhibits undulating terrain. Wetland is isolated and located in an open field. Disturbance is not new or normal circumstances are present.</u>	

**HYDROLOGY**

Wetland Hydrology Indicators:	
<b>Primary Indicators (minimum of one is required; check all that apply)</b> ___ Surface Water (A1) ___ High Water Table (A2) ___ Saturation (A3) ___ Water Marks (B1) ___ Sediment Deposits (B2) ___ Drift Deposits (B3) ___ Algal Mat or Crust (B4) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____

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

Remarks:  
One primary and two secondary hydrologic indicators. Precipitation levels are below average and wetland systems are drier than expected.



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP- 257

Tree Stratum (Plot size: <u>5' x 5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>N/A</u>			
2.			
3.			
4.			
5.			
6.			
7.			

Sapling/Shrub Stratum (Plot size: <u>5' x 5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>N/A</u>			
2.			
3.			
4.			
5.			
6.			
7.			

Herb Stratum (Plot size: <u>5' x 5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Oenothera biennis</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>
2. <u>Carex vulpinoidea</u>	<u>20</u>	<u>N</u>	<u>OBL</u>
3. <u>Muhlenbergia schrebleri</u>	<u>15</u>	<u>N</u>	<u>FAC</u>
4. <u>Ornithoglossum virginicum</u>	<u>10</u>	<u>N</u>	<u>FACW</u>
5. <u>Polygonum granifolium</u>	<u>2</u>	<u>N</u>	<u>FAC</u>
6. <u>Democarpus acutus</u>	<u>3</u>	<u>N</u>	<u>FAC</u>
7. <u>Chelidonium majus</u>	<u>3</u>	<u>N</u>	<u>FACW</u>
8. <u>Impatiens prostrata</u>	<u>3</u>	<u>N</u>	<u>FACW</u>
9. <u>Urtica effusa</u>	<u>5</u>	<u>N</u>	<u>FACW</u>
10.			
11.			
12.			

Woody Vine Stratum (Plot size: <u>5' x 5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>N/A</u>			
2.			
3.			
4.			

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (A)  
 Total Number of Dominant Species Across All Strata: \_\_\_\_\_ (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by:  
 OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_  
 FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_  
 FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_  
 FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_  
 UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_  
 Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)  
 Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.  
**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  
**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)  
Hydrophytic vegetation requirement is not met. The rapid test. Sampling plot was adjacent to grassy field, representative component of the wetland boundary.

**SOIL**

Sampling Point: DP- 257

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-14	2.5Y 4/1	90	10YR 4/6	8	C	M	Silty clay	Mixed w/ gravel
14-16	10YR 5/6	100			C	PL	Sandy loam	Mixed w/ gravel
16+								Red refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: rock  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

**Remarks:**

Hydric soil indicators 1 & 3 was met, hard refusal was noted at 16" with each attempt. Refusal layer is seeming to partially restrict water percolation. Redox concentration exhibited clear boundaries and were determined to be contemporary features.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/27/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-258  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 20  
 Subregion (LRR or MLRA): LRR R Lat: 42.400193 Long: -79.157923 Datum: NAD 83  
 Soil Map Unit Name: LsB - Sangford silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>WL-A228</u>
Remarks: (Explain alternative procedures here or in a separate report.) Sample point represents the PEM wetland community of WL-A228. Wetland appears to have been created by tractor/tire tracks and exhibits undulating terrain. Wetland is isolated and located in an open field. Disturbance or not near normal circumstances are present.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Precipitation levels are below average for the year and wetland systems are drier than normal. Under normal climatic conditions we would expect stronger hydrology. The wetland appears seasonally inundated. In accordance with Chapter 5 (problematic hydrology) of the NCEM manual, hydrology is present.

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP- 258

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>5' r</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>5' r</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Juncus effusus</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Carex vulpinoidea</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Phalaris arundinacea</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>Muhlenbergia schreineri</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
5. <u>Panicum lasiocarpus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
6. <u>Cyperus arvensis</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
7. <u>Sarcocornu affinale</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
8. <u>Aulonia grammifolia</u>	<u>3</u>	<u>N</u>	<u>FAC</u>	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>98</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>5' r</u> )				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation requirement, not used the rapid test. Sampling plot was adjusted to account for a representative component of the wetland boundaries.				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____

**SOIL**

Sampling Point: DP-258

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%					
0-6	2.5Y3/1	90	7.5YR4/6	10		C	M	Silt loam	
6-14	2.5Y4/1	95	10YR5/8	5				Clay	
14-20	10YR5/6	100						Sandy loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: N/A  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:  
 Hydric soil indicators F3 and F6 were met



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/27/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-259  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Undulating Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): LRR R Lat: 42.400393 Long: -79.157122 Datum: NAD 83  
 Soil Map Unit Name: LNB - Longford silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <u>Sample point represents the forested community, obliterating NW's A007, A028, A039. The area is a second growth deciduous forest, normal circumstances are present.</u>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1)      ___ Water-Stained Leaves (B9) ___ High Water Table (A2)      ___ Aquatic Fauna (B13) ___ Saturation (A3)      ___ Marl Deposits (B15) ___ Water Marks (B1)      ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)      ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)      ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)      ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)      ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)      ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No _____ Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <u>No hydrologic indicators were met.</u>	



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-259

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u><i>Quercus saccharum</i></u>	<u>60</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)	
2. <u><i>Populus tremuloides</i></u>	<u>20</u>	<u>Y</u>	<u>FACU</u>		
3. <u><i>Juglans grandifolia</i></u>	<u>10</u>	<u>N</u>	<u>FACU</u>		
4. <u><i>Tsuga canadensis</i></u>	<u>10</u>	<u>N</u>	<u>FACU</u>		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
<u>100</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u><i>Fraxinus americana</i></u>	<u>5</u>	<u>Y</u>	<u>FACU</u>		<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$ <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
<u>5</u> = Total Cover				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u><i>Fraxinus americana</i></u>	<u>30</u>	<u>Y</u>	<u>FACU</u>		<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>Y</u>
2. <u><i>Carex gracillima</i></u>	<u>10</u>	<u>Y</u>	<u>FACU</u>		
3. <u><i>Carex lasiocarpa</i></u>	<u>5</u>	<u>N</u>	<u>UPL</u>		
4. <u><i>Podophyllum peltatum</i></u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
<u>40</u> = Total Cover				<b>Remarks: (Include photo numbers here or on a separate sheet.)</b> <u>Sampling point is within an upland. Hydrophytic vegetation requires a 2 m x 2 m plot.</u>	
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>Y</u>
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ = Total Cover					





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/27/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-260  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Undulating Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): LRR R Lat: 42.400749 Long: -79.156322 Datum: NAD 83  
 Soil Map Unit Name: ECB - Fine silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>WL-A229</u>
Remarks: (Explain alternative procedures here or in a separate report.) <i>Sample point represents the PFO community of WL-A229. The wetland is isolated and extends outside of our search area.</i>	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>1"</u> Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <i>Two primary and three secondary hydrologic indicators met. Precipitation levels are below normal and wetland systems are drier than expected.</i>	

VEGETATION - Use scientific names of plants.

Sampling Point: DP- 368

Tree Stratum (Plot size: 10' x 10')	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <i>Jugosa canadensis</i>	60	Y	FAC	
2. <i>J. torreyana pennsylvanica</i>	10	N	FACW	
3.				
4.				
5.				
6.				
<u>70</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: 10' x 10')				
1. <i>Fraxinus pennsylvanica</i>	10	Y	FACW	
2.				
3.				
4.				
5.				
<u>10</u> = Total Cover				
Herb Stratum (Plot size: 10' x 10')				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <i>Impatiens capensis</i>	60	Y	FACW	
2. <i>Viola labradurica</i>	10	N	FAC	
3. <i>Bidens frondosa</i>	5	N	FACW	
4. <i>Oxyclea versicolor</i>	2	N	FACW	
5. <i>Sagittaria striata</i>	2	N	OBL	
6.				
7.				
8.				
9.				
10.				
11.				
12.				
<u>81</u> = Total Cover				
Woody Vine Stratum (Plot size: 10' x 10')				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> - All woody vines greater than 3.28 ft in height.
1. N/A				
2.				
3.				
4.				
_____ = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) All hydrophytic vegetation requirements met via the dominance test. The indicator status of <i>J. canadensis</i> was changed to FAC in accordance with Chapter 5 (problematic vegetation) of the NCE manual. This species is frequently found in wetlands.				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

**SOIL**

Sampling Point: DP-260

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-2	5Y 2.5/1	100					Silt loam	
2-20	10YR 2/1	100					Silty clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: N/A  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

**Remarks:**

Hydric soil indicator A1 was met.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 8/31/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-262  
 Investigator(s): Zsiros, Jaime / Dutcher, Nicole Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Convex Slope (%): 5-10?  
 Subregion (LRR or MLRA): LRR R Lat: 42.378813 Long: -79.139841 Datum: NAD 83  
 Soil Map Unit Name: Shc - Schuyler silt loam, 8 to 15% slopes NWI classification: Upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p align="center"><i>Upland Data point. Mixed deciduous forest on a moderate slope. Region of NY has received below average rainfall year-to-date.</i></p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <p align="center"><i>Region has received below average rainfall to date for the year, and no hydrologic field indicators found. No indicators expected for this area due to location (hillslope) and upland</i></p>	



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-262

Tree Stratum (Plot size: <u>30'R</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Acer saccharum</u>	<u>70</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)	
2. <u>Fagus grandifolia</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>		
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
<u>100</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
Sapling/Shrub Stratum (Plot size: <u>15'R</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Fagus grandifolia</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>		<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
<u>20</u> = Total Cover				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot size: <u>5'R</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Fagus grandifolia</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>		<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
2. <u>Podophyllum peltatum</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>		
3. <u>Athyrium angustum</u>	<u>10</u>	<u>N</u>	<u>FAC</u>		
4. <u>Polystichum denudicoides</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
5. <u>Acer saccharum</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
6. <u>Carex pensylvanica</u>	<u>2</u>	<u>N</u>	<u>UPL</u>		
7. _____					
<u>57</u> = Total Cover				<b>Remarks: (Include photo numbers here or on a separate sheet.)</b>  <u>Vegetation is not hydrophytic. Hydrophytic vegetation not expected to be found at top of hill slope.</u>	
Woody Vine Stratum (Plot size: <u>30'R</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Not Applicable</u>					<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
<u>∅</u> = Total Cover					





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/31/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-263  
 Investigator(s): Zsiros, Jaime / Dutcher, Nicole Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): hill slope Local relief (concave, convex, none): convex Slope (%): 25%  
 Subregion (LRR or MLRA): LRR R Lat: 42.407798 Long: -79.149486 Datum: NAD 83  
 Soil Map Unit Name: CKB-Chautauqua silt loam, 3 to 8% slopes WI classification: Upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="font-family: cursive;">Upland data point. Area is all upland, representative sample point in fallow corn field. Region has experienced below average rainfall for the year. Point in open field, with sporadic junk piles and a dirt road along edge.</p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks: <p style="font-family: cursive;">No field hydrology indicators met. Point on top of hill slope, not expected to have wetland hydrology.</p>	

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-203

Tree Stratum (Plot size: <u>30' R</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>∅</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15' R</u> )				
1. <u>Not Applicable</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>∅</u> = Total Cover				
Herb Stratum (Plot size: <u>5' R</u> )				
1. <u>Dactylis glomerata</u>	<u>70</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Asclepias syriaca</u>	<u>10</u>	<u>N</u>	<u>UPL</u>	
3. <u>Solidago rugosa</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4. <u>Trifolium repens</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
5. <u>Potentilla simplex</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30' R</u> )				
1. <u>Not Applicable</u>				
2. _____				
3. _____				
4. _____				
<u>∅</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				
<p><i>Fallow corn-field that has been left to grow out into an open field,</i></p>				
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>				

**SOIL**

Sampling Point: DP-263

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%					
0-10	10YR 4/3	100						SL	
10+									Compaction/refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: N/A  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No X

**Remarks:**

Multiple soil pits attempted, could not get below 10" deep. Compaction/refusal @ 10" depth, but does not act as a restrictive layer for water/gas movement. No hydric soil found.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/31  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-265  
 Investigator(s): Zsiros, Jaime / Dutcher, Nicole Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): 10-15?  
 Subregion (LRR or MLRA): LRR R Lat: 42.431095 Long: -79.115881 Datum: NAD 83  
 Soil Map Unit Name: CKB-Chautauqua silt loam, 3 to 8% slope NWI classification: Upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No ___ Hydric Soil Present? Yes <u>X</u> No ___ Wetland Hydrology Present? Yes <u>X</u> No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___ If yes, optional Wetland Site ID: <u>WL-A230</u>
Remarks: (Explain alternative procedures here or in a separate report.) <i>PEM depression wetland in upland forest. Region has experienced below average rainfall to date for the year which impacts wetland hydrology, wetland found in old logging/access road.</i>	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> ___ Surface Water (A1) <u>X</u> Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes ___ No <u>X</u> Depth (inches): Water Table Present? Yes ___ No <u>X</u> Depth (inches): Saturation Present? (includes capillary fringe) Yes ___ No <u>X</u> Depth (inches):	Wetland Hydrology Present? Yes <u>X</u> No ___
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <i>Region of NY has received below average rainfall to date for the year. Area normally expected to have saturation. Water stained leaves found throughout wetland, wetland found in depression of old logging/access road, indicator of geomorphic position.</i>	



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-265

Tree Stratum (Plot size: <u>20'x10'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>∅</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: <u>20'x10'</u>)</b>				
1. <u>Not Applicable</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>∅</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>10'x10'</u>)</b>				
1. <u>Onoclea sensibilis</u>	<u>35</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Impatiens Capensis</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Athyrium angustum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4. <u>Carex debilis</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
5. <u>Glycerh striata</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
6. <u>Rubus idaeus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>100</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>20'x10'</u>)</b>				
1. <u>Not Applicable</u>				
2. _____				
3. _____				
4. _____				
<u>∅</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) <u>PEM wetland in forest w/ no trees noted in the wetland. Vegetation pit radii were adjusted to fit in the confines of the trees. All vegetation is OBL, FACW or FAC, and all dominants are FACW.</u>				

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/3/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-206  
 Investigator(s): Zsiros, Jaime / Dutcher, Nicolo Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): Concave Slope (%): 2-5%  
 Subregion (LRR or MLRA): LRR R Lat: 42.430851 Long: -79.116586 Datum: NAD 83  
 Soil Map Unit Name: BsB - Busti silt loam, 3 to 8% slopes NWI classification: Upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No ___ Hydric Soil Present? Yes <u>X</u> No ___ Wetland Hydrology Present? Yes <u>X</u> No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___ If yes, optional Wetland Site ID: <u>WL-A231</u>
Remarks: (Explain alternative procedures here or in a separate report.) Penn wetland in depression in <del>the</del> upland forest, along old access/logging road. Region has experienced below average rainfall to date for the year.	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No ___ Depth (inches): <u>0.5"</u> Water Table Present? Yes ___ No <u>X</u> Depth (inches): ___ Saturation Present? (includes capillary fringe) Yes ___ No <u>X</u> Depth (inches): ___	Wetland Hydrology Present? Yes <u>X</u> No ___
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Region of NY has received below average rainfall year-to-date. About 50% of wetland has open surface water (A1) an average of 1/2 inch deep. Wetland has water stained leaves throughout entire wetland. Geomorphic position indicator of a sand because wetland is located in a depression/concave of old logging/access road.	

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-266

	Absolute % Cover	Dominant Species?	Indicator Status															
<b>Tree Stratum</b> (Plot size: <u>30' x 10'</u> )																		
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
<u>0</u> = Total Cover																		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30' x 10'</u> )																		
1. <u>Not Applicable</u>				<b>Prevalence Index worksheet:</b> <table style="width:100%; border:none;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B) _____</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: _____	(A) _____ (B) _____
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = _____																	
FACW species _____	x 2 = _____																	
FAC species _____	x 3 = _____																	
FACU species _____	x 4 = _____																	
UPL species _____	x 5 = _____																	
Column Totals: _____	(A) _____ (B) _____																	
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
<u>0</u> = Total Cover																		
<b>Herb Stratum</b> (Plot size: <u>30' x 10'</u> )																		
1. <u>Carex flava</u>	10	Y	OBL	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)														
2. <u>Juncus pylaei</u>	10	Y	FACW															
3. <u>Carex debilis</u>	15	Y	FACW															
4. <u>Solidago rugosa</u>	5	N	FAC															
5. <u>Persicaria sagittata</u>	5	N	OBL															
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
12. _____																		
<u>45</u> = Total Cover																		
<b>Woody Vine Stratum</b> (Plot size: <u>30' x 10'</u> )																		
1. <u>Not Applicable</u>				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2. _____																		
3. _____																		
4. _____																		
<u>0</u> = Total Cover																		
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____																		
Remarks: (Include photo numbers here or on a separate sheet.)  Perm wetland in depression in forest. Vegetation is hydrophytic, and all dominant species FACW and OBL. Vegetation meets 1/2 - 1/3 rule and Rapid Test.																		

**SOIL**

Sampling Point: DP-266

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10YR 3/1	100					CL	
5-10	5GY 4/1	80	5Y 7/4	20	C	M	CL	
10+								Rock refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock and clay  
Depth (inches): 10

Hydric Soil Present? Yes  No

**Remarks:**

Soil is hydric and at 5 inches in a clay loam with 80% matrix and gley meeting F2 requirements. At 10 inches Rock and clay refusal layer which also acts as a restrictive layer for water penetration.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 5/31/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-267  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hill slope Local relief (concave, convex, none): convex Slope (%): 10?  
 Subregion (LRR or MLRA): LRR R Lat: 42.430678 Long: -79.116472 Datum: NAD 83  
 Soil Map Unit Name: BsB-Busti silt loam, 3 to 8% slopes NWI classification: Upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="font-size: 1.2em; font-family: cursive;">Upland data point for WL-A230 and WL-A231. Data point on a hillslope in upland forest mixed deciduous and coniferous. Region of NY has received below average amount of rainfall year-to-date.</p>	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks: <p style="font-size: 1.2em; font-family: cursive;">No hydrology indicators met.</p>	



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-267

Tree Stratum (Plot size: <u>30' R</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fagus grandifolia</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. <u>Acer pensylvanicum</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
3. <u>Tsuga canadensis</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
4. <u>Acer saccharum</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>100</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: <u>15' R</u>)</b>				
1. <u>Acer pensylvanicum</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Fagus grandifolia</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Acer saccharum</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>40</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>5' R</u>)</b>				
1. <u>Trillium erectum</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Acer pensylvanicum</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Acer saccharum</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
4. <u>Rubus pensylvanicus</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
5. <u>Athyrium angustum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
6. <u>Maianthemum canadense</u>	<u>16</u>	<u>Y</u>	<u>FACU</u>	
7. <u>Fraxinus americana</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>52</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>30' R</u>)</b>				
1. <u>Not Applicable</u>	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>∅</u> = Total Cover				
<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.				
Remarks: (Include photo numbers here or on a separate sheet.)  <u>Vegetation is not hydrophytic, all dominant vegetation is FACU.</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>

**SOIL**

Sampling Point: DP-267

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0-1	10YR 2/1	100				S'CL	
1-4	7.5YR 3/4	100				S'CL	
4-20	7.5YR 4/4	100				SL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: N/A  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No X

**Remarks:**

*No hydric soil indicators were met*



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 6/1/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-268  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Ridge Local relief (concave, convex, none): none Slope (%): 1-3  
 Subregion (LRR or MLRA): LRR R Lat: 42.430908 Long: -79.115126 Datum: NAD 83  
 Soil Map Unit Name: CKB - Chautauqua silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Sample point represents a typical trail road through the delineation area. The road is vegetated with scattered opportunistic hydrophytic vegetation. No evidence of hydrology or hydric soils. Area was determined to not be a wetland.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1)      ___ Water-Stained Leaves (B9) ___ High Water Table (A2)    ___ Aquatic Fauna (B13) ___ Saturation (A3)            ___ Marl Deposits (B15) ___ Water Marks (B1)          ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)    ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)        ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)     ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)         ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)    ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: No hydrologic indicators were met. The area has received below normal precipitation over the last several months. However, this area is not in a landscape position likely to collect water, and no evidence of prior hydrology is present.	

