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# Proposed 230kV USW Substation Site Wetland Investigation Report



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# Proposed 230kV USW Substation Site

## Wetland Investigation Report

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Prepared:

May 2021

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## **Summary**

This document presents the findings from the wetland field investigation completed for the designated study area identified as the proposed location for the 230kV USW Substation facility and supporting features situated within the Indian River Power, LLC property located at 29416 Power Plant Road in Millsboro, Delaware. The Tax Parcel Number for the designated study area is 2-33-2-2. This report is suitable for submittal to state and federal agencies. All information contained within this report has been field collected and summarized by Landmark Science & Engineering. Formal surveyed field delineations were performed within the designated study area as identified by Landmark Science & Engineering both in the field and on provided site drawings titled "Wetlands Plan for U.S. Wind" dated May 10, 2021. The delineated features on the plan are based on the experience and best professional judgment of Landmark Science & Engineering staff and scientists. Any disturbance of these areas may be subject to U.S. Army Corps of Engineers (USACE) and Delaware Department of Natural Resources and Environmental Control (DNREC) review.

The investigation was performed within the boundaries of the designated study area as shown on Figures 1 and 2. The designated study area consisted mainly of forested areas with interspersed maintained clearings and old field areas, paved parking areas and access roads, and two existing substations. The designated study area was bordered by tidal wetlands and marshes to the north and west in association with Indian River. The limits of Waters of the U.S. including tidal and non-tidal wetlands within the designated study area were delineated by Landmark on May 3-4, 2021. Portions of the designated study area appeared to have been disturbed in the past and is presently maintained by the property owner. This report was performed in accordance with the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region, November 2010.

The investigation concluded that vegetated tidal wetlands and non-tidal wetlands in association with Indian River, a Traditional Navigable Waterway (TNW), was present within portions of the designated study area. These vegetated tidal and non-tidal wetlands would be regulated by the USACE as Section 10 and Section 404 wetlands. Typically, DNREC does not regulate non-tidal wetlands, but they regulate tidal waters and wetlands to an elevation two feet above the local mean high-water line.

## Delineation History

This wetland field delineation was performed by Landmark Science & Engineering on May 3-4, 2021 at which time jurisdictional wetland and water resources within the designated study area were flagged. This flagging was surveyed by Landmark Science & Engineering.

#### Methods

This investigation used the techniques for Routine Determinations described in the 1987 USACE Wetland Delineation Manual (Y-87-1) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region. The field interpretations follow the definitions listed in the Public Notices from the Army Corp of Engineers, dated September 26, 1990, October 4, 1990, September 4, 1991, and December 2, 2008.

#### Delineation Criteria

The criteria below were used to delineate the natural resources described in this report. For the purpose of Section 404 of the Clean Water Act (CWA) regulation, the term "Waters of the United States" includes open water and wetlands (see Glossary for complete definitions). For the purpose of this report and common usage, "Waters of the U.S." refers to regulated open water areas and wetlands refers to vegetated areas that meet the wetland criteria as defined below.

#### Waters of the United States

In order for an area to be classified as regulated waters of the U.S., the feature must be consistent with the definitions as listed in 33 CFR (Code of Federal Regulations) Section 328.3 and the current guidance (see Glossary). Delineation criteria for open water areas are typically the ordinary highwater mark (OHWM).

#### Non-tidal and Tidal Vegetated Wetlands

In order for an area to be classified as wetlands under USACE methods, it must display: 1. Hydric Soils, 2. Hydrophytic Vegetation and 3. Indicators of Wetland Hydrology. The methodology for determining the dominant vegetation on the site was a hybridization of the methods described in the 1987 Manual and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont, as described below.

The diagnostic environmental characteristics of wetlands in accordance Part II, Number 26 b.(1), (2) and (3); and Number 26 c. are listed below:

*1. Vegetation:* The prevalent vegetation consists of macrophytes that are typically adapted to areas having hydrologic and soil conditions (as described below). Hydrophytic species, due to morphological, physiological, and/or reproductive adaptation(s), have the ability to grow, effectively compete, reproduce, and/or persist in anaerobic soil conditions.

Vegetation is classified by the U.S. Fish & Wildlife Service according to the following categories:

Obligate Wetland Plants (OBL): Plants that occur almost always (estimated probability >99%) in wetlands under natural conditions.

Facultative Wetland Plants (FACW): Plants that occur usually (estimated probability >67% to 99%) in wetlands.

Facultative Plants (FAC): Plants with a similar likelihood (estimated probability 33% to 67%) of occurring in both wetlands and uplands (non-wetlands).