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-268

Tree Stratum (Plot size: <u>30' x 10'</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
				_____ = Total Cover	
<b>Dominance Test worksheet:</b>					
Number of Dominant Species That Are OBL, FACW, or FAC:				<u>1</u>	(A)
Total Number of Dominant Species Across All Strata:				<u>2</u>	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:				<u>50</u>	(A/B)
<b>Prevalence Index worksheet:</b>					
Total % Cover of:		Multiply by:			
OBL species	_____	x 1 =	<u>0</u>		
FACW species	<u>35</u>	x 2 =	<u>70</u>		
FAC species	<u>5</u>	x 3 =	<u>15</u>		
FACU species	<u>24</u>	x 4 =	<u>96</u>		
UPL species	_____	x 5 =	_____		
Column Totals:	<u>64</u>	(A)	<u>181</u>	(B)	
Prevalence Index = B/A = <u>2.82</u>					
<b>Hydrophytic Vegetation Indicators:</b>					
<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation					
<input type="checkbox"/> 2 - Dominance Test is >50%					
<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup>					
<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)					
<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)					
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
<b>Definitions of Vegetation Strata:</b>					
<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.					
<b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.					
<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.					
<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.					
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>					
<b>Herb Stratum (Plot size: <u>30' x 10'</u>)</b>					
1. <u>Carex scarporea</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>		
2. <u>Bromus ciliaris</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>		
3. <u>Carex debilis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
4. <u>Rubus allegheniensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
5. <u>Panicum pensylvanicum</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
6. <u>Polygonum virginicum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
7. <u>Potentilla simplex</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
8. <u>Acer saccharinum</u>	<u>3</u>	<u>N</u>	<u>FACU</u>		
9. <u>Juncus americanus</u>	<u>3</u>	<u>N</u>	<u>FACU</u>		
10. <u>Aquilegia vulgaris</u>	<u>3</u>	<u>N</u>	<u>UPL</u>		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
				_____ = Total Cover	
<b>Woody Vine Stratum (Plot size: <u>30' x 10'</u>)</b>					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
				_____ = Total Cover	
<b>Remarks: (Include photo numbers here or on a separate sheet.)</b>					
<p>Hydrophytic vegetation are composed of opportunistic species that are frequently found in moist, cool forest in both upland and wetland conditions. The vegetation just met the prevalence index and the vegetation is marginal</p>					





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 6/1/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-269  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Suole Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR or MLRA): LRR R Lat: 42.451827 Long: -79.108465 Datum: NAD 83  
 Soil Map Unit Name: CnB - Chenango gravelly loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>WL-A232</u>
Remarks: (Explain alternative procedures here or in a separate report.) <p><i>Sample point represents the isolated PEM wetland community of WL-A232. The system is a small linear swale along the side of an existing agricultural field. Disturbances are not new. Normal circumstances are present.</i></p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<b>Primary Indicators</b> (minimum of one is required; check all that apply) <ul style="list-style-type: none"> <li><input type="checkbox"/> Surface Water (A1)</li> <li><input type="checkbox"/> High Water Table (A2)</li> <li><input type="checkbox"/> Saturation (A3)</li> <li><input type="checkbox"/> Water Marks (B1)</li> <li><input type="checkbox"/> Sediment Deposits (B2)</li> <li><input type="checkbox"/> Drift Deposits (B3)</li> <li><input type="checkbox"/> Algal Mat or Crust (B4)</li> <li><input type="checkbox"/> Iron Deposits (B5)</li> <li><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</li> <li><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</li> <li><input type="checkbox"/> Water-Stained Leaves (B9)</li> <li><input type="checkbox"/> Aquatic Fauna (B13)</li> <li><input type="checkbox"/> Marl Deposits (B15)</li> <li><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</li> <li><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</li> <li><input type="checkbox"/> Presence of Reduced Iron (C4)</li> <li><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</li> <li><input type="checkbox"/> Thin Muck Surface (C7)</li> <li><input checked="" type="checkbox"/> Other (Explain in Remarks)</li> </ul>	<b>Secondary Indicators</b> (minimum of two required) <ul style="list-style-type: none"> <li><input type="checkbox"/> Surface Soil Cracks (B6)</li> <li><input type="checkbox"/> Drainage Patterns (B10)</li> <li><input type="checkbox"/> Moss Trim Lines (B16)</li> <li><input type="checkbox"/> Dry-Season Water Table (C2)</li> <li><input type="checkbox"/> Crayfish Burrows (C8)</li> <li><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</li> <li><input type="checkbox"/> Stunted or Stressed Plants (D1)</li> <li><input checked="" type="checkbox"/> Geomorphic Position (D2)</li> <li><input type="checkbox"/> Shallow Aquitard (D3)</li> <li><input type="checkbox"/> Microtopographic Relief (D4)</li> <li><input type="checkbox"/> FAC-Neutral Test (D5)</li> </ul>
<b>Field Observations:</b>	
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <p><i>Precipitation levels are below normal and wetland systems are drier than expected for this type of year. The area is in a landscape position that will hold water and was determined to be seasonally saturated. Chapter 5 (Problematic Hydrology) of the NCE manual and associated procedure was used to make a positive indication of hydrology.</i></p>	



**VEGETATION – Use scientific names of plants.**

**Tree Stratum** (Plot size: 10' x 4')

	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (A/B)

**Sapling/Shrub Stratum** (Plot size: 10' x 4')

	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by:

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

**Herb Stratum** (Plot size: 10' x 4')

	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Juncus effusus</i>	60	Y	FACW
2. <i>Cyperus esculentus</i>	20	Y	FACW
3. <i>Carex scapularis</i>	5	N	FACW
4. <i>Eupatorium perfoliatum</i>	5	N	FACW
5. <i>Achillea millefolium</i>	5	N	FACU
6. <i>Trifolium pratense</i>	5	N	FACU
7.			
8.			
9.			
10.			
11.			
12.			

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Woody Vine Stratum** (Plot size: 10' x 4')

	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			

**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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)  
 hydrophytic vegetation requirements met via the rapid test.

**SOIL**

Sampling Point: DP-269

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-4 4+	10YR 4/2	95	5YR 4/6	5	C	m	Sandy Clay loam	Mixed w/ gravel Rock refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock  
Depth (inches): 4

Hydric Soil Present? Yes  No

**Remarks:**

Hydric soil indicator 1-3 was met. Redox concentrations exhibited clear boundaries and were determined to be contemporary features. Rock refusal noted at 4" with each profile attempt. Refusal layer is serving to partially restrict water percolation.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 6/1/16

Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-270

Investigator(s): Zsiros, Jaime Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depressional Swale Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR R Lat: 42.451776 Long: -79.109331 Datum: NAD 83

Soil Map Unit Name: CN - Chenango gravelly loam, 8 to 15% slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: (Explain alternative procedures here or in a separate report.)  
*Sample point represents the isolated PEM wetland community of WL-A233. Small depressional swale on the side of an existing ag field. Disturbances are not new and normal circumstances are present.*

**HYDROLOGY**

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b>		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	

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

Remarks:  
*Precipitation levels are below normal and the area is drier than expected. Wetland is a landscape position likely to hold water and exhibits hydrophytic vegetation. Chapter 5 of the NCE manual & associated problematic hydrology was utilized to make a positive determination of hydrology.*

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-276

Tree Stratum (Plot size: <u>3' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>N/A</u>				
2.				
3.				
4.				
5.				
6.				
7.				
				_____ = Total Cover
Sapling/Shrub Stratum (Plot size: <u>3' r</u> )				
1. <u>N/A</u>				
2.				
3.				
4.				
5.				
6.				
7.				
				_____ = Total Cover
Herb Stratum (Plot size: <u>3' r</u> )				
1. <u>Typha latifolia</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Aithya gracilifolia</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Juncus effusus</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
4. <u>Phragmites australis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
5. <u>Symphoricarpos racemosa</u>	<u>0</u>	<u>N</u>	<u>FACW</u>	
6. <u>Arctium minus</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
7. <u>Carex flacca</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
8.				
9.				
10.				
11.				
12.				
				<u>95</u> = Total Cover
Woody Vine Stratum (Plot size: <u>3' r</u> )				
1. <u>N/A</u>				
2.				
3.				
4.				
				_____ = Total Cover

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

---

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by:

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

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**Hydrophytic Vegetation Indicators:**

\_\_\_ 1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

\_\_\_ 3 - Prevalence Index is ≤3.0<sup>1</sup>

\_\_\_ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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**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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

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**Hydrophytic Vegetation Present?** Yes  No \_\_\_\_\_

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

*Hydrophytic vegetation requirements met via the rapid test*

*Sampling plot was adjusted to account for wetland boundaries*

**SOIL**

Sampling Point: DP- 070

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-4	10YR 4/2	95	5YR 4/6	5	C	M	SicL	
4-11	2.5Y 4/1	93	5YR 4/6	2	C	M	SicL	prominent and calcareous nodules below faint concentrations mixed w/ gravel
			10YR 4/4	5	C	M	SicL	
11"								Rock refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: N/A  
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

**Remarks:**

Hydric soil indicator F3 was met. Rock refusal noted at 11" with each profile attempt. Refusal layer is serving to partially restrict water.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 6/1/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-271  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Undulating Slope (%): 3-5  
 Subregion (LRR or MLRA): LRR R Lat: 42.451907 Long: -79.109189 Datum: NAD 83  
 Soil Map Unit Name: CAC - Chenango gravelly loam, 8 to 15% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <i>Sample point provides the upland complement to WL-A2300 WL-A233. Sampling area is located in a second growth deciduous forest.</i>	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <i>Sampling area is within an upland. No hydrologic indicators were met. Precipitation levels are below normal, but does not have any effects on the upland sampling area.</i>	



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-271

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Acer saccharum</u>	<u>95</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
<u>95</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Rubus allegheniensis</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>		<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. <u>Rubus pensilvanicus</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
<u>30</u> = Total Cover				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Dactylis glomerata</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>		<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
2. <u>Galium aparine</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>		
3. <u>Polygonum virginicum</u>	<u>15</u>	<u>N</u>	<u>FAC</u>		
4. <u>Elychone hederacea</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
5. <u>Solidago rugosa</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
6. <u>Impatiens racemosa</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
7. <u>Artemisia lappula</u>	<u>3</u>	<u>N</u>	<u>UPL</u>		
8. <u>Jussilago barbara</u>	<u>10</u>	<u>N</u>	<u>FACU</u>		
9. <u>Prunus pensilvanica</u>	<u>3</u>	<u>N</u>	<u>FACU</u>		
10. <u>Carex laxiculmis</u>	<u>3</u>	<u>N</u>	<u>UPL</u>		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
<u>89</u> = Total Cover					
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>N/A</u>	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.) <u>hydrophytic vegetation requirements were not met</u>					

**SOIL**

Sampling Point: DP- 371

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0-6	10YR 3/2	100				Silty clay loam	
6-11	10YR 4/3	100				Silty clay loam	
11"							Rock refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- |  |  |  |
|--|--|--|
| <p><b>Hydric Soil Indicators:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Histosol (A1)</li> <li><input type="checkbox"/> Histic Epipedon (A2)</li> <li><input type="checkbox"/> Black Histic (A3)</li> <li><input type="checkbox"/> Hydrogen Sulfide (A4)</li> <li><input type="checkbox"/> Stratified Layers (A5)</li> <li><input type="checkbox"/> Depleted Below Dark Surface (A11)</li> <li><input type="checkbox"/> Thick Dark Surface (A12)</li> <li><input type="checkbox"/> Sandy Mucky Mineral (S1)</li> <li><input type="checkbox"/> Sandy Gleyed Matrix (S4)</li> <li><input type="checkbox"/> Sandy Redox (S5)</li> <li><input type="checkbox"/> Stripped Matrix (S6)</li> <li><input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)</li> <li><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)</li> <li><input type="checkbox"/> Loamy Gleyed Matrix (F2)</li> <li><input type="checkbox"/> Depleted Matrix (F3)</li> <li><input type="checkbox"/> Redox Dark Surface (F6)</li> <li><input type="checkbox"/> Depleted Dark Surface (F7)</li> <li><input type="checkbox"/> Redox Depressions (F8)</li> </ul> | <p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)</li> <li><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</li> <li><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)</li> <li><input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)</li> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)</li> <li><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)</li> <li><input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)</li> <li><input type="checkbox"/> Red Parent Material (F21)</li> <li><input type="checkbox"/> Very Shallow Dark Surface (TF12)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul> |
|--|--|--|

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type:   N/A    
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes \_\_\_\_\_ No

Remarks:  
*No hydric soil indicators met. Rock refusal noted at 11". Not serving as a restrictive layer.*



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 6/1/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-573  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Toe of Slope Local relief (concave, convex, none): Concave Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): LRR R Lat: 42.451946 Long: -79.112127 Datum: NAD 83  
 Soil Map Unit Name: CK - Chautauqua silt loam, 8 to 15% slope NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>WL-A234</u>
Remarks: (Explain alternative procedures here or in a separate report.) <u>Sample point represents the PEM wetland community of WL-A234. The wetland connects with SR-A205 and may have historically been a channel. The wetland is located within a deciduous forest, but has no trees rooted and is functioning as a PEM.</u>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1)      _____ Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2)      _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3)      _____ Marl Deposits (B15) _____ Water Marks (B1)      _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2)      _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3)      _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4)      _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5)      _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7)      _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) _____ Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>1"</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <u>Precipitation levels are below normal; however hydrology indicators are strong.</u>	

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP- 273

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>3' r</u> )					
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>3' r</u> )					
1. <u>N/A</u>					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
_____ = Total Cover					
<b>Herb Stratum</b> (Plot size: <u>3' r</u> )					
1. <u>Carex flacca</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Carex debilis</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>		
3. <u>Impatiens capensis</u>	<u>15</u>	<u>N</u>	<u>FACW</u>		
4. <u>Ilex verticillata</u>	<u>10</u>	<u>N</u>	<u>FACW</u>		
5. <u>Carex stipata</u>	<u>10</u>	<u>N</u>	<u>OBL</u>		
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
<u>85</u> = Total Cover					
<b>Woody Vine Stratum</b> (Plot size: <u>3' r</u> )					
1. <u>N/A</u>				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
2. _____					
3. _____					
4. _____					
_____ = Total Cover					
<b>Hydrophytic Vegetation Present?</b> Yes <u>Y</u> No _____					
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation requirements met via the rapid test. Sampling plot adjusted to account for wetland boundaries.					

**SOIL**

Sampling Point: DP-273

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-10	10YR 3/1	100					Silt loam	
10+								Refusal Inorganic

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- |  |  |   |
|--|--|---|
| <p><b>Hydric Soil Indicators:</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Histic Epipedon (A1)</li> <li><input type="checkbox"/> Histic Epipedon (A2)</li> <li><input type="checkbox"/> Black Histic (A3)</li> <li><input type="checkbox"/> Hydrogen Sulfide (A4)</li> <li><input type="checkbox"/> Stratified Layers (A5)</li> <li><input type="checkbox"/> Depleted Below Dark Surface (A11)</li> <li><input type="checkbox"/> Thick Dark Surface (A12)</li> <li><input type="checkbox"/> Sandy Mucky Mineral (S1)</li> <li><input type="checkbox"/> Sandy Gleyed Matrix (S4)</li> <li><input type="checkbox"/> Sandy Redox (S5)</li> <li><input type="checkbox"/> Stripped Matrix (S6)</li> <li><input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)</li> <li><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)</li> <li><input type="checkbox"/> Loamy Gleyed Matrix (F2)</li> <li><input type="checkbox"/> Depleted Matrix (F3)</li> <li><input type="checkbox"/> Redox Dark Surface (F6)</li> <li><input type="checkbox"/> Depleted Dark Surface (F7)</li> <li><input type="checkbox"/> Redox Depressions (F8)</li> </ul> | <p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)</li> <li><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</li> <li><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)</li> <li><input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)</li> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)</li> <li><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)</li> <li><input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)</li> <li><input type="checkbox"/> Red Parent Material (F21)</li> <li><input type="checkbox"/> Very Shallow Dark Surface (TF12)</li> <li><input checked="" type="checkbox"/> Other (Explain in Remarks)</li> </ul> |
|--|--|---|

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b>	
Type: <u>Inorganic</u>	Hydric Soil Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Depth (inches): <u>10</u>	

Remarks:  
 Hydric soil A1 indicator was met based on the presence of an organic layer over rock/gravel.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 6/1/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP- 274  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): 9th hillslope Local relief (concave, convex, none): None Slope (%): 15-20  
 Subregion (LRR or MLRA): LRR R Lat: 42.452231 Long: -79.112375 Datum: NAD 83  
 Soil Map Unit Name: CKL - Chautauqua silt loam, 8 to 15% slope NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	If yes, optional Wetland Site ID: <u>WL-A 235</u>

Remarks: (Explain alternative procedures here or in a separate report.)  
Sampling point represents the PEM wetland community of WL-A 235. The system is a small isolated area influenced by groundwater seepage.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input checked="" type="checkbox"/> Other (Explain in Remarks)	

**Field Observations:**

Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):
Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):

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

Wetland Hydrology Present? Yes  No

Remarks:  
Precipitation levels are below normal for the year. The system receives hydrology from a groundwater influence. Soil is moist at around 12 inches. Under normal climatic conditions we would expect to see a water table. area is assumed to be positive for hydrology. Chapter 5 was used to evaluate problematic hydrology.



VEGETATION - Use scientific names of plants.

**Tree Stratum** (Plot size: 5' r )

	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			

**Sapling/Shrub Stratum** (Plot size: 5' r )

	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			

**Herb Stratum** (Plot size: 5' r )

	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Juncus effusus</i>	30	Y	FACW
2. <i>Carex vulpenculata</i>	30	Y	OBL
3. <i>Panicum acris</i>	15	N	FAC
4. <i>Cyperus perfoliatus</i>	10	N	FACW
5. <i>Muhlenbergia schrebii</i>	10	N	FAC
6. <i>Symphoricarpos racemosa</i>	5	N	FAC
7.			
8.			
9.			
10.			
11.			
12.			

**Woody Vine Stratum** (Plot size: 5' r )

	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____	(A) _____ (B) _____

Prevalence Index = B/A = \_\_\_\_\_

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
  - Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

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

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)  
 Hydrophytic vegetation requirements met via the rapid test  
 Sampling plot was adjusted to account for its boundary of the wetland

**SOIL**

Sampling Point: DP-274

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-5	10YR 3/1	95	7.5YR 4/6	5	C	PL	Silty clay loam	
5-10	10YR 3/1	60	7.5YR 6/8	20	C	M	Silty clay loam	
			2.5Y 6/3	20	D	M		
10-11	2.5Y 6/3	80	7.5YR 6/8	20	C	M	Clay loam	
11"								Rock refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock  
 Depth (inches): 11

Hydric Soil Present? Yes  No

**Remarks:**

Hydric soil F6 was met; Rock refusal was noted at 11 inches with each profile attempt. Refusal layer is serving to partially restrict water percolation.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 6/1/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-276  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR or MLRA): LRR R Lat: 42.452785 Long: -79.116407 Datum: NAD 83  
 Soil Map Unit Name: FmA - Inermont silt loam, 0 to 3% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No ___ Hydric Soil Present? Yes <u>X</u> No ___ Wetland Hydrology Present? Yes <u>X</u> No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___ If yes, optional Wetland Site ID: <u>WL-A236 (PEM)</u>
Remarks: (Explain alternative procedures here or in a separate report.) <p style="font-size: 1.2em; font-family: cursive;">Sample point represents the PEM component of WL-A236                      The wetland is non-isolated and connects with NWI mapped wetland (PSSIE)</p>	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Marl Deposits (B15)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

  

<b>Field Observations:</b> Surface Water Present? Yes ___ No <u>X</u> Depth (inches): Water Table Present? Yes <u>X</u> No ___ Depth (inches): <u>7</u> Saturation Present? (includes capillary fringe) Yes <u>X</u> No ___ Depth (inches): <u>0</u>	Wetland Hydrology Present? Yes <u>X</u> No ___
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

  

Remarks:

Precipitation levels are below normal; however, hydrologic indicators are strong. System is both precipitation and groundwater driven.

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-276

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>5' r</u> )				
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>5' r</u> )				
1. <u>N/A</u>				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )				
1. <u>Phalaris arundinacea</u>	<u>75</u>	<u>Y</u>	<u>FACW</u>	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. <u>Onoclea sensibilis</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
3. <u>Asterias hastata</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
4. <u>Symphoricarpos pumilus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
5. <u>Sagittaria arifolia</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
				_____ = Total Cover
<b>Woody Vine Stratum</b> (Plot size: <u>5' r</u> )				
1. <u>N/A</u>				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
2. _____				
3. _____				
4. _____				
				_____ = Total Cover
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic requirements met via the rapid test. Vegetative plot was adjusted to the herbaceous sampling area to account for a representative component of the wetland.				

**SOIL**

Sampling Point: DP-276

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-16	10YR 3/1	100					Gardylorn	
16T								Bedrock refusal

- <sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.
- |  |  |   |
|--|--|---|
| <p><b>Hydric Soil Indicators:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Histosol (A1)</li> <li><input type="checkbox"/> Histic Epipedon (A2)</li> <li><input type="checkbox"/> Black Histic (A3)</li> <li><input type="checkbox"/> Hydrogen Sulfide (A4)</li> <li><input type="checkbox"/> Stratified Layers (A5)</li> <li><input type="checkbox"/> Depleted Below Dark Surface (A11)</li> <li><input type="checkbox"/> Thick Dark Surface (A12)</li> <li><input type="checkbox"/> Sandy Mucky Mineral (S1)</li> <li><input type="checkbox"/> Sandy Gleyed Matrix (S4)</li> <li><input type="checkbox"/> Sandy Redox (S5)</li> <li><input type="checkbox"/> Stripped Matrix (S6)</li> <li><input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)</li> <li><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)</li> <li><input type="checkbox"/> Loamy Gleyed Matrix (F2)</li> <li><input type="checkbox"/> Depleted Matrix (F3)</li> <li><input type="checkbox"/> Redox Dark Surface (F6)</li> <li><input type="checkbox"/> Depleted Dark Surface (F7)</li> <li><input type="checkbox"/> Redox Depressions (F8)</li> </ul> | <p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)</li> <li><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</li> <li><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)</li> <li><input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)</li> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)</li> <li><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)</li> <li><input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)</li> <li><input type="checkbox"/> Red Parent Material (F21)</li> <li><input type="checkbox"/> Very Shallow Dark Surface (TF12)</li> <li><input checked="" type="checkbox"/> Other (Explain in Remarks)</li> </ul> |
|--|--|---|

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Bedrock

Depth (inches): 16

Hydric Soil Present?    Yes     No

Remarks:

Soil was saturated at lineal samples and iron depletion was adequate due to a redox. This soil likely would have an F6 if given enough time to dry out.

Rock refusal was encountered at 16 inches with each attempt.

Refusal layer is seeming to restrict water percolation.

Based on hydrology and vegetation coupled with the above mentioned, a hydric soil is assumed. Soil was not indicative of a histosol.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 6/1/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-277  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Sae of slope Local relief (concave, convex, none): Undulating Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): LRR R Lat: 42.452666 Long: -79.116128 Datum: NAD 83  
 Soil Map Unit Name: FmA - Inherent silt loam, 0 to 3% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>WL-A236 PSS</u>
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	

Remarks: (Explain alternative procedures here or in a separate report.)  
Sample point represents the PSS component of WL-A236. Wetland connects to a mapped NWI (PSSIE)

**HYDROLOGY**

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Moss Trim Lines (B16)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Stunted or Stressed Plants (D1)
	<input checked="" type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> Microtopographic Relief (D4)
	<input type="checkbox"/> FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes _____ No _____	Depth (inches): _____
Water Table Present? Yes <u>X</u> No _____	Depth (inches): <u>7</u>
Saturation Present? (includes capillary fringe) Yes <u>X</u> No _____	Depth (inches): <u>0</u>

Wetland Hydrology Present? Yes X No \_\_\_\_\_

Remarks:  
Precipitation levels are below normal; however wetland is exhibiting hydrology. Portions also include intermittent pockets of surface water. Hydrology is both groundwater, and precipitation driven.



VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Salix bebbiana</i>	20	Y	FACW
2. <i>Salix nigra</i>	10	Y	OBL
3.			
4.			
5.			
6.			
7.			

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Onoclea sensibilis</i>	30	Y	FACW
2. <i>A. nutans canadensis</i>	30	Y	FACW
3. <i>Symphoricarpon peruvianum</i>	10	N	OBL
4. <i>Albionia petiolata</i>	3	N	FACU
5. <i>Malliniasperellum</i>	10	N	OBL
6. <i>Myosotis scorpioides</i>	3	N	OBL
7. <i>Solidago rugosa</i>	3	N	FAC
8. <i>Juncus latifolia</i>	5	N	OBL
9. <i>Juncus virginica</i>	5	N	FACW
10. <i>Juncus nummularia</i>	5	N	FACW
11.			
12.			

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (A)  
 Total Number of Dominant Species Across All Strata: \_\_\_\_\_ (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by:  
 OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_  
 FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_  
 FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_  
 FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_  
 UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_  
 Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)  
 Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is  $\leq 3.0^1$   
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.  
**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  
**Woody vines** - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)  
 Hydrophytic vegetation requirements met via the rapid test.





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 6/1/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-279  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): 9 hillslope Local relief (concave, convex, none): none Slope (%): 20  
 Subregion (LRR or MLRA): LRR R Lat: 42.452804 Long: -79.115903 Datum: NAD 83  
 Soil Map Unit Name: EmA - Freeport silt loam, 0 to 3% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="font-family: cursive;">Sample point provides an upland complement to wetlands A235 &amp; 236. Area is a forested strip between WL-A236 and an existing agricultural field. Normal circumstances are present.</p>	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <p style="font-family: cursive;">Sampling point is within an upland. No hydrologic indicators were met.</p>	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP- J79

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Pinus typhina</u>	<u>60</u>	<u>Y</u>	<u>UPL</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. <u>Acer platanoides</u>	<u>30</u>	<u>Y</u>	<u>UPL</u>	
3. <u>Populus tremuloides</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>90</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>				
1. <u>Pinus typhina</u>	<u>15</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Rubus idaeus</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>30</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>5'</u>)</b>				
1. <u>Gallium aparine</u>	<u>70</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Galium aparine</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>90</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>				
1. <u>N/A</u>	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>Y</u>				
Remarks: (Include photo numbers here or on a separate sheet.) <u>Hydrophytic vegetation requirements were not met. Sampling location was in an upland.</u>				

SOIL

Sampling Point: DP- 279

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	1G4R4/4	100					Silt loam	
6+								Rock refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- |   |  |  |
|---|--|--|
| <b>Hydric Soil Indicators:</b>                                |  | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>          |
| <input type="checkbox"/> Histosol (A1)                        | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)       |
| <input type="checkbox"/> Histic Epipedon (A2)                 | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)       | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)     |
| <input type="checkbox"/> Black Histic (A3)                    | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)             | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                        | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)             |
| <input type="checkbox"/> Stratified Layers (A5)               | <input type="checkbox"/> Depleted Matrix (F3)                            | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)     |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)    | <input type="checkbox"/> Redox Dark Surface (F6)                         | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)           |
| <input type="checkbox"/> Thick Dark Surface (A12)             | <input type="checkbox"/> Depleted Dark Surface (F7)                      | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)             | <input type="checkbox"/> Redox Depressions (F8)                          | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)             |  | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)   |
| <input type="checkbox"/> Sandy Redox (S5)                     |  | <input type="checkbox"/> Red Parent Material (F21)                   |
| <input type="checkbox"/> Stripped Matrix (S6)                 |  | <input type="checkbox"/> Very Shallow Dark Surface (TF12)            |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) |  | <input type="checkbox"/> Other (Explain in Remarks)                  |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: N/A  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present?    Yes \_\_\_\_\_    No X

Remarks:  
 No hydric soil indicators were met. Sampling area is within an upland. Rock refusal encountered at 6" with each profile attempt. Refusal layer is not restricting water percolation.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 6/3/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-289  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): 9th hillslope Local relief (concave, convex, none): none Slope (%): 30  
 Subregion (LRR or MLRA): LRR R Lat: 42.467585 Long: -79.149046 Datum: NAD 83  
 Soil Map Unit Name: ToF - Gouversville silt loam, 35 to 50% slope NY classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___
Hydric Soil Present? Yes <u>X</u> No ___	
Wetland Hydrology Present? Yes <u>X</u> No ___	
Remarks: (Explain alternative procedures here or in a separate report.) <u>Sample point represents the PEM wetland community of WL-A337</u> <u>The wetland is on top of a ridge that is fed by a groundwater seep. The system seeps into ST-A310 and is not isolated.</u>	
If yes, optional Wetland Site ID: <u>WL-A337</u>	

**HYDROLOGY**

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Moss Trim Lines (B16)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Stunted or Stressed Plants (D1)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> Microtopographic Relief (D4)
	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ___ No ___	Depth (inches):	Wetland Hydrology Present? Yes <u>X</u> No ___
Water Table Present? Yes ___ No ___	Depth (inches):	
Saturation Present? (includes capillary fringe) Yes ___ No ___	Depth (inches): <u>0</u>	

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

Remarks:  
One primary (one secondary) hydrologic indicators met. System is groundwater fed. Soil was saturated to the surface, but was not associated with a water table. System is also influenced by precipitation and surface runoff. Precipitation levels are below normal; however, the system is still saturated.



**VEGETATION** – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>20' x 10'</u> )				
1. <u>N/A</u>				
2.				
3.				
4.				
5.				
6.				
7.				
				_____ = Total Cover
<b>Sapling/Shrub Stratum</b> (Plot size: <u>20' x 10'</u> )				
1. <u>N/A</u>				
2.				
3.				
4.				
5.				
6.				
7.				
				_____ = Total Cover
<b>Herb Stratum</b> (Plot size: <u>20' x 10'</u> )				
1. <u>Loesia virginica</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Impatiens capensis</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Corela cuneata</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
4. <u>Viola labradorica</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
5. <u>Galium boreale</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
6. <u>Asa multiflora</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
7. <u>Egustom sylvaticum</u>	<u>3</u>	<u>N</u>	<u>FACW</u>	
8.				
9.				
10.				
11.				
12.				
				<u>9.3</u> = Total Cover
<b>Woody Vine Stratum</b> (Plot size: <u>20' x 10'</u> )				
1.				
2.				
3.				
4.				
				_____ = Total Cover

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (A/B)

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**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = \_\_\_\_\_

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**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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**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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

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**Hydrophytic Vegetation Present?**      Yes       No \_\_\_\_\_

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

*Hydrophytic vegetation requirements met via the rapid test. Sampling plot was adjusted to the boundaries of the wetland*

**SOIL**

Sampling Point: DP- 289

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-2	2.5Y4/2	97	10YR 5/8	3				
2-5	10YR 5/1	50					Silt loam	
	10YR 6/8	50					Clay	Mixed with shale
5+								Shale refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Shale  
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:  
Shale refusal noted at 5" with each profile attempt.  
Refusal layer is serving to restrict water penetration.  
Hydric soil indicator 1.3 was met.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 6/3/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-290  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%): 15  
 Subregion (LRR or MLRA): LRR R Lat: 42.467977 Long: -79.149387 Datum: NAD 83  
 Soil Map Unit Name: ToF-Townsville silt loam, 35 to 50% clay NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <i>Sample point provides an upland complement to WL-AJ37 and AJ38. Sampling area is located within a second growth deciduous forest.</i>	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <i>No hydrologic indicators were observed. Sampling point is within an upland.</i>	

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP- 090

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	
1. <i>Acer saccharum</i>	90	Y	FACU	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40</u> (A/B)
2. <i>Ostrya virginiana</i>	10	N	FACU	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>100</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: 15')</b>				
1. <i>Lindera benzoin</i>	5	Y	FACW	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>5</u> = Total Cover				
<b>Herb Stratum (Plot size: 5')</b>				
1. <i>Acer saccharum</i>	5	Y	FACU	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <i>Parthenocissus vitacea</i>	3	Y	FACU	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>8</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: 30')</b>				
1. <i>Smilax rotundifolia</i>	2	Y	FAC	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>2</u> = Total Cover				
<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.				
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>				
Remarks: (Include photo numbers here or on a separate sheet.) Majority of herbaceous vegetation is covered by leaves and is sparsely vegetated. Hydrophytic vegetation indicators were not met				





# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 6/3/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-291  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): LRR R Lat: 42.469305 Long: -79.148997 Datum: NAD 83  
 Soil Map Unit Name: FmB-Insect silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____ Remarks: (Explain alternative procedures here or in a separate report.) <u>Sampling point represents the PEM component of WL-A038</u> <u>The wetland is a non-isolated, linear swale on the</u> <u>side of an access road / snow mobile trail. The system</u> <u>transitions into a P35.</u>	Is the Sampled Area within a Wetland? Yes <u>Y</u> No _____ If yes, optional Wetland Site ID: <u>WL-A038 (PEM)</u>
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## HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input checked="" type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No _____ Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <u>One primary and two secondary hydrologic indicators were met. Precipitation levels are below normal. Under normal climatic conditions we would expect to observe surface water. System is primarily precipitation-driven.</u>		



**VEGETATION - Use scientific names of plants.**

Tree Stratum (Plot size: <u>10' x 5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>N/A</u>			
2.			
3.			
4.			
5.			
6.			
7.			

Sapling/Shrub Stratum (Plot size: <u>10' x 5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>N/A</u>			
2.			
3.			
4.			
5.			
6.			
7.			

Herb Stratum (Plot size: <u>10' x 5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Dyrophytocyon monilobus</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>
2. <u>Oenoclea sensibilis</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>
3. <u>Impatiens capensis</u>	<u>15</u>	<u>N</u>	<u>FACW</u>
4. <u>Cyperus perfoliatus</u>	<u>3</u>	<u>N</u>	<u>FACW</u>
5. <u>Cyperus cyperinus</u>	<u>3</u>	<u>N</u>	<u>DBL</u>
6. <u>Salix bicolor</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
7. <u>Sesuvium portuacastrum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>
8.			
9.			
10.			
11.			
12.			

Woody Vine Stratum (Plot size: <u>10' x 5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>N/A</u>			
2.			
3.			
4.			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____	(A) _____ (B)

Prevalence Index = B/A = \_\_\_\_\_

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is  $\leq 3.0^1$
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

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

**Hydrophytic Vegetation Present?** Yes  No

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

Hydrophytic vegetation requirements met via the rapid test. Sampling plot was adjusted to account for the linear nature of the wetland.

**SOIL**

Sampling Point: DP-291

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-8	5Y 4/1	80	7.5YR 4/6	20	L	M	Silty Clay loam	
8-20	2.5Y 2.5/1	85	5YR 4/6	10	L	M	Silty Clay loam	cm-sharp boundaries
			2.5Y 5/6	5	L	M		cm-diffuse boundaries

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: N/A  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

**Remarks:**

Hydric soil indicators were met. Redox concentrations between 0-8" exhibited clear to diffuse boundaries.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 6/3/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-292  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Slo of slope Local relief (concave, convex, none): Flat to Convex Slope (%): 1  
 Subregion (LRR or MLRA): LRR R Lat: 42.469187 Long: -79.149030 Datum: NAD 83  
 Soil Map Unit Name: OC - Organic silt loam, 8 to 15% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>WL-A238 (PSS)</u>
Remarks: (Explain alternative procedures here or in a separate report.) <i>Sample point represents the PSS component of WL-A238. The wetland is non-isolated and transitions into a PEM.</i>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input checked="" type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <i>One primary and two secondary hydrologic indicators were met. Precipitation levels are below normal. Under normal climatic conditions we would expect to observe surface water. System is primarily precipitation driven.</i>	

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP- 391

Tree Stratum (Plot size: <u>15' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

\_\_\_\_\_ = Total Cover

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Lonicera tatarica</u>	<u>26</u>	<u>Y</u>	<u>FACU</u>
2. <u>Cornus amomum</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>
3. <u>Alnus incana</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>
4. <u>Rosa multiflora</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

45 = Total Cover

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Carex blanda</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>
2. <u>Oenothera serotina</u>	<u>20</u>	<u>N</u>	<u>FACW</u>
3. <u>Oenothera gigantea</u>	<u>20</u>	<u>N</u>	<u>FACW</u>
4. <u>Zizypus cuneatus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
5. <u>Galium boreale</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
6. <u>Cyperus atrocaryus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
7. <u>Plectanthes palustris</u>	<u>10</u>	<u>N</u>	<u>OBL</u>
8. <u>Suaeda maritima</u>	<u>5</u>	<u>N</u>	<u>FACW</u>
9. <u>Carex vulpinoidea</u>	<u>3</u>	<u>N</u>	<u>OBL</u>
10. <u>Carex crinita</u>	<u>3</u>	<u>N</u>	<u>OBL</u>
11. _____	_____	_____	_____
12. _____	_____	_____	_____

101 = Total Cover

Woody Vine Stratum (Plot size: <u>15' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>N/A</u>	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

\_\_\_\_\_ = Total Cover

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by:

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
  - Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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

Hydrophytic vegetation requirements met via the dominance test. *Lonicera tatarica* is commonly found in many wetland systems within this region.





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 6/3/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-295  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 3-4  
 Subregion (LRR or MLRA): LRR R Lat: 42.473481 Long: -79.149434 Datum: NAD 83  
 Soil Map Unit Name: EmA-Tremont silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_  
 Are Vegetation \_\_\_\_, Soil \_\_\_\_, or Hydrology \_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No ___ Hydric Soil Present? Yes <u>X</u> No ___ Wetland Hydrology Present? Yes <u>X</u> No ___	Is the Sampled Area within a Wetland? Yes <u>X</u> No ___ If yes, optional Wetland Site ID: <u>WL-A239(PEM)</u>
Remarks: (Explain alternative procedures here or in a separate report.) <u>Sample point represents the PEM wetland community of A239. The wetland surrounds a shallow gas well installed years ago. The system transitions into a PFD</u>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)	
<b>Field Observations:</b> Surface Water Present? Yes ___ No <u>X</u> Depth (inches): Water Table Present? Yes ___ No <u>X</u> Depth (inches): Saturation Present? (includes capillary fringe) Yes ___ No <u>X</u> Depth (inches):		Wetland Hydrology Present? Yes <u>X</u> No ___	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: <u>I no secondary hydrologic indicators were met. Precipitation levels are below average. Under normal climatic conditions we would expect to see surface water. Hydrology is precipitation driven.</u>			



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-275

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>5' r</u> )					
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
	_____ = Total Cover			<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>5' r</u> )					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
	_____ = Total Cover			<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )					
1. <u>Carex crinita</u>	<u>35</u>	<u>Y</u>	<u>OBL</u>		<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. <u>Carex flava</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>		
3. <u>Phalaris arundinacea</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>		
4. <u>Cynoclea sensuibus</u>	<u>10</u>	<u>N</u>	<u>FACW</u>		
5. <u>Solum boreale</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
	<u>100</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>5' r</u> )					
1. <u>N/A</u>				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____	
2. _____					
3. _____					
4. _____					
	_____ = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation requirements met via the rapid test. Tree Sapling and vine strata were adjusted to a 5' radius to incorporate the wetland boundaries					

SOIL

Sampling Point: DP-295

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-6	2.5Y4/1	95	7.5YR5/8	5	C	m	Silty Clay	
6-16	2.5Y5/2	45	10YR6/8	5	C	m	Clay	Dual Matrix Colors
	2.5Y5/6	50						
16+								Fragipan

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils<sup>3</sup>:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Fragipan  
 Depth (inches): 16

Hydric Soil Present? Yes  No

Remarks:

Hydric soil F3 was met. Fragipan refusal layer serving to restrict water percolation.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 6/3/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-396  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): LRR R Lat: 42.473428 Long: -79.149113 Datum: NAD 83  
 Soil Map Unit Name: Fm A - Salamanca silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>WL-A39 PFO</u>
Remarks: (Explain alternative procedures here or in a separate report.) <u>Sampling point represents the PFO wetland component of A39. The wetland surrounds a shallow gas well and is isolated.</u>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
<b>Primary Indicators (minimum of one is required; check all that apply)</b>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____
---	--

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

Remarks:  
Three secondary hydrologic indicators were met. Precipitation levels are below average. Under normal climatic conditions we would expect to observe, at a minimum, surface water. Hydrology is precipitation driven.

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-296

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Fraxinus pennsylvanica</i></u>	<u>60</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u><i>Crataegus crus-galli</i></u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
3. <u><i>Populus tremuloides</i></u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>105</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>				
1. <u><i>Cornus rostrata</i></u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>20</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>5'</u>)</b>				
1. <u><i>Phragmites australis</i></u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u><i>Oncoclea sensibilis</i></u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
3. <u><i>Juncus roemerianus</i></u>	<u>15</u>	<u>N</u>	<u>FAC</u>	
4. <u><i>Aithya gracilis</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
5. <u><i>Agrostis perfoliata</i></u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>110</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>				
1. <u>N/A</u>	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____				
Remarks: (Include photo numbers here or on a separate sheet.) <u>Hydrophytic vegetative requirements not met via the dominance test.</u>				

**SOIL**

Sampling Point: DP-296

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-6	2.5Y 4/1	95	7.5YR 5/8	5	C	M	Silty Clay	
6-16	2.5Y 5/2	45	10YR 6/8	5	C	M	Clay	Dual Matrix Colors
	2.5Y 5/6	50						
16+								Inorganic

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Inorganic  
 Depth (inches): 16

Hydric Soil Present? Yes  No

**Remarks:**

Hydric soil indicator F3 was met. Inorganic refusal layer serving to restrict water percolation.



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 6/3/16  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-297  
 Investigator(s): Zsiros, Jaime Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): gull slope Local relief (concave, convex, none): undulating Slope (%): 15  
 Subregion (LRR or MLRA): LRR R Lat: 42.472590 Long: -79.149615 Datum: NAD 83  
 Soil Map Unit Name: Fm A - Fremont silt loam, 3 to 8% slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for 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, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="font-size: 1.2em; font-family: cursive;">Sample point series as the upland/compliment to wetland                      Sampling area is within a second growth deciduous forest.</p>	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: <p style="font-size: 1.2em; font-family: cursive;">No hydrologic indicators were observed. Precipitation levels are below normal, but has no effect on upland areas</p>	



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-297

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Quercus saccharum</i></u>	<u>60</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>42</u> (A/B)
2. <u><i>Prunus pensylvanica</i></u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. <u><i>Prunus serotina</i></u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>95</u> = Total Cover				<b>Prevalence index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum - (Plot size: <u>15'</u>)</b>				
1. <u><i>Liriodendron tulipifera</i></u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
2. <u><i>Liriodendron benzoin</i></u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
3. <u><i>Nyssa multiflora</i></u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>15</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>5'</u>)</b>				
1. <u><i>Liriodendron benzoin</i></u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u><i>Toxicodendron radicans</i></u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>50</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>				
1. <u>N/A</u>	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.				
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>				
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetative requirements were not met. <i>Liriodendron benzoin</i> and <i>Toxicodendron radicans</i> are frequently found in both upland and wetland conditions.				





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/26/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-500  
 Investigator(s): M. BOBERG B. VUITS Section, Township, Range: Villanova  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.134382 Long: 42.40325 Datum: NAD 83  
 Soil Map Unit Name: Fluvoaquents-udifluvents complex NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u>    </u> If yes, optional Wetland Site ID: <u>WL-A500</u>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0"-4"</u> Water Table Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0"</u> Saturation Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks: <u>- iron reduction film on standing water</u>	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-500

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)  <b>Prevalence Index worksheet:</b> Total % Cover of: <u>0</u> Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____  <b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.   <b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>0</u>			
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )				
1. <u>Not Applicable</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>0</u>			= Total Cover
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				
1. <u>Ranunculus bulbosus</u>	<u>39</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Bidens aristosa</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
3. <u>mentha spicata</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
5. <u>Polygonum persicaria</u>	<u>1</u>	<u>N</u>	<u>NI</u>	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	<u>80</u>			= Total Cover
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )				
1. <u>Not Applicable</u>				
2. _____				
3. _____				
4. _____				
	<u>0</u>			= Total Cover
Remarks: (Include photo numbers here or on a separate sheet.) <u>FAC Neutral Test</u> <u>2</u> FACW + <u>0</u> OBL = <u>2</u> wetland <u>0</u> FACU + <u>0</u> UPL = <u>0</u> upland				

**SOIL**

Sampling Point: DP-500

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-7"	2.5Y <sup>3</sup> /1	95	10YR 3/6	5	C	m/pl	SL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<b>Hydric Soil Indicators:</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input checked="" type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4) <span style="margin-left: 20px;">MB</span>		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)	

<sup>3</sup>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

Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 10/20/2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP- 501  
 Investigator(s): M. Boberg B. virts Section, Township, Range: Villanova  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Flat Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.134308 Long: 42.403825 Datum: NAD 83  
 Soil Map Unit Name: Fluvaquents - udifluvents complex NWM classification: aplard  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-50

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>10</u>	x 2 = <u>20</u>
FAC species <u>15</u>	x 3 = <u>45</u>
FACU species <u>75</u>	x 4 = <u>300</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>365</u> (B)

Prevalence Index = B/A = 3.65

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Schedonorus arundinaceus</u>	<u>65</u>	<u>Y</u>	<u>FACU</u>
2. <u>Rumex crispus</u>	<u>10</u>	<u>N</u>	<u>FAC</u>
3. <u>Mentha spicata</u>	<u>5</u>	<u>N</u>	<u>FACW</u>
4. <u>Solidago canadensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
5. <u>Euthamia graminifolia</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
6. <u>Ranunculus bulbosus</u>	<u>5</u>	<u>N</u>	<u>FACW</u>
7. <u>Trifolium repens</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
8.			
9.			
10.			
11.			
12.			

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			

**Hydrophytic Vegetation Present?** Yes  No

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

FAC Neutral Test

0 FACW + 0 OBL = 0 wetland

1 FACU + 0 UPL = 1 upland ✓





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 10/26/2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP- 503  
 Investigator(s): M. BOBERG B. VIRTIS Section, Township, Range: Villanova  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Flat Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.13468 Long: 42.403504 Datum: NAD 83  
 Soil Map Unit Name: Fluvaquents-udifluvents complex NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u>    </u> If yes, optional Wetland Site ID: <u>WL-501</u>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input checked="" type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0" - 2"</u> Water Table Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0"</u> Saturation Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:   	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-503

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <del>Salix epithymum</del>	<del>40</del>	<del>N</del>	<del>OBL</del>	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
2. <u>Salix petiolaris</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
3.				
4.				
5.				
6.				
7.				
<u>40</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Carex flava</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Scirpus cyperinus</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Juncus effusus</u>	<u>15</u>	<u>N</u>	<u>OBL</u>	
4. <u>Mentha spicata</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
5. <u>Carex lupulina</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
6. <u>Carex hystericina</u>	<u>4</u>	<u>N</u>	<u>OBL</u>	
7. <u>Symphitrichum prozac-argyle</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
8.				
9.				
10.				
11.				
12.				
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2.				
3.				
4.				
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 10/26/2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-505  
 Investigator(s): M. Boberg B. Viits Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 3-5  
 Subregion (LRR or MLRA): LRR-R Lat: 42.133705 Long: Villenova MB Datum: NAD 83  
 Soil Map Unit Name: chadakoin silf loam NW classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u>    </u> If yes, optional Wetland Site ID: <u>WL-A502</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators</u> (minimum of one is required; check all that apply)</p> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input checked="" type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<p><u>Secondary Indicators</u> (minimum of two required)</p> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<p><b>Field Observations:</b></p> Surface Water Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0-5"</u> Water Table Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0-5"</u> Saturation Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0-5"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-505

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			
<u>0</u> = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15'</u> )			
1. <u>Not Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			
<u>0</u> = Total Cover			
Herb Stratum (Plot size: <u>5'</u> )			
1. <u>Carex flava</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>
2. <u>Juncus effusus</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>
3. <u>Scirpus cyperinas</u>	<u>10</u>	<u>N</u>	<u>OBL</u>
4. <u>Mentha spicata</u>	<u>10</u>	<u>N</u>	<u>FACW</u>
5. <u>Bidens aristosa</u>	<u>5</u>	<u>N</u>	<u>FACW</u>
6. <u>Eupatorium perfoliatum</u>	<u>4</u>	<u>N</u>	<u>FACW</u>
7. <u>Symphytichum vovae-angiiac</u>	<u>1</u>	<u>N</u>	<u>FACW</u>
8.			
9.			
10.			
11.			
12.			
<u>100</u> = Total Cover			
Woody Vine Stratum (Plot size: <u>30'</u> )			
1. <u>Not Applicable</u>			
2.			
3.			
4.			
<u>0</u> = Total Cover			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>80</u>	x 1 = <u>80</u>
FACW species <u>20</u>	x 2 = <u>40</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>120</u> (B)

Prevalence Index = B/A = 1.2

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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

FAC Neutral Test

0 FACW + 2 OBL = 2 Wetland ✓

0 FACU + 0 UPL = 0 upland





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 10/26/2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-506  
 Investigator(s): M. Boberg B. Virts Section, Township, Range: Villanova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 3-5  
 Subregion (LRR or MLRA): LRR-R Lat: 79.18386 Long: 42.404915 Datum: NAD 83  
 Soil Map Unit Name: Chadakoin silt loam NW classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> MB Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)    	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-506

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> <sup>B/A</sup> <u>100</u> (A/B)
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>11</u> x 3 = <u>33</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>101</u> (A) <u>373</u> (B)  Prevalence Index = B/A = <u>3.69</u>
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>				
1. <u>Not Applicable</u>				
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>5'</u>)</b>				
1. <u>Schedonorus arundinaceus</u>	<u>64</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Trifolium repens</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
3. <u>Euthamia grandifolia</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4. <u>Ranunculus bulbosus</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
5. <u>Mentha spicata</u>	<u>3</u>	<u>N</u>	<u>FACW</u>	
6. <u>Taraxacum officinale</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
7.				
8.				
9.				
10.				
11.				
12.				
<u>100</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>				
1. <u>Not Applicable</u>				
2.				
3.				
4.				
<u>0</u> = Total Cover				

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- \_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?**      Yes \_\_\_ No X

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

FAC Neutral Test

0 FACW + 0 OBL = 0 wetland

1 FACU + 0 UPL = 1 upland





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

10/26/2015  
DP-507-MB

Project/Site: Ball Hill Wind Project City/County: Chautauque County Sampling Date: DP-507-MB  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-507  
 Investigator(s): M. Boberg B. Vitis Section, Township, Range: Villanova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 3-5  
 Subregion (LRR or MLRA): LRR-R Lat: 79.131553 Long: 42.405829 Datum: NAD83  
 Soil Map Unit Name: Erie Silt Loam NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?      Yes <u>X</u> No <u>    </u> Hydric Soil Present?                      Yes <u>X</u> No <u>    </u> Wetland Hydrology Present?            Yes <u>X</u> No <u>    </u>	Is the Sampled Area within a Wetland?      Yes <u>X</u> No <u>    </u> If yes, optional Wetland Site ID: <u>WL-A503</u>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present?      Yes <u>X</u> No <u>    </u> Depth (inches): <u>0-1"</u> Water Table Present?        Yes <u>    </u> No <u>X</u> Depth (inches): Saturation Present?         Yes <u>    </u> No <u>X</u> Depth (inches): (Includes capillary fringe)	Wetland Hydrology Present?      Yes <u>X</u> No <u>    </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks: <u>- surface water in tractor ruts</u>	



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-507

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>				
1. <u>Not Applicable</u>				
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>5'</u>)</b>				
1. <u>Carex flava</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Polygonum arifolium</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Ranunculus bulbosus</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
4. <u>Rumex crispus</u>	<u>15</u>	<u>N</u>	<u>FAC</u>	
5. <u>Solidago canadensis</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
6. <u>Euthamia graminifolia</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
7. <u>Symphoricarum vovae-angliae</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
8. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
9.				
10.				
11.				
12.				
<u>100</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>				
1. <u>Not Applicable</u>				
2.				
3.				
4.				
<u>0</u> = Total Cover				

**Hydrophytic Vegetation Indicators:**

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0<sup>1</sup>
- 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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

FAC Neutral Test

1 FACW + 2 OBL = 3 wetland ✓

0 FACU + 0 UPL = 0 upland





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 10/26/2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-508  
 Investigator(s): M. Beberg B. Viits Section, Township, Range: Villanova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 3-5  
 Subregion (LRR or MLRA): LRR-R Lat: 79.131505 Long: 42.405828 Datum: NAD 83  
 Soil Map Unit Name: Erie Silt Loam NWM classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (Includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-508

	Absolute % Cover	Dominant Species?	Indicator Status															
<b>Tree Stratum</b> (Plot size: <u>30'</u> )																		
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
<u>0</u> = Total Cover																		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )																		
1. <u>Not Applicable</u>				<b>Prevalence Index worksheet:</b> <table style="width:100%; border:none;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: right;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>80</u></td> <td>x 4 = <u>320</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>90</u> (A)</td> <td><u>350</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.88</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>80</u>	x 4 = <u>320</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>90</u> (A)	<u>350</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>80</u>	x 4 = <u>320</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>90</u> (A)	<u>350</u> (B)																	
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
<u>0</u> = Total Cover																		
<b>Herb Stratum</b> (Plot size: <u>5'</u> )																		
1. <u>Tritium repens</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)														
2. <u>Schedonorus arundinaceus</u>	<u>35</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Daucus L.</u>	<u>10</u>	<u>N</u>	<u>NI</u>															
4. <u>Euthamia graminifolia</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
5. <u>Rumex crispus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
6. <u>Pantago lanceolata</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
7.																		
8.																		
9.																		
10.																		
11.																		
12.																		
<u>100</u> = Total Cover																		
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )																		
1. <u>Not Applicable</u>				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
2.																		
3.																		
4.																		
<u>0</u> = Total Cover																		
<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.)  <u>FAC Neutral Test</u> <u>0</u> FACW + <u>0</u> OBL = <u>0</u> wetland <u>2</u> FACU + <u>0</u> UPL = <u>2</u> upland																		





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 10-27-2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-509  
 Investigator(s): M. BOBERG B. VITTS Section, Township, Range: VILLENOVA  
 Landform (hillslope, terrace, etc.): Drainageway/impoundment Local relief (concave, convex, none): CONCAVE Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.12189 Long: 42.406241 Datum: NAD 83  
 Soil Map Unit Name: Chautauqua Silt Loam NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>WL-A504</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <table style="width:100%;"> <tr> <td><input checked="" type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p><u>Secondary Indicators (minimum of two required)</u></p> <table style="width:100%;"> <tr> <td><input type="checkbox"/> Surface Soil Cracks (B6)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Drainage Patterns (B10)</td> </tr> <tr> <td><input type="checkbox"/> Moss Trim Lines (B16)</td> </tr> <tr> <td><input type="checkbox"/> Dry-Season Water Table (C2)</td> </tr> <tr> <td><input type="checkbox"/> Crayfish Burrows (C8)</td> </tr> <tr> <td><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td> </tr> <tr> <td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td> </tr> <tr> <td><input type="checkbox"/> Geomorphic Position (D2)</td> </tr> <tr> <td><input type="checkbox"/> Shallow Aquitard (D3)</td> </tr> <tr> <td><input type="checkbox"/> Microtopographic Relief (D4)</td> </tr> <tr> <td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td> </tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
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<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
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<input type="checkbox"/> Shallow Aquitard (D3)																																
<input type="checkbox"/> Microtopographic Relief (D4)																																
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)																																
<p><b>Field Observations:</b></p> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>0-4"</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>0-24" 0"</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0-34" 0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____																															
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks:																																



**VEGETATION** - Use scientific names of plants.

Sampling Point: DP-509

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>				
1. <u>Cornus racemosa</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2.				
3.				
4.				
5.				
6.				
7.				
<u>5</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>5'</u>)</b>				
1. <u>Scirpus cyperinus</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0' <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Typha angustifolia</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Juncus effusus</u>	<u>15</u>	<u>N</u>	<u>OBL</u>	
4. <u>Mentha spicata</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
5. <u>Epilobium ciliatum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
6.				
7.				
8.				
9.				
10.				
11.				
12.				
<u>100</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>				
1. <u>Not Applicable</u>				
2.				
3.				
4.				
<u>0</u> = Total Cover				
<b>Definitions of Vegetation Strata:</b> <b>Tree</b> - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> - All woody vines greater than 3.28 ft in height.				
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Remarks: (Include photo numbers here or on a separate sheet.) <u>FAC NEUTRAL TEST</u> <u>2 FACW + 2 OBL = 2 wetland ✓</u> <u>0 FACU + 0 UPL = 0 upland.</u>				





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 10-27-2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP- 510  
 Investigator(s): M Boberg B Viits Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Flat Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.121347 Long: 42.406253 Datum: NAD 83  
 Soil Map Unit Name: Chautauqua Silt Loam NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>    </u> No <u>X</u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	Is the Sampled Area within a Wetland? Yes <u>    </u> No <u>X</u> If yes, optional Wetland Site ID: <u>    </u>
Remarks: (Explain alternative procedures here or in a separate report.)  <div style="font-size: 1.2em; font-family: cursive;">upland data point</div>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <u>    </u> No <u>X</u> Depth (inches): Water Table Present? Yes <u>X</u> No <u>X</u> Depth (inches): <u>10"</u> Saturation Present? Yes <u>X</u> No <u>X</u> Depth (inches): <u>10"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: DP-510

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			

0 = Total Cover

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Cornus racemosa</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
2.			
3.			
4.			
5.			
6.			
7.			

10 = Total Cover

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Solidago canadensis</u>	<u>80</u>	<u>Y</u>	<u>FACU</u>
2. <u>Euthamia graminifolia</u>	<u>10</u>	<u>N</u>	<u>FAC</u>
3. <u>Carex flava</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
4. <u>Symphotichum vovae-angliae</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			

100 = Total Cover

Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			

0 = Total Cover

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

FAC NEUTRAL TEST

0 FACW + 0 OBL = 0 wetland

1 FACU + 0 UPL = 1 upland

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>5</u>	x 2 = <u>10</u>
FAC species <u>20</u>	x 3 = <u>60</u>
FACU species <u>80</u>	x 4 = <u>320</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>110</u> (A)	<u>395</u> (B)

Prevalence Index = B/A = 3.59

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
  - Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

**SOIL**

Sampling Point: DP-310

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-3"	2.5Y 8/1	98	7.5Y R 3/2	5	C	m	SL	
3-6"	2.5Y 8/1	85	2.5Y 4/2	10	C	m/PL	SL	
<del>6-20"</del>			7.5Y R 3/2	5	C	m/PL	SL	
6-20"	2.5Y 10/3	90	2.5Y 5/6	10	C	m/PL	SC	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>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

Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 10/27/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-511  
 Investigator(s): B. Viets, M. Bobberg Section, Township, Range: Villanova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.119617 Long: 42.405393 Datum: NAD 83  
 Soil Map Unit Name: Chautauqua Silty Loam NWM classification: Upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation Yes, Soil Yes, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u>    </u> If yes, optional Wetland Site ID: <u>WL-A505</u>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input checked="" type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input checked="" type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0'-6"</u> Water Table Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0"</u> Saturation Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:   	



VEGETATION – Use scientific names of plants.

Sampling Point: DP-511

Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NOT APPLICABLE</u>			
2.			
3.			
4.			
5.			
6.			
7.			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Sapling/Shrub Stratum (Plot size: <u>15</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NOT APPLICABLE</u>			
2.			
3.			
4.			
5.			
6.			
7.			

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by:

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

Herb Stratum (Plot size: <u>5</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Eleocharis acicularis</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>
2. <u>Potamogeton ephedrus</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>
3. <u>Zea mays</u>	<u>5</u>	<u>N</u>	<u>NI</u>
4. <u>Trifolium repens</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
5. <u>Polygonum persicaria</u>	<u>5</u>	<u>N</u>	<u>NI</u>
6. <u>Juncus tenuis</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
7.			
8.			
9.			
10.			
11.			
12.			

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Woody Vine Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NOT APPLICABLE</u>			
2.			
3.			
4.			

**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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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

0 FACW + 2 OBL = 2 wetland

0 FACU + 0 UPL = 0 upland





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 10/27/2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-512  
 Investigator(s): M. Boberg B. Virts Section, Township, Range: Villanova  
 Landform (hillslope, terrace, etc.): Drainage Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.120003 Long: 42.405635 Datum: NAD 83  
 Soil Map Unit Name: Chautauqua Silt Loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>WL-506</u>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0-3"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:   	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-512

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30'</u> )					
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
2.					
3.					
4.					
5.					
6.					
7.					
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )					
1. <u>Not Applicable</u>					
2.					
3.					
4.					
5.					
6.					
7.					
<u>0</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0' ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5'</u> )					
1. <u>Symphoricarpos vovae-anglica</u>	<u>70</u>	<u>Y</u>	<u>FACW</u>		
2. <u>Eupatorium perfoliatum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
3. <u>Euthamia graminifolia</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
<u>80</u> = Total Cover				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )					
1. <u>Not Applicable</u>					
2.					
3.					
4.					
<u>0</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____	
Remarks: (Include photo numbers here or on a separate sheet.)					





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 10-27-15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-519  
 Investigator(s): M. Boberg B. Vilts Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 1  
 Subregion (LRR or MLRA): LRR-R Lat: 79.111736 Long: 42.407242 Datum: NAD 83  
 Soil Map Unit Name: Fremont Silt Loam NWM classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>WL-A508</u>
Remarks: (Explain alternative procedures here or in a separate report.)  <p align="center" style="font-size: 1.2em; font-family: cursive;">A portion of this wetland is located in a plowed field where soils and vegetation are significantly disturbed.</p>	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>6"</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>10" 4"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



VEGETATION – Use scientific names of plants.

Sampling Point: DP-514

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Rhamnus cathartica</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
2. <u>Rosa multiflora</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
3. <u>Rubus allegheniensis</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
4.			
5.			
6.			
7.			

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Euthamia graminifolia</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>
2. <u>Polygonum arifolium</u>	<u>20</u>	<u>N</u>	<u>OBL</u>
3. <u>Solidago canadensis</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
4. <u>Rubus allegheniensis</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			

Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>20</u>	x 1 = <u>20</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>60</u>	x 3 = <u>180</u>
FACU species <u>35</u>	x 4 = <u>140</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>115</u> (A)	<u>340</u> (B)

Prevalence Index = B/A = 2.95

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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

FAC NEUTRAL TEST

0 FACW + 0 OBL = 0 wetland

1 FACU + 0 UPL = 1 upland





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 10-27-2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP- 515  
 Investigator(s): M. BOBERG B. VIRTIS Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): CONCAVE Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.11778 Long: 42.407228 Datum: NAD 83  
 Soil Map Unit Name: Fremont Silt Loam NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p align="center"><i>upland data point.</i></p>	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-515

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border:none;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: right;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>85</u></td> <td>x 4 = <u>340</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>90</u></td> <td>(A) <u>365</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.05</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>85</u>	x 4 = <u>340</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>90</u>	(A) <u>365</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>85</u>	x 4 = <u>340</u>																	
UPL species <u>5</u>	x 5 = <u>25</u>																	
Column Totals: <u>90</u>	(A) <u>365</u> (B)																	
<u>5</u> = Total Cover																		
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>																		
1. <u>Rubus alleghaniensis</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
<u>5</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5'</u>)</b>																		
1. <u>Spidago canadensis</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Rubus alleghaniensis</u>	<u>15</u>	<u>N</u>	<u>FACU</u>															
3. <u>Dactylis pusillus</u>	<u>10</u>	<u>N</u>	<u>NE</u>															
4. <u>Taraxacum officinale</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
5. <u>Dactylis carota</u>	<u>5</u>	<u>N</u>	<u>UPL</u>															
6. <u>Fragaria vesca</u>	<u>5</u>	<u>N</u>	<u>NE</u>															
7.																		
8.																		
9.																		
10.																		
11.																		
12.																		
<u>100</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>																		
1. <u>Not Applicable</u>																		
2.																		
3.																		
4.																		
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

**Hydrophytic Vegetation Indicators:**

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0<sup>1</sup>
- 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?**      Yes       No

**SOIL**

Sampling Point: DP- 375

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-10"	10YR 3/2	100						
10-18"	10YR 3/2	95	10YR 5/8	5	C	M		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>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 X

Remarks:

- Augar refused at 18"



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 10/28/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-521  
 Investigator(s): M. Coberg G. Virts Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.110665 Long: 42.396908 Datum: NAD 83  
 Soil Map Unit Name: Schuyler Silty Loam NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u>    </u> If yes, optional Wetland Site ID: <u>WL-AS11</u>
Remarks: (Explain alternative procedures here or in a separate report.) <p align="center" style="font-size: 1.2em;">This is a linear stormwater structure that has wetland characteristics adjacent to Ball Hill Road.</p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>		
Surface Water Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0-10"</u> Water Table Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0"</u> Saturation Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-521

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <del>Epilobium coloratum</del>	<del>10</del>	<del>Y</del>	<del>OBL</del>
2. <u>Salix petiolaris</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>
3.			
4.			
5.			
6.			
7.			

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Typha angustifolia</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>
2. <u>Symphoricarpos pilosum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
3. <u>Euthamia graminifolia</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			

Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by:

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 10/28/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-523  
 Investigator(s): M. BERBERG B. VIRTIS Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): CONCAVE Slope (%): <0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.140581 Long: 42.395722 Datum: NAD 83  
 Soil Map Unit Name: Chautauqua silt loam NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u>    </u> If yes, optional Wetland Site ID: <u>WL-A512</u>
Remarks: (Explain alternative procedures here or in a separate report.) <p align="center" style="font-size: 1.2em;">- old filled in pond feature.</p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply)	<b>Secondary Indicators (minimum of two required)</b>
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0-3"</u> Water Table Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0"</u> Saturation Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-523

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )				
1. <u>Not Applicable</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				
1. <u>Juncus effusus</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Scirpus cyperinas</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Euthamia graminifolia</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4. <u>Ranunculus bulbosus</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
5. <u>Polygonum persicaria</u>	<u>5</u>	<u>N</u>	<u>NI</u>	
6.				
7.				
8.				
9.				
10.				
11.				
12.				
<u>80</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )				
1. <u>Not Applicable</u>				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2.				
3.				
4.				
<u>0</u> = Total Cover				
<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____				
Remarks: (Include photo numbers here or on a separate sheet.)				





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 10/29/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP- 524  
 Investigator(s): B. V. R. S., M. Soberg Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 2%  
 Subregion (LRR or MLRA): LRR-R Lat: 79.140616 Long: 42.398956 Datum: NAD 83  
 Soil Map Unit Name: Chautauqua silt loam NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>12"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-524

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			

0 = Total Cover

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			

0 = Total Cover

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Schedonorus arundinaceus</u>	<u>45</u>	<u>Y</u>	<u>FACU</u>
2. <u>Spiraea canadensis</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>
3. <u>Trifolium repens</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
4. <u>Daucus pusillus</u>	<u>10</u>	<u>N</u>	<u>NE</u>
5. <u>Cissium vulgare</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
6. <u>Pantago lanceolata</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
7. <u>Taraxacum officinale</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
8.			
9.			
10.			
11.			
12.			

100 = Total Cover

Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not applicable</u>			
2.			
3.			
4.			

0 = Total Cover

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>5</u>	x 3 = <u>15</u>
FACU species <u>85</u>	x 4 = <u>340</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>90</u> (A)	<u>355</u> (B)

Prevalence Index = B/A = 3.94

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 10/29/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP- 528  
 Investigator(s): B. Veis, M. Baberg Section, Township, Range: VILLEROYA  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 8  
 Subregion (LRR or MLRA): LRR-R Lat: 79.141814 Long: 42.392699 Datum: NAD 83  
 Soil Map Unit Name: Chautauqua silt loam NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation no, Soil no, or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>WL-ASIS</u>
Remarks: (Explain alternative procedures here or in a separate report.)  <div style="border: 1px solid black; height: 100px; width: 100%;"></div>	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input checked="" type="checkbox"/> Surface Water (A1)                      ___ Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2)                    ___ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3)                            ___ Marl Deposits (B15) ___ Water Marks (B1)                      ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)                ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)                      ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)                 ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)                      ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)    ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	___ Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>0-1"</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>10"</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  <div style="border: 1px solid black; height: 100px; width: 100%;"></div>	
Remarks:  <div style="border: 1px solid black; height: 100px; width: 100%;"></div>	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-528

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: <u>15</u>)</b>				
1. <u>Not Applicable</u>				
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>5'</u>)</b>				
1. <u>Juncus effusus</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0' <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Carex flava</u>	<u>15</u>	<u>N</u>	<u>DBL</u>	
3. <u>Euthamia graminifolia</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4. <u>Scirpus cyperinus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
5. <u>Mentha spicata</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
6. <u>Eupatorium perfoliatum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
7. <u>Ranunculus bulbosus</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
8.				
9.				
10.				
11.				
12.				
<u>100</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>				
1. <u>Not Applicable</u>				
2.				
3.				
4.				
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 10-28-15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-529  
 Investigator(s): M. Boberg B. Virts Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 8%  
 Subregion (LRR or MLRA): LRR-R Lat: 79.141439 Long: 42.392899 Datum: NAD 83  
 Soil Map Unit Name: Chautauqua silt loam NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)    	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP- 829

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Solidago canadensis</u>	<u>55</u>	<u>Y</u>	<u>FACU</u>
2. <u>Euthamia graminifolia</u>	<u>30</u>	<u>Y</u>	<u>FITC</u>
3. <u>Rubus alleghaniensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
4. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
5. <u>Clinopodium vulgare</u>	<u>5</u>	<u>N</u>	<u>NI</u>
6.			
7.			
8.			
9.			
10.			
11.			
12.			

Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>5</u>	x 1 = <u>5</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>30</u>	x 3 = <u>90</u>
FACU species <u>10</u>	x 4 = <u>40</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>95</u> (A)	<u>335</u> (B)

Prevalence Index = B/A = 3.52

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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







**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-533

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Salix nigra</u>	<u>70</u>	<u>Y</u>	<u>OBL</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>70</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>95</u> x 1 = <u>95</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>45</u> x 4 = <u>180</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>155</u> (A) <u>315</u> (B)  Prevalence Index = B/A = <u>2.03</u>
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>				
1. <u>Salix nigra</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>20</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>5'</u>)</b>				
1. <u>Euthamia graminifolia</u>	<u>45</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Eupatorium perfoliatum</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
3. <u>Epilobium ciliatum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4. <u>Impatiens capensis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
5. <u>Solidago parviflora</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>70</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>				
1. <u>Not Applicable</u>	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.				
<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____				
Remarks: (Include photo numbers here or on a separate sheet.)				





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 10/30/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-534  
 Investigator(s): B. V. Vets, M. Bobing Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 3%  
 Subregion (LRR or MLRA): LRR-R Lat: 79.108576 Long: 42.395813 Datum: NAD 83  
 Soil Map Unit Name: DARTON SILT LOAM NWM classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation no, Soil no, or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP- 534

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			
<u>0</u> = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Rubus idaeus</u>	<u>85</u>	<u>Y</u>	<u>FACU</u>
2. <u>S</u>	<u>10</u>	<u>MB</u>	
3.	<u>5</u>		
4.			
5.			
6.			
7.			
<u>85</u> <del><u>100</u></del> = Total Cover			
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Rubus idaeus</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>
2. <u>Schedonorus arundinaceus</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>
3. <u>Solidago canadensis</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
<u>25</u> = Total Cover			
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Vitis rotundifolia</u>	<u>10</u>	<u>Y</u>	<u>NI</u>
2.			
3.			
4.			
<u>10</u> = Total Cover			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:		Multiply by:	
OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>0</u>	x 3 =	<u>0</u>
FACU species	<u>35</u>	x 4 =	<u>140</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column Totals:	<u>35</u> (A)		<u>140</u> (B)

Prevalence Index = B/A = 4.0

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 10/30/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-535  
 Investigator(s): M. BOBERG B. VIRTIS Section, Township, Range: VILLENOVA  
 Landform (hillslope, terrace, etc.): DRAINAWAY Local relief (concave, convex, none): CONCAVE Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.104758 Long: 42.396929 Datum: NAD 83  
 Soil Map Unit Name: Fremont silt loam NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>WL-A518</u>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input checked="" type="checkbox"/> Surface Water (A1) _____ Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	_____ Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0-5"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:   	

**VEGETATION** - Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NOT Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NOT Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Glyceria acutiflora</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>
2. <u>Juncus effusus</u>	<u>15</u>	<u>N</u>	<u>OBL</u>
3. <u>Iris pseudocorus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>
4. <u>Carex intumescens</u>	<u>10</u>	<u>N</u>	<u>FACW</u>
5. <u>Scirpus cyperinas</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
6. <u>Euthamia graminifolia</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
7. <u>Carex flava</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
8.			
9.			
10.			
11.			
12.			

Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NOT Applicable</u>			
2.			
3.			
4.			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by:

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

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

**Hydrophytic Vegetation Present?** Yes  No

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





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 10/30/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP- 536  
 Investigator(s): B. Virts, M. Beberg Section, Township, Range: Villanova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 2%  
 Subregion (LRR or MLRA): LRR-R Lat: 79.104611 Long: 42.396999 Datum: NAD 83  
 Soil Map Unit Name: Fremont silt loam NWI classification: UPLAND

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation no, Soil no, or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

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

Remarks:



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-536

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>NOT APPLICABLE</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>32</u> x 3 = <u>96</u> FACU species <u>59</u> x 4 = <u>236</u> UPL species <u>5</u> x 5 = <u>25</u> Column Totals: <u>90</u> (A) <u>357</u> (B)  Prevalence Index = B/A = <u>3.71</u>
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/2/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP- 537  
 Investigator(s): B. Viers, M. Bohery Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.101484 Long: 42.395885 Datum: NAD 83  
 Soil Map Unit Name: Fremont Silt Loam NWM classification: UPLAND

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation no, Soil no, or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland A519</u>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:   	

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP- 537

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				
1. <u>not applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)  <b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____  <b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.  <b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>0</u> = Total Cover				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )				
1. <u>not applicable</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>0</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				
1. <u>Agrostis stolonifera</u>	<u>65</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Juncus effusus</u>	<u>15</u>	<u>N</u>	<u>OBL</u>	
3. <u>Euthamia graminifolia</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4. <u>Carex flava</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
5. <u>Lycopus americanus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>100</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )				
1. <u>not applicable</u>				
2. _____				
3. _____				
4. _____				
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/2/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-538  
 Investigator(s): B. Viets, M. Boberg Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): H. slope Local relief (concave, convex, none): convex Slope (%): 2%  
 Subregion (LRR or MLRA): LRR-R Lat: 79.101267 Long: 42.39602 Datum: NAD 83  
 Soil Map Unit Name: Fremont silt loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation no, Soil no, or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)  _____  _____	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (Includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  _____  _____	
Remarks:  _____  _____	



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP- 538

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>not applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				
1. <u>not applicable</u>				
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. <u>Agrostis stolonifera</u>	<u>70</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>DBH</u>	
3. <u>Carex flava</u>	<u>5</u>	<u>N</u>	<u>DBH</u>	
4. <u>Euthyrium Euthyria gracilis</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
5. <u>Trifolium repens</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
6. <u>Pantago lanceolata</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
7. <u>Solidago canadensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
8.				
9.				
10.				
11.				
12.				
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u> )				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
1. <u>not applicable</u>				
2.				
3.				
4.				
<u>X</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/03/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-SAS  
 Investigator(s): M. ROBERG, S. DUCKENMEYER Section, Township, Range: VILLENOVA  
 Landform (hillslope, terrace, etc.): HILLSLOPE Local relief (concave, convex, none): CONCAVE Slope (%): 2  
 Subregion (LRR or MLRA): LRR-R Lat: 79.144888 Long: 42.387294 Datum: NAD 83  
 Soil Map Unit Name: BUSTI SILT LOAM NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>WIL-A524</u>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: DP-545

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
				<u>0</u> = Total Cover
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
				<u>0</u> = Total Cover
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Euthamia graminifolia</u>	<u>45</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Oenoclea sensibilis</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Agrostis stolonifera</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4. <u>Scirpus cyperinas</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
5. <u>Carex flava</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
6. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
7. <u>Epilobium ciliatum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
				<u>100</u> = Total Cover
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				
2. _____				
3. _____				
4. _____				
				<u>0</u> = Total Cover

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)  
 Total Number of Dominant Species Across All Strata: 2 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by:  
 OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_  
 FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_  
 FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_  
 FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_  
 UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_  
 Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)  
 Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is  $\leq 3.0$ <sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.  
**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  
**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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

**SOIL**

Sampling Point: DP- SAS

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-2	2.5Y3/1	95	10YR5/8	5	C	M	SIL	
2-8	2.5Y3/1	85	10YR5/8	5	C	M	SIL	
			2.5Y4/1	5	C	M	SIL	
			2.5YR3/4	5	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>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

Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/03/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-546  
 Investigator(s): M. Boberg, S. Buckenmeyer Section, Township, Range: VILLEROIA  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 1-3  
 Subregion (LRR or MLRA): LRR-R Lat: 79.145093 Long: 42.387325 Datum: NAD 83  
 Soil Map Unit Name: Busti silt loam NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (Includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP- 5A4

	Absolute % Cover	Dominant Species?	Indicator Status																	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )																				
1. <u>TSUGA canadensis</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20</u> (A/B)																
2. <u>Acer saccharum</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>																	
3. <u>Fagus grandifolia</u>	<u>10</u>	<u>N</u>	<u>FACU</u>																	
4. <u>Carpinus carolinia</u>	<u>10</u>	<u>N</u>	<u>FAC</u>																	
5. <u>Prunus serotina</u>	<u>5</u>	<u>N</u>	<u>FACU</u>																	
6. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>100</u></td> <td>x 4 = <u>400</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>115</u></td> <td>(A) <u>445</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>3.86</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>100</u>	x 4 = <u>400</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>115</u>	(A) <u>445</u> (B)	Prevalence Index = B/A = <u>3.86</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>15</u>	x 3 = <u>45</u>																			
FACU species <u>100</u>	x 4 = <u>400</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>115</u>	(A) <u>445</u> (B)																			
Prevalence Index = B/A = <u>3.86</u>																				
7. _____	_____	_____	_____																	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )																				
1. <u>Fagus grandifolia</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)																
2. <u>Acer saccharum</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<b>Herb Stratum</b> (Plot size: <u>5'</u> )																				
1. <u>Thelypteris noveboracensis</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )																				
1. <u>NOT APPLICABLE</u>	_____	_____	_____	<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>																				
Remarks: (Include photo numbers here or on a separate sheet.)    																				





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/03/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-548  
 Investigator(s): M. Boberg S. Buckenmeyer Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Draw / floodplain Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.145543 Long: 42.388479 Datum: NAD 83  
 Soil Map Unit Name: Chautauqua silt loam NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>WL-1525</u>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0" - 1"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP- 548

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer saccharum</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>
2. <u>Fagus grandifolia</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
3. <u>Tsuga canadensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
4.			
5.			
6.			
7.			

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Ranunculus bulbosus</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>
2. <u>Carex flava</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>
3. <u>Lycopus americanus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
4. <u>Onoclea sensibilis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>
5. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
6.			
7.			
8.			
9.			
10.			
11.			
12.			

Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
  - Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/04/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-549  
 Investigator(s): M. Boberg S. Buckenmeyer Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 0-1  
 Subregion (LRR or MLRA): LRR-R Lat: 79.145482 Long: 42.390279 Datum: NAD 83  
 Soil Map Unit Name: Chautauqua silt loam NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> <sup>X</sup> <sub>mb</sub> No <input checked="" type="checkbox"/> <sub>mb</sub> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>WL-A826</u>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2)      _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3)      _____ Marl Deposits (B15) _____ Water Marks (B1)      _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2)      _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3)      _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4)      _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5)      _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7)      _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0-2"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-549

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Tsuga canadensis</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>8</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>37.5</u> (A/B)														
2. <u>Acer saccharum</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Betula alleghaniensis</u>	<u>10</u>	<u>N</u>	<u>FAC</u>															
4. <u>Fraxinus americana</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>80</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>5</u></td> <td>x 1 = <u>5</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>85</u></td> <td>x 4 = <u>340</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>115</u> (A)</td> <td><u>410</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>3.56</u>	Total % Cover of:	Multiply by:	OBL species <u>5</u>	x 1 = <u>5</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>85</u>	x 4 = <u>340</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>115</u> (A)	<u>410</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>5</u>	x 1 = <u>5</u>																	
FACW species <u>10</u>	x 2 = <u>20</u>																	
FAC species <u>15</u>	x 3 = <u>45</u>																	
FACU species <u>85</u>	x 4 = <u>340</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>115</u> (A)	<u>410</u> (B)																	
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>																		
1. <u>Tsuga canadensis</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Acer saccharum</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Fraxinus americana</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>15</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5'</u>)</b>																		
1. <u>Onoclea sensibilis</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>															
2. <u>Thelypteris noveboracensis</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>															
3. <u>Carex flava</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>20</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>																		
1. <u>NOT APPLICABLE</u>	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		

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

Trees + Saplings have adapted to living in a wetland through morphological adaptations like fluted trunks + shallow roots  
 - Eastern Hemlock - Sugar maple, - White Ash

**Hydrophytic Vegetation Present?** Yes X No X MB





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11-3-15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-550  
 Investigator(s): M. Boberg, S. Buckenmeyer Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 0-1  
 Subregion (LRR or MLRA): LRR-R Lat: 79.145244 Long: 42.390496 Datum: NAD 83  
 Soil Map Unit Name: Chautauqua silt loam NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>WL-A527</u>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2)                      ___ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3)                                ___ Marl Deposits (B15) ___ Water Marks (B1)                         ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)                   ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)                         ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)                     ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)                         ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)   ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> ___ Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No ___ Depth (inches): <u>0-1"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No ___ Depth (inches): <u>0"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No ___ Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No ___
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: DP-550

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Tsuga canadensis</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>42</u> (AVB)
2. <u>Betula alleghaniensis</u>	<u>15</u>	<u>N</u>	<u>FAC</u>	
3. <u>Acer rubrum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>80</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>55</u> x 3 = <u>165</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>140</u> (A) <u>495</u> (B)  Prevalence Index = B/A = <u>3.53</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Betula alleghaniensis</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Tsuga canadensis</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Acer rubrum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
4. <u>Fraxinus americana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>50</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Thelypteris noveboracensis</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input checked="" type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. <u>Oxyclea sensibilis</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>10</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>X MB</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				

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

TREES + SAPLINGS HAVE ADAPTED TO LIVING IN A WETLAND BY DEVELOPING MORPHOLOGICAL ADAPTATIONS LIKE FLUTED TRUNKS

- Eastern Hemlock
- White Ash





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11-03-15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-551  
 Investigator(s): M. Boberg, S. Buckenmeyer Section, Township, Range: Villersville  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 0-1  
 Subregion (LRR or MLRA): LRR-R Lat: 79.145285 Long: 42.390438 Datum: NAD 83  
 Soil Map Unit Name: Chautauqua silt loam NWI classification: Upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply)	<b>Secondary Indicators (minimum of two required)</b>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (Includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP- 551

	Absolute % Cover	Dominant Species?	Indicator Status															
<b>Tree Stratum</b> (Plot size: <u>30'</u> )																		
1. <u>Tsuga canadensis</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20</u> (A/B)														
2. <u>Fraxinus americana</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Acer saccharinum</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>90</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border:none;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: right;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>110</u></td> <td>x 4 = <u>440</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>130</u> (A)</td> <td><u>500</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.84</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>110</u>	x 4 = <u>440</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>130</u> (A)	<u>500</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>20</u>	x 3 = <u>60</u>																	
FACU species <u>110</u>	x 4 = <u>440</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>130</u> (A)	<u>500</u> (B)																	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )																		
1. <u>Fagus grandifolia</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>20</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)														
<b>Herb Stratum</b> (Plot size: <u>5'</u> )																		
1. <u>Dryopteris</u>	<u>30</u>	<u>Y</u>	<u>NI</u>															
2. <u>Thelypteris noveboracensis</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>50</u> = Total Cover				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )																		
1. <u>Not Applicable</u>	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>														
Remarks: (Include photo numbers here or on a separate sheet.)																		

**SOIL**

Sampling Point: DP-551

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-7	10YR 3/3	100					SIL	
8-20	10YR 4/2	100					SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>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 X

Remarks:



## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/09/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-355  
 Investigator(s): M BOBERG B VIRTIS Section, Township, Range: VILLEROVA  
 Landform (hillslope, terrace, etc.): HILLSLOPE Local relief (concave, convex, none): CONCAVE Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.157559 Long: 42.394865 Datum: NAD 83  
 Soil Map Unit Name: ERIE SILT LOAM NWI classification: UPLAND  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation YES, Soil YES, or Hydrology YES significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>WL A532</u>
Remarks: (Explain alternative procedures here or in a separate report.)  <div style="font-size: 1.2em; font-family: cursive;">ACTIVE CORN FIELD</div>	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0-1"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-555

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				
1. <u>NOT APPLICABLE</u>				
2.				
3.				
4.				
5.				
6.				
7.				
0 = Total Cover				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )				
1. <u>NOT APPLICABLE</u>				
2.				
3.				
4.				
5.				
6.				
7.				
0 = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>3'</u> )				
1. <u>Agrostis stolonifera</u>	<u>32</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Eleocharis acicularis</u>	<u>6</u>	<u>N</u>	<u>OBL</u>	
3. <u>Bidens aristosa</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4. <u>Zea mays</u>	<u>2</u>	<u>N</u>	<u>NI</u>	
5. <u>Galium boreale</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
6. <u>Pantago lanceolata</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
7.				
8.				
9.				
10.				
11.				
12.				
50 = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )				
1. <u>NOT APPLICABLE</u>				
2.				
3.				
4.				
0 = Total Cover				

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____	(A) _____ (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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

**SOIL**

Sampling Point: DP- 555

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-2	2.5Y 4/2	95	10YR 5/8	5	C	M	SIL	
2-10	2.5Y 3/2	90	10YR 5/8	8	C	M	SIL	
			2.5Y 5/2	2	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- |  |   |  |
|--|---|--|
| <p><b>Hydric Soil Indicators:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Histosol (A1)</li> <li><input type="checkbox"/> Histic Epipedon (A2)</li> <li><input type="checkbox"/> Black Histic (A3)</li> <li><input type="checkbox"/> Hydrogen Sulfide (A4)</li> <li><input type="checkbox"/> Stratified Layers (A5)</li> <li><input type="checkbox"/> Depleted Below Dark Surface (A11)</li> <li><input type="checkbox"/> Thick Dark Surface (A12)</li> <li><input type="checkbox"/> Sandy Mucky Mineral (S1)</li> <li><input type="checkbox"/> Sandy Gleyed Matrix (S4)</li> <li><input type="checkbox"/> Sandy Redox (S5)</li> <li><input type="checkbox"/> Stripped Matrix (S6)</li> <li><input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)</li> <li><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)</li> <li><input type="checkbox"/> Loamy Gleyed Matrix (F2)</li> <li><input type="checkbox"/> Depleted Matrix (F3)</li> <li><input checked="" type="checkbox"/> Redox Dark Surface (F6)</li> <li><input type="checkbox"/> Depleted Dark Surface (F7)</li> <li><input type="checkbox"/> Redox Depressions (F8)</li> </ul> | <p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)</li> <li><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</li> <li><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)</li> <li><input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)</li> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)</li> <li><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)</li> <li><input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)</li> <li><input type="checkbox"/> Red Parent Material (F21)</li> <li><input type="checkbox"/> Very Shallow Dark Surface (TF12)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul> |
|--|---|--|

<sup>3</sup>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

Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/04/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-554  
 Investigator(s): M. BOBERG- B. VIRTS Section, Township, Range: Villeroia  
 Landform (hillslope, terrace, etc.): HILLSLOPE Local relief (concave, convex, none): FLAT Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.157363 Long: 42.394933 Datum: NAD 83  
 Soil Map Unit Name: Langford silt loam NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation ~~NO~~ YES, Soil YES, or Hydrology YES significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)  <p align="center" style="font-size: 1.2em; font-family: cursive;">ACTIVE CORN FIELD</p>	

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> ___ Surface Water (A1)                      ___ Water-Stained Leaves (B9) ___ High Water Table (A2)                ___ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3)                              ___ Marl Deposits (B15) ___ Water Marks (B1)                        ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)                ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)                      ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)                 ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)                        ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)    ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<p><u>Secondary Indicators (minimum of two required)</u></p> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
<p><b>Field Observations:</b></p> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>0.13v</u>	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-356

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30'</u> )					
1. <u>NOT Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)	
2.					
3.					
4.					
5.					
6.					
7.					
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of:                      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>20</u> (A) <u>80</u> (B)  Prevalence Index = B/A = <u>4</u>	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )					
1. <u>NOT Applicable</u>					
2.					
3.					
4.					
5.					
6.					
7.					
<u>0</u> = Total Cover					
<b>Herb Stratum</b> (Plot size: <u>5'</u> )					
1. <u>Trifolium repens</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>zea mays</u>	<u>10</u>	<u>Y</u>	<u>NI</u>		
3. <u>Pantago lanceolata</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
<u>30</u> = Total Cover					
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )					
1. <u>NOT Applicable</u>				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
2.					
3.					
4.					
<u>0</u> = Total Cover					
<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: DP-556

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

BV

Depth (Inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0"-16"	2.5y4/2	42 <sup>510</sup>	10y2.5/8	10	C	m	SIL	
16"-20"	10y2.5/8							
16"-20"	2.5y4/2	80	2.5y4/2	10	D	m	SIL	
			10y2.5/8	10	C	m		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>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

**Remarks:**

Soils are within a cropped Ag. Field



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/09/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-557  
 Investigator(s): M. Bohrer B. Virts Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): CONCAVE Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.148389 Long: 42.393333 Datum: NAD 83  
 Soil Map Unit Name: ERIC SILT LOAM NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>WL-A531</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<p><u>Secondary Indicators (minimum of two required)</u></p> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<p><b>Field Observations:</b></p> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0-1"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>8"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>8"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-557

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>				
1. <u>Not Applicable</u>				
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>5'</u>)</b>				
1. <u>Euthamia graminifolia</u>	<u>55</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Scirpus cyperinas</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
3. <u>Carex flava</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
4. <u>Anoclea sensibilis</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
5. <u>Eupatorium perfoliatum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
6. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
7. <u>Equisetum arvense</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
8.				
9.				
10.				
11.				
12.				
<u>100</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>				
1. <u>Not Applicable</u>				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2.				
3.				
4.				
<u>0</u> = Total Cover				
<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

**SOIL**

Sampling Point: DP-557

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
D-4"	2.5Y 2.5/1	90	2.5Y 4/1	5	C	M	SIL	
			10YR 3/8	5	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- |   |  |   |
|---|--|---|
| <p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)</p> | <p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> | <p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)</p> <p><input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)</p> <p><input type="checkbox"/> Red Parent Material (F21)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> |
|---|--|---|

<sup>3</sup>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 \_\_\_\_\_

Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/04/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-558  
 Investigator(s): M. Bierberg B. Virts Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): HILLSLOPE Local relief (concave, convex, none): CONVEX Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.148478 Long: 42.393237 Datum: NAD 83  
 Soil Map Unit Name: Chautauqua silt loam NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP- 558

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer saccharum</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>28</u> (A/B)														
2. <u>Fraxinus americana</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>															
4. <u>Prunus serotina</u>	<u>10</u>	<u>N</u>	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>80</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border:none;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>30</u></td> <td>x 3 = <u>90</u></td> </tr> <tr> <td>FACU species <u>105</u></td> <td>x 4 = <u>420</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>135</u> (A)</td> <td><u>510</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.77</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>30</u>	x 3 = <u>90</u>	FACU species <u>105</u>	x 4 = <u>420</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>135</u> (A)	<u>510</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>30</u>	x 3 = <u>90</u>																	
FACU species <u>105</u>	x 4 = <u>420</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>135</u> (A)	<u>510</u> (B)																	
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>																		
1. <u>Acer saccharum</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Prunus serotina</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Thuja canadensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
4. <u>Betula alleghaniensis</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
5. <del><u>Fagus americana</u></del>	<u>5</u>	<u>mb</u>	_____															
6. <u>Fagus grandifolia</u>	<u>5</u>	<u>N</u>	<u>FACU</u>															
7. _____	_____	_____	_____															
<u>35</u> = Total Cover																		
<b>Herb Stratum (Plot size: <u>5'</u>)</b>																		
1. <u>Rubus idaeus</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Dryopteris intermedia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>20</u> = Total Cover																		
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>																		
1. <u>not applicable</u>	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)    				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>														





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/09/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-339  
 Investigator(s): M. BOBERG B. VIRTIS Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): HILLSLOPE Local relief (concave, convex, none): CONCAVE Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.149533 Long: 42.395668 Datum: NAD 83  
 Soil Map Unit Name: Ashville silt loam NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>WLAS3A</u>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0-1"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP- 559

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				
1. <u>NOT Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )				
1. <u>NOT Applicable</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				
1. <u>Euthamia graminifolia</u>	<u>70</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Carex flava</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
3. <u>Salix petiolaris</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
5. <u>Scirpus cyperinas</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
6.				
7.				
8.				
9.				
10.				
11.				
12.				
<u>100</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )				
1. <u>NOT Applicable</u>				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2.				
3.				
4.				
<u>0</u> = Total Cover				
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Remarks: (Include photo numbers here or on a separate sheet.)				





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/04/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-560  
 Investigator(s): M. Boberg B. Viits Section, Township, Range: Villenora  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.149646 Long: 42.395661 Datum: NAD 83  
 Soil Map Unit Name: Ashville silt loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	



**VEGETATION – Use scientific names of plants.**

Sampling Point: DP- 540

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			

0 = Total Cover

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			

0 = Total Cover

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Schedonorus arundinaceus</u>	<u>85</u>	<u>Y</u>	<u>FACU</u>
2. <u>Trifolium repens</u>	<u>15</u>	<u>N</u>	<u>FACU</u>
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			

100 = Total Cover

Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			

0 = Total Cover

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>100</u>	x 4 = <u>400</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>400</u> (B)

Prevalence Index = B/A = 4

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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

**SOIL**

Sampling Point: DP-560

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-12"	2.5Y 3/2	95	7.5YR 3/4	5	C	m	SIL	
12-20"	2.5Y 5/4	80	2.5Y 4/2	15	D	m	SI	
			10YR 4/6	5	C	m	SI	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>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

Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/04/13  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-561  
 Investigator(s): M. BOBERG B. VIRTIS Section, Township, Range: VILLEROS  
 Landform (hillslope, terrace, etc.): HILLSLOPE Local relief (concave, convex, none): CONCAVE Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.149841 Long: 42.397062 Datum: NAD 83  
 Soil Map Unit Name: Busti silt loam NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>WL-A535</u>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0-1"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-501

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer saccharum</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>42</u> (A/B)
2. <u>Fraxinus americana</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Betula nigra</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>60</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>115</u> x 4 = <u>460</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>150</u> (A) <u>545</u> (B)  Prevalence Index = B/A = <u>3.63</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				
1. <u>Fraxinus americana</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Acer saccharum</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Betula nigra</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>75</u> = Total Cover				
Herb Stratum (Plot size: <u>15'</u> )				
1. <u>Dryopteris intermedia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0' <input checked="" type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Equisetum arvense</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Euthamia graminifolia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>15</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u> )				
1. <u>NOT APPLICABLE</u>	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				
Remarks: (Include photo numbers here or on a separate sheet.)  <p style="text-align: center;">Trees are using adaptations in wetland.</p> <ul style="list-style-type: none"> <li>- Flutting</li> <li>- shallow rooting</li> <li>- utilizing microtopographic relief.</li> <li>- White Ash</li> <li>- sugar maple</li> </ul>				

**SOIL**

Sampling Point: DP-SL1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-10	25Y2.5/1	98	7.5Y2.5/8	2	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>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

Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/04/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-562  
 Investigator(s): M. Bobberg B VINTS Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.150022 Long: 42.397047 Datum: NAD 83  
 Soil Map Unit Name: Busti silt loam NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:   	



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP- 502

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer saccharum</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>
2. <u>Populus tremuloides</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>
3. <u>Prunus serotina</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

75 = Total Cover

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer saccharum</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>
2. <u>Populus tremuloides</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>
3. <u>Fagus grandifolia</u>	<u>10</u>	<u>N</u>	<u>FACU</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

60 = Total Cover

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Rubus idaeus</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>
2. <u>Dryopteris intermedia</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
3. <u>Fragaria vesca</u>	<u>5</u>	<u>N</u>	<u>NI</u>
4. <u>Fagus grandifolia</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
5. <u>Acer saccharum</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

40 = Total Cover

Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>NOT APPLICABLE</u>	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

0 = Total Cover

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>5</u>	x 3 = <u>15</u>
FACU species <u>165</u>	x 4 = <u>660</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>170</u> (A)	<u>675</u> (B)

Prevalence Index = B/A = 3.97

**Hydrophytic Vegetation Indicators:**

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0<sup>1</sup>
- 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?**

Yes \_\_\_\_\_ No X

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





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/05/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-568  
 Investigator(s): M. Boberg S. Buckenmeyer Section, Township, Range: Villageona  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 0-2  
 Subregion (LRR or MLRA): LRR-R Lat: 79.164332 Long: 42.404195 Datum: NAD 83  
 Soil Map Unit Name: ENE SILT LOAM NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u>    </u> If yes, optional Wetland Site ID: <u>W217539</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<p><u>Secondary Indicators (minimum of two required)</u></p> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<p><b>Field Observations:</b></p> Surface Water Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0-3"</u> Water Table Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0"</u> Saturation Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-568

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
1.					<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
2.					
3.					
4.					
5.					
6.					
7.					
_____ = Total Cover					
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
1.					<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2.					
3.					
4.					
5.					
6.					
7.					
_____ = Total Cover					
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
1.					<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
_____ = Total Cover					
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )					
1.					
2.					
3.					
4.					
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: DP-568

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-6"	2.5V3/1	90	10YR5/8	10	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>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

Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/06/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-569  
 Investigator(s): M. Boberg, S. Buckenmeyer Section, Township, Range: Villaverona  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 3-5  
 Subregion (LRR or MLRA): LRR-R Lat: 79.119752 Long: 42.445767 Datum: NAD 83  
 Soil Map Unit Name: Erie silt loam NWM classification: Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>WL-A540</u>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0-1"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-569

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Carex flava</u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>
2. <u>Onoclea sensibilis</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>
3. <u>Thelypteris noveboracensis</u>	<u>5</u>	<u>No</u>	<u>FAC</u>
4. <u>Symphitrichum pilosum</u>	<u>2</u>	<u>No</u>	<u>FAC</u>
5. <u>Acer saccharum</u>	<u>1</u>	<u>No</u>	<u>FACU</u>
6. <u>Fraxinus americana</u>	<u>1</u>	<u>No</u>	<u>FACU</u>
7. <u>Rubus idaeus</u>	<u>1</u>	<u>No</u>	<u>FACU</u>
8.			
9.			
10.			
11.			
12.			

Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes X No \_\_\_\_\_

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

**SOIL**

Sampling Point: DP-509

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-8	2.5Y 3/1	90	10YR 5/6	5	C	M	SIL	
			10YR 6/3	5	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>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

Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/06/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-570  
 Investigator(s): S. Buckenmeyer, M. Boberg Section, Township, Range: Villerva  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 3-5  
 Subregion (LRR or MLRA): LRR-R Lat: 79-119699 Long: 42-445857 Datum: NAD 83  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1)                      ___ Water-Stained Leaves (B9) ___ High Water Table (A2)                 ___ Aquatic Fauna (B13) ___ Saturation (A3)                            ___ Marl Deposits (B15) ___ Water Marks (B1)                         ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)                ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)                        ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)                  ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)                         ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)    ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP- 570

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Fagus grandifolia</u>	<u>45</u>	<u>Yes</u>	<u>FACU</u>
2. <u>Acer saccharum</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>
3. <u>Tsuga canadensis</u>	<u>5</u>	<u>No</u>	<u>FACU</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Fagus grandifolia</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Dryopteris intermedia</u>	<u>6</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Thelypteris noveboracensis</u>	<u>2</u>	<u>Yes</u>	<u>FAC</u>
3. <u>Rubus idaeus</u>	<u>2</u>	<u>Yes</u>	<u>FACU</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

75 = Total Cover

5 = Total Cover

10 = Total Cover

0 = Total Cover

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 30 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species <u>8</u>	x 3 = <u>24</u>
FACU species <u>82</u>	x 4 = <u>328</u>
UPL species _____	x 5 = _____
Column Totals: <u>90</u> (A)	<u>352</u> (B)

Prevalence Index = B/A = 3.91

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
  - Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

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



**SOIL**

Sampling Point: DP- 570

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-1	10YR 4/2	100					SIL	
1-20	2.5Y 5/4	80	10YR 4/2	20	D	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>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 X

Remarks:





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/06/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP- 571  
 Investigator(s): M. Boberg S. Buekenmeyer Section, Township, Range: VILLERUP  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 0-1  
 Subregion (LRR or MLRA): LRR-R Lat: 79.120654 Long: 42.445692 Datum: NAD 83  
 Soil Map Unit Name: Lanford silt loam NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>WLA541</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0-4"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP- 571

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>Not Applicable</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FACU species _____ x 3 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )				
1. <u>Not Applicable</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>0</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. <u>Carex flava</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Typha angustifolia</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Cuthamia graminifolia</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
4. <u>Symphoricarpos vora anglica</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
5. <u>Onoclea sensibilis</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
6. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
7. <u>Carex intumescens</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>80</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
1. <u>Not Applicable</u>				
2. _____				
3. _____				
4. _____				
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____

SOIL

Sampling Point: DP-571

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-8"	2.5Y 2.5/1	90	10YR 5/8	10	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- |   |  |  |
|---|--|--|
| <b>Hydric Soil Indicators:</b>                                |  | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>          |
| <input type="checkbox"/> Histosol (A1)                        | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)       |
| <input type="checkbox"/> Histic Epipedon (A2)                 | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)       | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)     |
| <input type="checkbox"/> Black Histic (A3)                    | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)             | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                        | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)             |
| <input type="checkbox"/> Stratified Layers (A5)               | <input type="checkbox"/> Depleted Matrix (F3)                            | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)     |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)    | <input checked="" type="checkbox"/> Redox Dark Surface (F6)              | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)           |
| <input type="checkbox"/> Thick Dark Surface (A12)             | <input type="checkbox"/> Depleted Dark Surface (F7)                      | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)             | <input type="checkbox"/> Redox Depressions (F8)                          | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)             |  | <input type="checkbox"/> Mesic Spodic (TA8) (MLRA 144A, 145, 149B)   |
| <input type="checkbox"/> Sandy Redox (S5)                     |  | <input type="checkbox"/> Red Parent Material (F21)                   |
| <input type="checkbox"/> Stripped Matrix (S6)                 |  | <input type="checkbox"/> Very Shallow Dark Surface (TF12)            |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) |  | <input type="checkbox"/> Other (Explain in Remarks)                  |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	Hydric Soil Present?    Yes <input checked="" type="checkbox"/> No _____
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Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua County Sampling Date: 11/03/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-572  
 Investigator(s): M. Boberg S. Buckenmeyer Section, Township, Range: VILL ENORA  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 0-1  
 Subregion (LRR or MLRA): LRR-R Lat: 79.120813 Long: 42.445855 Datum: NAD 83  
 Soil Map Unit Name: Langford silt loam NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>WLA542</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<p><u>Secondary Indicators (minimum of two required)</u></p> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<p><b>Field Observations:</b></p> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0-1"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP- 572

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer saccharum</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
2.				
3.				
4.				
5.				
6.				
7.				
				<u>5</u> = Total Cover
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer saccharum</u>	<u>1</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Lonicera tatarica</u>	<u>1</u>	<u>Y</u>	<u>FACU</u>	
3.				
4.				
5.				
6.				
7.				
				<u>2</u> = Total Cover
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Carex flava</u>	<u>15</u>	<u>Y</u>	<u>DBL</u>	
2. <u>Oxyclea sensibilis</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Euthamia graminifolia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
4. <u>Juncus effusus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
5. <u>Eupatorium perfoliatum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
6. <u>Polygonum arifolium</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
7. <u>Carex intumescens</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
8.				
9.				
10.				
11.				
12.				
				<u>70</u> = Total Cover
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				
2.				
3.				
4.				
				_____ = Total Cover

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

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**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>30</u>	x 1 = <u>30</u>
FACW species <u>25</u>	x 2 = <u>50</u>
FAC species <u>15</u>	x 3 = <u>45</u>
FACU species <u>7</u>	x 4 = <u>28</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>77</u> (A)	<u>153</u> (B)

Prevalence Index = B/A = 1.98

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**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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**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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

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**Hydrophytic Vegetation Present?**      Yes       No

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

SOIL

Sampling Point: DP-372

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-10"	2.5Y 3/1	95	10YR 5/8	5	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- |   |  |  |  |
|---|--|--|--|
| <b>Hydric Soil Indicators:</b>                                |  | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>          |  |
| <input type="checkbox"/> Histosol (A1)                        | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)       |  |
| <input type="checkbox"/> Histic Epipedon (A2)                 | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)       | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)     |  |
| <input type="checkbox"/> Black Histic (A3)                    | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)             | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)  |  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                        | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)             |  |
| <input type="checkbox"/> Stratified Layers (A5)               | <input type="checkbox"/> Depleted Matrix (F3)                            | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)     |  |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)    | <input checked="" type="checkbox"/> Redox Dark Surface (F6)              | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)           |  |
| <input type="checkbox"/> Thick Dark Surface (A12)             | <input type="checkbox"/> Depleted Dark Surface (F7)                      | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)   |  |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)             | <input type="checkbox"/> Redox Depressions (F8)                          | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |  |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)             |  | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)   |  |
| <input type="checkbox"/> Sandy Redox (S5)                     |  | <input type="checkbox"/> Red Parent Material (F21)                   |  |
| <input type="checkbox"/> Stripped Matrix (S6)                 |  | <input type="checkbox"/> Very Shallow Dark Surface (TF12)            |  |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) |  | <input type="checkbox"/> Other (Explain in Remarks)                  |  |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b>		Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Type: _____		
Depth (inches): _____		

Remarks:





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: CHAUTAUQUE CTY Sampling Date: 11/9/15  
 Applicant/Owner: BALL HILL WIND ENERGY, LLC State: NY Sampling Point: DR4575  
 Investigator(s): B. Virts, S. Buckenmeyer Section, Township, Range: VILLENOVIA  
 Landform (hillslope, terrace, etc.): Drainage way Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.118433 Long: 42.463273 Datum: NAD83  
 Soil Map Unit Name: Fremont Silt loam 0 to 30% slope NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation no, Soil no, or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u>    </u> If yes, optional Wetland Site ID: <u>Wetland A543</u>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0"-4"</u> Water Table Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0"</u> Saturation Present? (includes capillary fringe) Yes <u>X</u> No <u>    </u> Depth (inches): <u>0"</u>	Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:   	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-AS75

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>Not Applicable</u>				
2.				
3.				
4.				
5.				
6.				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )				
1. <u>Not Applicable</u>				
2.				
3.				
4.				
5.				
<u>0</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Agrostis stolonifera</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Bidens aristosa</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3.	<u>10</u>	<u>N</u>		
4. <u>Eupatorium perfoliatum</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
5.				
6.				
7.				
8.				
9.				
10.				
11.				
<u>75</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
1. <u>Not Applicable</u>				
2.				
3.				
<u>0</u> = Total Cover				
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No				
Remarks: (Include photo numbers here or on a separate sheet.)				





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Bail Hill Wind Project City/County: CHARITON COUNTY Sampling Date: 11/9/15  
 Applicant/Owner: Bail Hill Wind Energy, LLC State: MO Sampling Point: DP-576  
 Investigator(s): B. VIZIS, S. BUDENMEYER Section, Township, Range: VILLENOVA  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 2%  
 Subregion (LRR or MLRA): LRR-R Lat: 39.118439 Long: 92.453234 Datum: NAD83  
 Soil Map Unit Name: Fremont Silt loam 0 to 3% Slopes NWI classification: UPLAND  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation no, Soil no, or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: DP 576

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>NOT Applicable</u>				
2.				
3.				
4.				
5.				
6.				
7.				
				<u>0</u> = Total Cover
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>				
1. <u>NOT Applicable</u>				
2.				
3.				
4.				
5.				
6.				
7.				
				<u>0</u> = Total Cover
<b>Herb Stratum (Plot size: <u>5'</u>)</b>				
1. <u>Schedonorus arundinaceus</u>	<u>65</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Trifolium repens</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
3. <u>Euthamia graminifolia</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4. <u>Ranunculus bulbosus</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
5. <u>Daucus carota</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
6. <u>Solanum carolinense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
7. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
8.				
9.				
10.				
11.				
12.				
				<u>100</u> = Total Cover
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>				
1. <u>NOT Applicable</u>				
2.				
3.				
4.				
				<u>0</u> = Total Cover

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>5</u>	x 1 = <u>5</u>
FACW species <u>5</u>	x 2 = <u>10</u>
FAC species <u>5</u>	x 3 = <u>15</u>
FACU species <u>80</u>	x 4 = <u>320</u>
UPL species <u>5</u>	x 5 = <u>25</u>
Column Totals: <u>100</u> (A)	<u>375</u> (B)

Prevalence Index = B/A = 3.75

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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

**SOIL**

Sampling Point: DP 576

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0"-9"	2.5Y3/2	100					SIL	
9"-20"	2.5Y3/2	85	2.5Y4/2	10%	D	m	SIL	
			7.5Y2/1.6	5%	C	m		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- Hydric Soil Indicators:**
- Histosol (A1)
  - Histic Epipedon (A2)
  - Black Histic (A3)
  - Hydrogen Sulfide (A4)
  - Stratified Layers (A5)
  - Depleted Below Dark Surface (A11)
  - Thick Dark Surface (A12)
  - Sandy Mucky Mineral (S1)
  - Sandy Gleyed Matrix (S4)
  - Sandy Redox (S5)
  - Stripped Matrix (S6)
  - Dark Surface (S7) (LRR R, MLRA 149B)
  - Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
  - Thin Dark Surface (S9) (LRR R, MLRA 149B)
  - Loamy Mucky Mineral (F1) (LRR K, L)
  - Loamy Gleyed Matrix (F2)
  - Depleted Matrix (F3)
  - Redox Dark Surface (F6)
  - Depleted Dark Surface (F7)
  - Redox Depressions (F8)
- Indicators for Problematic Hydric Soils<sup>3</sup>:**
- 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, M)
  - 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)
  - Red Parent Material (F21)
  - Very Shallow Dark Surface (TF12)
  - Other (Explain in Remarks)

<sup>3</sup>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 X

Remarks:





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: CHARITAUQUA CITY Sampling Date: 11/9/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-577  
 Investigator(s): B. Viats, S. Buckenmeyer Section, Township, Range: VILLENOVA  
 Landform (hillslope, terrace, etc.): Drainage way Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.119116 Long: 42.452562 Datum: nao 83  
 Soil Map Unit Name: Or Park S. It 1 dom 3 to 8% slopes NWI classification: Wetland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks.)  
 Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation no, Soil no, or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>Wetland 19514</u>
Remarks: (Explain alternative procedures here or in a separate report.)    	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply): <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2)                      _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3)                                  _____ Marl Deposits (B15) _____ Water Marks (B1)                      _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2)                  _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3)                        _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4)                    _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5)                        _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7)    _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required): _____ Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>0"-4"</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>0"</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:    	

**VEGETATION – Use scientific names of plants.**

Sampling Point: DP-577

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				
1. <u>not applicable</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )				
1. <u>not applicable</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				
1. <u>Juncus effusus</u>	<u>55</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Phalaris arundinacea</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Eleocharis acicularis</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
4. <u>Carex intumescens</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	<u>80</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )				
1. <u>not applicable</u>				
2. _____				
3. _____				
4. _____				
	<u>0</u>	= Total Cover		

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

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**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = \_\_\_\_\_

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**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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**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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

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**Hydrophytic Vegetation Present?** Yes  No

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





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: CHAMPAIGN CT Sampling Date: 11/9/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-578  
 Investigator(s): B. VETS, S. Budanmeyer Section, Township, Range: VILLENOVA  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 1%  
 Subregion (LRR or MLRA): LRR Lat: 79.119236 Long: 42.452602 Datum: NAD83  
 Soil Map Unit Name: OrParkS: It loam, 3 to 8% slopes NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation no, Soil no, or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)    	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b>	
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>not applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			

0 = Total Cover

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>not applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			

0 = Total Cover

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>schedonorus arundinaceus</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>
2. <u>Trifolium repens</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>
3. <u>pantago lanceolata</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
4. <u>Taraxacum officinale</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
5. <u>Solanum carolinense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
6.			
7.			
8.			
9.			
10.			
11.			
12.			

100 = Total Cover

Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>not applicable</u>			
2.			
3.			
4.			

0 = Total Cover

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

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>100</u>	x 4 = <u>400</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>400</u> (B)

Prevalence Index = B/A = 40

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
  - Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

**SOIL**

Sampling Point: DP-578

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%					
0"-20"	10YR 3/4	100						SFL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>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 X

Remarks:





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: CHAUTAUGUE COUNTY Sampling Date: 11/9/15  
 Applicant/Owner: BALL HILL WIND ENERGY, LLC State: NY Sampling Point: DP 579  
 Investigator(s): B. V. IZIS, S. Buckenmeyer Section, Township, Range: VILLENova  
 Landform (hillslope, terrace, etc.): Drainage way Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.119608 Long: 42.450179 Datum: NAD 83  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>Wetland ASH6</u>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>6"</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:   	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-579

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus americana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. <u>Tsuga canadensis</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>20</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species <u>15</u> x 1 = <u>15</u> FACW species <u>30</u> x 2 = <u>60</u> FAC species <u>25</u> x 3 = <u>75</u> FACU species <u>30</u> x 4 = <u>120</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>100</u> (A) <u>270</u> (B)  Prevalence Index = B/A = <u>2.70</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				
1. <u>Lindera benzoin</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Tsuga canadensis</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>20</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u> )				
1. <u>Matteuccia struthiopteris</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Dryopteris cristata</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Anoclea sensibilis</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>Rosa multiflora</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
5. <u>Bidens aristosa</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u> )				
1. <u>not applicable</u>	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Hydrophytic Vegetation Present?      Yes <u>X</u> No				
Remarks: (Include photo numbers here or on a separate sheet.)   				

**SOIL**

Sampling Point: DP-579

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0"-10"	2.5Y3/2	S8	2.5Y4/3	40%	C	m	SI	
			10YR5/6	27%	C	m		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- Hydric Soil Indicators:**
- Histosol (A1)
  - Histic Epipedon (A2)
  - Black Histic (A3)
  - Hydrogen Sulfide (A4)
  - Stratified Layers (A5)
  - Depleted Below Dark Surface (A11)
  - Thick Dark Surface (A12)
  - Sandy Mucky Mineral (S1)
  - Sandy Gleyed Matrix (S4)
  - Sandy Redox (S5)
  - Stripped Matrix (S6)
  - Dark Surface (S7) (LRR R, MLRA 149B)
  - Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
  - Thin Dark Surface (S9) (LRR R, MLRA 149B)
  - Loamy Mucky Mineral (F1) (LRR K, L)
  - Loamy Gleyed Matrix (F2)
  - Depleted Matrix (F3)
  - Redox Dark Surface (F6)
  - Depleted Dark Surface (F7)
  - Redox Depressions (F8)
- Indicators for Problematic Hydric Soils<sup>3</sup>:**
- 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, M)
  - 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)
  - Red Parent Material (F21)
  - Very Shallow Dark Surface (TF12)
  - Other (Explain in Remarks)

<sup>3</sup>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

Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Bail Hill Wind Project City/County: Chautauque County Sampling Date: 11/9/15  
 Applicant/Owner: Bail Hill Wind Energy, LLC State: ny Sampling Point: DP-580  
 Investigator(s): B. Vitis, S. Buckenmeyer Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 2%  
 Subregion (LRR or MLRA): LRP-R Lat: 79.11964 Long: 42.449912 Datum: NAD 83  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation no, Soil no, or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1)                      ___ Water-Stained Leaves (B9) ___ High Water Table (A2)                      ___ Aquatic Fauna (B13) ___ Saturation (A3)                                  ___ Marl Deposits (B15) ___ Water Marks (B1)                              ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)                      ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)                              ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)                        ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)                              ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:   	
Remarks:   	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-580

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Tsuga canadensis</u>	<u>80</u>	<u>Y</u>	<u>FACU</u>
2. <u>Betula alleghaniensis</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 37 (A/B)

100 = Total Cover

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Tsuga canadensis</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>
2. <u>Fagus grandifolia</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>
3. <u>Carpinus caroliniana</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>5</u>	x 1 = <u>5</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>30</u>	x 3 = <u>90</u>
FACU species <u>130</u>	x 4 = <u>520</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>165</u> (A)	<u>615</u> (B)

Prevalence Index = B/A = 3.72

50 = Total Cover

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Fagus grandifolia</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
2. <u>Tsuga canadensis</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>
3. <u>Dryopteris cristata</u>	<u>5</u>	<u>X</u>	<u>OBL</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
  - Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

15 = Total Cover

Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

0 = 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

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







**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauque CTY Sampling Date: 11/09/15  
 Applicant/Owner: B. Virzi, S. Buckenmeyer Ball Hill Wind Energy LLC State: NY Sampling Point: DP-581  
 Investigator(s): B. Virzi, S. Buckenmeyer Section, Township, Range: VILLENOVA  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): CONCAVE Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.119414 Long: 42.448568 Datum: NAD83  
 Soil Map Unit Name: Valois gravelly silt loam, rolling NWI classification: Wetland SB Upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u>    </u> If yes, optional Wetland Site ID: <u>wetland A547</u>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <u>    </u> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <u>    </u> Marl Deposits (B15) <u>    </u> Water Marks (B1) <u>    </u> Hydrogen Sulfide Odor (C1) <u>    </u> Sediment Deposits (B2) <u>    </u> Oxidized Rhizospheres on Living Roots (C3) <u>    </u> Drift Deposits (B3) <u>    </u> Presence of Reduced Iron (C4) <u>    </u> Algal Mat or Crust (B4) <u>    </u> Recent Iron Reduction in Tilled Soils (C6) <u>    </u> Iron Deposits (B5) <u>    </u> Thin Muck Surface (C7) <u>    </u> Inundation Visible on Aerial Imagery (B7) <u>    </u> Other (Explain in Remarks) <u>    </u> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <u>    </u> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <u>    </u> Moss Trim Lines (B16) <u>    </u> Dry-Season Water Table (C2) <u>    </u> Crayfish Burrows (C8) <u>    </u> Saturation Visible on Aerial Imagery (C9) <u>    </u> Stunted or Stressed Plants (D1) <u>    </u> Geomorphic Position (D2) <u>    </u> Shallow Aquitard (D3) <u>    </u> Microtopographic Relief (D4) <u>    </u> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0-2"</u> Water Table Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0"</u> Saturation Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:   	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-581

**Tree Stratum** (Plot size: 30')

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Tsuga canadensis</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>
2. <u>Betula alughaniensis</u>	<u>20</u>	<u>X</u>	<u>FAC</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66% (AB)

**Sapling/Shrub Stratum** (Plot size: 15')

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Tsuga canadensis</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>
2. <u>Betula alughaniensis</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
3. <u>Fagus grandifolia</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
4. <u>Fraxinus americana</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by:

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

**Herb Stratum** (Plot size: 5')

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Glyceria acutiflora</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>
2. <u>Dryopteris cristata</u>	<u>10</u>	<u>Y</u>	<u>DBL</u>
3. <u>Carex intumescens</u>	<u>5</u>	<u>N</u>	<u>FACW</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Woody Vine Stratum** (Plot size: 30')

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

**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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Bail Hill Wind Project City/County: Chautauque CTY Sampling Date: 11/9/15  
 Applicant/Owner: Bail Hill Wind Energy, LLC State: Ny Sampling Point: DP582  
 Investigator(s): B.V. res, S. Buckenmeyer Section, Township, Range: VILLEHAVN  
 Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): convex Slope (%): 1%  
 Subregion (LRR or MLRA): LRR-R Lat: 79.119808 Long: 42.44868 Datum: NAD 83  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: hpland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation no, Soil no, or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> <u>MO</u>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4"</u>	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-582

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Tsuga canadensis</u>	<u>65</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25</u> (A/B)
2. <u>Carpinus carolina</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
3. <u>Fraxinus americana</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4. <u>Acer saccharum</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
5. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species <u>5</u> x 1 = <u>5</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>115</u> x 4 = <u>460</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>120</u> (A) <u>465</u> (B)  Prevalence Index = B/A = <u>3.87</u>
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____	_____	_____	_____	
<u>80</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Tsuga canadensis</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. <u>Carpinus carolina</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
3. <u>Fagus grandifolia</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____	_____	_____	_____	
<u>30</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fagus grandifolia</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. <u>Dryopteris cristata</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>10</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>NOT APPLICABLE</u>	_____	_____	_____	<b>Remarks:</b> (Include photo numbers here or on a separate sheet.)    
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				







**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: CHATHAQUA CRY Sampling Date: 11/10/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-548 583  
 Investigator(s): B. Virts Section, Township, Range: Villanova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 41  
 Subregion (LRR or MLRA): LRR-R Lat: 79.123487 Long: 42.447216 Datum: NAD83  
 Soil Map Unit Name: Ashville silt loam NWI classification: Upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation no, Soil no, or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>Wetland 0348</u>
Remarks: (Explain alternative procedures here or in a separate report.)    	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>3"</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:   	
Remarks:    	

VEGETATION – Use scientific names of plants.

583  
 Sampling Point: DP-5483V

Tree Stratum (Plot size: 30')

	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Tsuga canadensis</i>	50	Y	FACU
2. <i>Fraxinus americana</i>	10	Y	FACU
3.			
4.			
5.			
6.			
7.			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 42 (A/B)

Sapling/Shrub Stratum (Plot size: 15')

	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Tsuga canadensis</i>	30	Y	FACU
2. <i>Fraxinus americana</i>	10	Y	FACU
3. <i>Acer rubrum</i>	10	Y	FAC
4.			
5.			
6.			
7.			

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>10</u>	x 1 = <u>10</u>
FACW species <u>15</u>	x 2 = <u>30</u>
FAC species <u>10</u>	x 3 = <u>30</u>
FACU species <u>105</u>	x 4 = <u>420</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>140</u> (A)	<u>490</u> (B)

Prevalence Index = B/A = 3.00

Herb Stratum (Plot size: 5')

	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Dryopteris cristata</i>	10	Y	OBL
2. <i>Onoclea sensibilis</i>	10	Y	FACW
3. <i>Tsuga canadensis</i>	5	N	FACU
4. <i>Agrostis stolonifera</i>	5	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Woody Vine Stratum (Plot size: 30')

1. <u>not applicable</u>			
2.			
3.			
4.			

0 = 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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

-species have adapted to living in wet conditions through morphological adaptations – fluted trunks and shallow roots

- Eastern Hemlock + White Ash.

SOIL

Sampling Point: PP-583

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0"-10"	10yR 2/1	98	10yR 3/6	2	C	m	Sil	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- |   |  |  |
|---|--|--|
| <b>Hydric Soil Indicators:</b>                                |  | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>          |
| <input type="checkbox"/> Histosol (A1)                        | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)       |
| <input type="checkbox"/> Histic Epipedon (A2)                 | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)       | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)     |
| <input type="checkbox"/> Black Histic (A3)                    | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)             | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                        | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)             |
| <input type="checkbox"/> Stratified Layers (A5)               | <input type="checkbox"/> Depleted Matrix (F3)                            | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)     |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)    | <input checked="" type="checkbox"/> Redox Dark Surface (F6)              | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)           |
| <input type="checkbox"/> Thick Dark Surface (A12)             | <input type="checkbox"/> Depleted Dark Surface (F7)                      | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)             | <input type="checkbox"/> Redox Depressions (F8)                          | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)             |  | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)   |
| <input type="checkbox"/> Sandy Redox (S5)                     |  | <input type="checkbox"/> Red Parent Material (F21)                   |
| <input type="checkbox"/> Stripped Matrix (S6)                 |  | <input type="checkbox"/> Very Shallow Dark Surface (TF12)            |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) |  | <input type="checkbox"/> Other (Explain in Remarks)                  |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	Hydric Soil Present?    Yes <u>X</u> No _____
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Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: CHAUTAUGUS CTY Sampling Date: 11/10/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-581  
 Investigator(s): B. VIETS Section, Township, Range: VILLENOVA  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 2%  
 Subregion (LRR or MLRA): LRR-2 Lat: 79.123914 Long: 42.447289 Datum: NAD83  
 Soil Map Unit Name: Ashtville Silt loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-584

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer saccharum</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>8</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>12.5</u> (A/B)
2. <u>TSUGA canadensis</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Fraxinus americana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
4. <u>Betula allegheniensis</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>50</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>100</u> x 4 = <u>400</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>115</u> (A) <u>425</u> (B)  Prevalence Index = B/A = <u>3.69</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer saccharum</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Fraxinus americana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Fagus grandifolia</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4. <u>Lonicera tatarica</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>40</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Dryopteris cristata</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Polystichum acrostichodes</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Fagus americana</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>25</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>not applicable</u>	_____	_____	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Remarks: (Include photo numbers here or on a separate sheet.)				







**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: CHAUTAUGUA CO. Sampling Date: 11/10/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP585  
 Investigator(s): B. Virts Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Drainage way Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR or MLRA): LRR-12 Lat: 79.12209 Long: 42.445981 Datum: NAD83  
 Soil Map Unit Name: Valois Silt loam NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation no, Soil no, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation no, Soil no, or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland A549</u>
Remarks: (Explain alternative procedures here or in a separate report.)  <p align="center"><i>Wetland is Primarily a PFO with some minor areas of Perm</i></p>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0" - 4"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:  	

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP585

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Tsuga canadensis</u>	<u>58</u>	<u>Y</u>	<u>FACU</u>
2. <u>Betula alleghensis</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>
3. <u>Acer rubrum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 60 (A/B)

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Tsuga canadensis</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>
2. <u>Betula alleghensis</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>
3. <u>Fraxinus americana</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
4. <u>Betula alleghensis</u>	<u>5</u>	<u>N</u>	<u>FAC</u>
5. <u>populifolia</u>	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>18</u>	x 1 = <u>18</u>
FACW species <u>7</u>	x 2 = <u>14</u>
FAC species <u>40</u>	x 3 = <u>120</u>
FACU species <u>95</u>	x 4 = <u>380</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>160</u> (A)	<u>532</u> (B)

Prevalence Index = B/A = 3.32

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Dryopteris cristata</u>	<u>18</u>	<u>Y</u>	<u>OBL</u>
2. <u>Rubus idaeus coccineus</u>	<u>5</u>	<u>N</u>	<u>FACU</u>
3. <u>Agrostis stolonifera</u>	<u>5</u>	<u>N</u>	<u>FACW</u>
4. <u>Phalaris arundinacea</u>	<u>2</u>	<u>N</u>	<u>FACW</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
  - Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>not applicable</u>	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

**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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes X No

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





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua Sampling Date: 11/10/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: 00586  
 Investigator(s): B Virts Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 3  
 Subregion (LRR or MLRA): URR-R Lat: 79.122298 Long: 42.44611 Datum: NAD 83  
 Soil Map Unit Name: Valois gravelly silt loam, rolling NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	

**VEGETATION** – Use scientific names of plants.

Sampling Point: 586

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Tsuga canadensis</u>	<u>35</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>8</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>12.5</u> (A/B)														
2. <u>Acer saccharum</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Betula allegheniensis</u>	<u>5</u>	<u>N</u>	<u>FAC</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>50</u> = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border: none;"> <tr> <td style="text-align: center;">Total % Cover of:</td> <td style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>125</u></td> <td>x 4 = <u>500</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>140</u> (A)</td> <td><u>545</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.89</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>125</u>	x 4 = <u>500</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>140</u> (A)	<u>545</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>15</u>	x 3 = <u>45</u>																	
FACU species <u>125</u>	x 4 = <u>500</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>140</u> (A)	<u>545</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Tsuga canadensis</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)														
2. <u>Fagus grandifolia</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>															
3. <u>Acer saccharum</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>40</u> = Total Cover				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.														
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Rubus idaeus</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>		<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>													
2. <u>Dryopteris intermedia</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>															
3. <u>Fagus grandifolia</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>50</u> = Total Cover				<b>Remarks:</b> (Include photo numbers here or on a separate sheet.)          														
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Not Applicable</u>	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover																		







**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua Sampling Date: 11/11/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: 595  
 Investigator(s): M. Boberg R. Virts Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 3-5  
 Subregion (LRR or MLRA): LRR-R Lat: 79.121248 Long: 42.442435 Datum: NAD-83  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>WL-A552</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) _____ Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0-1"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: 595

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>NOT APPLICABLE</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )				
1. <u>NOT APPLICABLE</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>0</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Carex flava</u> <del>or Juncus effusus</del>	<u>70</u>	<u>X</u>	<u>OBL</u>	
2. <u>Carex flava</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
3. <u>Ranunculus bulbosus</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>mentha spicata</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>95</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
1. <u>NOT APPLICABLE</u>				
2. _____				
3. _____				
4. _____				
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Bail Hill Wind Project City/County: Chautauque Cty Sampling Date: 11/11/15  
 Applicant/Owner: Bail Hill Wind Energy, LLC State: NY Sampling Point: 596  
 Investigator(s): B. Viets, m. Boberg Section, Township, Range: VILLENova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 3-5  
 Subregion (LRR or MLRA): LRR-R Lat: 79.121197 Long: 42.442227 Datum: NAD 83  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <table style="width:100%; border: none;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																				
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																				
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<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																				
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																					
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>																				
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  																					
Remarks:   																					

**VEGETATION** – Use scientific names of plants.

Sampling Point: DP-596

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>not applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>85</u> x 4 = <u>340</u> UPL species <u>5</u> x 5 = <u>25</u> Column Totals: <u>100</u> (A) <u>375</u> (B)  Prevalence Index = B/A = <u>3.75</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				
1. <u>not applicable</u>				
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u> )				
1. <u>Schedonorus arundinaceus</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Trifolium repens</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Juncus effusus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
4. <u>Rosa multiflora</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
5. <u>Daucus carota</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
6. <u>Pantago lanceolata</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
7.				
8.				
9.				
10.				
11.				
12.				
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u> )				
1. <u>not applicable</u>				
2.				
3.				
4.				
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

**Hydrophytic Vegetation Indicators:**

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0<sup>1</sup>
- 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

SOIL

Sampling Point: DP-596

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0"-2"	2.5Y3/3	95	10YR5/8	5	C	m	SIL	
2"-16"	2.5Y3/3	100					SIL	
16"-20"	10YR5/6	100	10YR5/8	5B	C	m	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>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

Remarks:





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua Sampling Date: 11/11/2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: OP-597  
 Investigator(s): M. Goberg B. Viits Section, Township, Range: Villerovix  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 2  
 Subregion (LRR or MLRA): LRR-2 Lat: 79.12464 Long: 42.44157 Datum: NAD-83  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>WL-A559</u>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <input checked="" type="checkbox"/> Surface Water (A1) _____ <input checked="" type="checkbox"/> High Water Table (A2) _____ <input checked="" type="checkbox"/> Saturation (A3) _____ _____ Water Marks (B1) _____ _____ Sediment Deposits (B2) _____ _____ Drift Deposits (B3) _____ _____ Algal Mat or Crust (B4) _____ _____ Iron Deposits (B5) _____ _____ Inundation Visible on Aerial Imagery (B7) _____ _____ Sparsely Vegetated Concave Surface (B8) _____	<b>Secondary Indicators (minimum of two required)</b> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0-1"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:   	

**VEGETATION** – Use scientific names of plants.

Sampling Point: 597

**Tree Stratum** (Plot size: 30')

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			

**Sapling/Shrub Stratum** (Plot size: 15')

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			

**Herb Stratum** (Plot size: 5')

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Carex intumescens</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>
2. <u>Juncus effusus</u>	<u>15</u>	<u>N</u>	<u>OBL</u>
3. <u>Typha latifolia</u>	<u>15</u>	<u>N</u>	<u>OBL</u>
4. <u>Carex flava</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
5. <u>Lythrum salicaria</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
6.			
7.			
8.			
9.			
10.			
11.			
12.			

**Woody Vine Stratum** (Plot size: 30')

	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua Sampling Date: 11/11/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: 398  
 Investigator(s): M. Berger B. Yirts Section, Township, Range: Villanova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Flat Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.12374 Long: 42.441687 Datum: NAD83  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<b>Primary Indicators (minimum of one is required; check all that apply)</b> ___ Surface Water (A1)                      ___ Water-Stained Leaves (B9) ___ High Water Table (A2)                ___ Aquatic Fauna (B13) ___ Saturation (A3)                            ___ Marl Deposits (B15) ___ Water Marks (B1)                         ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)                ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)                        ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)                    ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)                         ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)    ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators (minimum of two required)</b> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: 598

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Prunus serotina</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. <u>Populus tremuloides</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Acer saccharum</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>40</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>125</u> x 4 = <u>500</u> UPL species <u>5</u> x 5 = <u>25</u> Column Totals: <u>135</u> (A) <u>540</u> (B)  Prevalence Index = B/A = <u>4</u>
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u>)</b>				
1. <u>Rhamnus cathartica</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>5</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>5'</u>)</b>				
1. <u>Trifolium repens</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Schedonorus arundinaceus</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Pantago lanceolata</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4. <u>Dacicus pusillus</u>	<u>5</u>	<u>N</u>	<u>NI</u>	
5. <u>Fragaria vesca</u>	<u>5</u>	<u>N</u>	<u>NI</u>	
6. <u>Taraxacum officinale</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
7. <u>Euthamia graminifolia</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
8. <u>Dacicus carota</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
9. <u>Rosa multiflora</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>100</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: <u>30'</u>)</b>				
1. <u>Not Applicable</u>	_____	_____	_____	<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: 598

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-6	2.5Y <sup>3</sup> / <sub>3</sub>	100					S	
6-9	2.5Y <sup>6</sup> / <sub>8</sub>	80	2.5Y <sup>3</sup> / <sub>3</sub>	15	D	M	SIL	
			10YR <sup>5</sup> / <sub>8</sub>	5	C	M	SIL	
9-20	10YR <sup>3</sup> / <sub>6</sub>	100					SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- |   |  |  |
|---|--|--|
| <b>Hydric Soil Indicators:</b>                                |  | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>          |
| <input type="checkbox"/> Histosol (A1)                        | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)       |
| <input type="checkbox"/> Histic Epipedon (A2)                 | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)       | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)     |
| <input type="checkbox"/> Black Histic (A3)                    | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)             | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                        | <input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)             |
| <input type="checkbox"/> Stratified Layers (A5)               | <input type="checkbox"/> Depleted Matrix (F3)                            | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)     |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)    | <input type="checkbox"/> Redox Dark Surface (F6)                         | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)           |
| <input type="checkbox"/> Thick Dark Surface (A12)             | <input type="checkbox"/> Depleted Dark Surface (F7)                      | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)             | <input type="checkbox"/> Redox Depressions (F8)                          | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)             |  | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)   |
| <input type="checkbox"/> Sandy Redox (S5)                     |  | <input type="checkbox"/> Red Parent Material (F21)                   |
| <input type="checkbox"/> Stripped Matrix (S6)                 |  | <input type="checkbox"/> Very Shallow Dark Surface (TF12)            |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) |  | <input type="checkbox"/> Other (Explain in Remarks)                  |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	Hydric Soil Present?    Yes _____    No <u>X</u>
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Remarks:





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind City/County: Chautauqua Sampling Date: 11/11/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: 599  
 Investigator(s): M. Boberg B. Virts Section, Township, Range: Villenox  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.121369 Long: 42.44105 Datum: NAD83  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>WL-A560</u>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) _____ Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0-1"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	

**VEGETATION – Use scientific names of plants.**

Sampling Point: 599

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species <u>55</u> x 1 = <u>55</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>80</u> (A) <u>115</u> (B)  Prevalence Index = B/A = <u>1.43</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Juncus effusus</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0' <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. <u>Polygonum persicaria</u>	<u>20</u>	<u>Y</u>	<u>NI</u>	
3. <u>Eupatorium perfoliatum</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
4. <u>Carex flava</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
5. <u>Eleocharis acicularis</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
6. <u>Euthamia graminifolia</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
7. <u>Rumex crispus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
8.				
9.				
10.				
11.				
12.				
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No
2.				
3.				
4.				
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauqua Sampling Date: 11/11/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: 600  
 Investigator(s): M. Baberg B. Virts Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Flat Slope (%): 0  
 Subregion (LRR or MLRA): LRR-12 Lat: 79.12339 Long: 42.740976 Datum: upland  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:   	

**VEGETATION** – Use scientific names of plants.

Sampling Point: 600

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				
1. <u>Not Applicable</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>0</u> = Total Cover			
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )				
1. <u>Not Applicable</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>0</u> = Total Cover			
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				
1. <u>Schedonorus arundinaceus</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>	
2. <u>trifolium repens</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Pantago lanceolata</u>	<u>8</u>	<u>N</u>	<u>FACU</u>	
4. <u>Juncus effusus</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	
5. <u>Juncus tenuis</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	<u>100</u> = Total Cover			
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )				
1. <u>Not Applicable</u>				
2. _____				
3. _____				
4. _____				
	<u>0</u> = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.)				

  

<b>Dominance Test worksheet:</b>	
Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A/B)
<b>Prevalence Index worksheet:</b>	
Total % Cover of:	Multiply by:
OBL species <u>1</u>	x 1 = <u>1</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>1</u>	x 3 = <u>3</u>
FACU species <u>98</u>	x 4 = <u>392</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>396</u> (B)
Prevalence Index = B/A = <u>3.96</u>	
<b>Hydrophytic Vegetation Indicators:</b>	
<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
<input type="checkbox"/> 2 - Dominance Test is >50%	
<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup>	
<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Definitions of Vegetation Strata:</b>	
<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
<b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
<b>Hydrophytic Vegetation Present?</b>	Yes _____ No <u>X</u>

**SOIL**

Sampling Point: LOCG

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-13	2.5Y 3/2	95	10YR 3/6	5	C	MLP	SIL	
13-20	2.5Y 3/2	85	2.5Y 3/1	5	D	m	SIL	
			10YR 3/6	10	C	m	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- |  |   |
|--|---|
| <b>Hydric Soil Indicators:</b>   | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>   |
| <input type="checkbox"/> Histosol (A1)<br><input type="checkbox"/> Histic Epipedon (A2)<br><input type="checkbox"/> Black Histic (A3)<br><input type="checkbox"/> Hydrogen Sulfide (A4)<br><input type="checkbox"/> Stratified Layers (A5)<br><input type="checkbox"/> Depleted Below Dark Surface (A11)<br><input type="checkbox"/> Thick Dark Surface (A12)<br><input type="checkbox"/> Sandy Mucky Mineral (S1)<br><input type="checkbox"/> Sandy Gleyed Matrix (S4)<br><input type="checkbox"/> Sandy Redox (S5)<br><input type="checkbox"/> Stripped Matrix (S6)<br><input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)<br><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)<br><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)<br><input type="checkbox"/> Loamy Gleyed Matrix (F2)<br><input type="checkbox"/> Depleted Matrix (F3)<br><input checked="" type="checkbox"/> Redox Dark Surface (F6)<br><input type="checkbox"/> Depleted Dark Surface (F7)<br><input type="checkbox"/> Redox Depressions (F8)   |
|  | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)<br><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)<br><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)<br><input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)<br><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)<br><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)<br><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)<br><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)<br><input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)<br><input type="checkbox"/> Red Parent Material (F21)<br><input type="checkbox"/> Very Shallow Dark Surface (TF12)<br><input type="checkbox"/> Other (Explain in Remarks) |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b>	Hydric Soil Present? Yes <u>X</u> No <u>    </u>
Type: _____ Depth (inches): _____	

Remarks:





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind City/County: Chautauqua Sampling Date: 11/11/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: 601  
 Investigator(s): M. Boberg B. Virts Section, Township, Range: Villenova  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR or MLRA): LRR-2 Lat: 79.119456 Long: 42.440737 Datum: NAD-83  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>WL-A501</u>
Remarks: (Explain alternative procedures here or in a separate report.)    	

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p>Primary Indicators (minimum of one is required; check all that apply)</p> <input checked="" type="checkbox"/> Surface Water (A1)      _____ Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2)      _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3)      _____ Marl Deposits (B15) _____ Water Marks (B1)      _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2)      _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3)      _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4)      _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5)      _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7)      _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<p>Secondary Indicators (minimum of two required)</p> _____ Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
<p><b>Field Observations:</b></p> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0-1"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>8"</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:   	
Remarks:    	

**VEGETATION** – Use scientific names of plants.

Sampling Point: 601

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30'</u> )				
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )				
1. <u>Not Applicable</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				
1. <u>Juncus effusus</u>	<u>80</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Eleocharis acicularis</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
3. <u>Eupatorium perfoliatum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4. <u>Scirpus cyperinas</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	<u>100</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )				
1. <u>Not Applicable</u>				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____				
3. _____				
4. _____				
	<u>0</u>	= Total Cover		
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No
Remarks: (Include photo numbers here or on a separate sheet.)				





**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: BALL HILL WIND PROJECT City/County: Chautauque Sampling Date: 11/11/15  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: 602  
 Investigator(s): m Boberg B. Virts Section, Township, Range: VILLEROVA  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Flat Slope (%): 0  
 Subregion (LRR or MLRA): LRR-R Lat: 79.119253 Long: 42.440761 Datum: NAD83  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)    	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
<b>Primary Indicators</b> (minimum of one is required; check all that apply) <ul style="list-style-type: none"> <li><input type="checkbox"/> Surface Water (A1)</li> <li><input type="checkbox"/> High Water Table (A2)</li> <li><input type="checkbox"/> Saturation (A3)</li> <li><input type="checkbox"/> Water Marks (B1)</li> <li><input type="checkbox"/> Sediment Deposits (B2)</li> <li><input type="checkbox"/> Drift Deposits (B3)</li> <li><input type="checkbox"/> Algal Mat or Crust (B4)</li> <li><input type="checkbox"/> Iron Deposits (B5)</li> <li><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</li> <li><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</li> <li><input type="checkbox"/> Water-Stained Leaves (B9)</li> <li><input type="checkbox"/> Aquatic Fauna (B13)</li> <li><input type="checkbox"/> Marl Deposits (B15)</li> <li><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</li> <li><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</li> <li><input type="checkbox"/> Presence of Reduced Iron (C4)</li> <li><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</li> <li><input type="checkbox"/> Thin Muck Surface (C7)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul>	<b>Secondary Indicators</b> (minimum of two required) <ul style="list-style-type: none"> <li><input type="checkbox"/> Surface Soil Cracks (B6)</li> <li><input type="checkbox"/> Drainage Patterns (B10)</li> <li><input type="checkbox"/> Moss Trim Lines (B16)</li> <li><input type="checkbox"/> Dry-Season Water Table (C2)</li> <li><input type="checkbox"/> Crayfish Burrows (C8)</li> <li><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</li> <li><input type="checkbox"/> Stunted or Stressed Plants (D1)</li> <li><input type="checkbox"/> Geomorphic Position (D2)</li> <li><input type="checkbox"/> Shallow Aquitard (D3)</li> <li><input type="checkbox"/> Microtopographic Relief (D4)</li> <li><input type="checkbox"/> FAC-Neutral Test (D5)</li> </ul>

<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	--

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

Remarks:

**VEGETATION – Use scientific names of plants.**

Sampling Point: 602

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			

0 = Total Cover

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			
5.			
6.			
7.			

0 = Total Cover

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Schedonorus arundinaceus</u>	<u>100</u>	<u>Y</u>	<u>FACU</u>
2. <u>Trifolium repens</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>
3. <u>Daucus carota</u>	<u>5</u>	<u>N</u>	<u>UPL</u>
4. <u>Daucus pusillus</u>	<u>5</u>	<u>N</u>	<u>NI</u>
5. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>
6.			
7.			
8.			
9.			
10.			
11.			
12.			

100 = Total Cover

Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Not Applicable</u>			
2.			
3.			
4.			

0 = Total Cover

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>5</u>	x 1 = <u>5</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>85</u>	x 4 = <u>340</u>
UPL species <u>5</u>	x 5 = <u>25</u>
Column Totals: <u>95</u> (A)	<u>370</u> (B)

Prevalence Index = B/A = 3.89

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
  - Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must 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 or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

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







**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauque NY Sampling Date: 11/12/2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-604  
 Investigator(s): B. Vicks, S. Buckenmeyer Section, Township, Range: Villanova  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 2-3  
 Subregion (LRR or MLRA): LRR-R Lat: 79.116115 Long: 42.440785 Datum: NAD 83  
 Soil Map Unit Name: Chautauque Silty loam, 3-8% slopes NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>A562</u>
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators</u> (minimum of one is required; check all that apply)</p> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<p><u>Secondary Indicators</u> (minimum of two required)</p> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<p><b>Field Observations:</b></p> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>0"</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>0"</u> Saturation Present? (includes capillary fringe) Yes <u>X</u> No _____ Depth (inches): <u>0"</u>	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: DP-604

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66%</u> (A/B)
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Juncus effusus</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Carex flava</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>	
3. <u>Schedonorus arundinaceus</u>	<u>33</u>	<u>Yes</u>	<u>FACW</u>	
4. <u>Trifolium Repens</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>	
5. <u>Toraxacum officinale</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>	
6. <u>Ranunculus bulbosus</u>	<u>2</u>	<u>NO</u>	<u>FACU</u>	
7.				
8.				
9.				
10.				
11.				
12.				
<u>85</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2.				
3.				
4.				
<u>0</u> = Total Cover				
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No				

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

**SOIL**

Sampling Point: **DP-604**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-8	2.5Y 3/1	95	10YR 5/8	5	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 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, M)
- 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)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>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

Remarks:



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Ball Hill Wind Project City/County: Chautauque CTY Sampling Date: 11/12/2015  
 Applicant/Owner: Ball Hill Wind Energy, LLC State: NY Sampling Point: DP-605  
 Investigator(s): B. Vicks, S. Buckenmeyer Section, Township, Range: Villanova  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 2-3  
 Subregion (LRR or MLRA): LRR-R Lat: 79.115942 Long: 42.440811 Datum: NAD83  
 Soil Map Unit Name: Chautauque silt loam 3-8% slopes NWI classification: upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)   	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: DP-605

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of:      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>95</u> x 4 = <u>380</u> UPL species <u>5</u> x 5 = <u>25</u> Column Totals: <u>100</u> (A) <u>405</u> (B)  Prevalence Index = B/A = <u>4.05</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				
2.				
3.				
4.				
5.				
6.				
7.				
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Trifolium Repens</u>	<u>50</u>	<u>Yes</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Taraxacum officinale</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	
3. <u>Schedonorus arundinaceus</u>	<u>18</u>	<u>NO</u>	<u>FACU</u>	
4. <u>Daucus carota</u>	<u>5</u>	<u>NO</u>	<u>UPL</u>	
5. <u>Rosa multiflora</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>	
6. <u>Solanum Carolinense</u>	<u>2</u>	<u>NO</u>	<u>FACU</u>	
7.				
8.				
9.				
10.				
11.				
12.				
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Not Applicable</u>				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2.				
3.				
4.				
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

**SOIL**

Sampling Point: DP-605

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0-11	10YR 3/4	100					SIL	
11-20	2.5Y 5/6	90	10YR 3/4	10	C	M	SIL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)</p>	<p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L, M)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)</p> <p><input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)</p> <p><input type="checkbox"/> Red Parent Material (F21)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes _____ No <u>X</u></p>
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Remarks:

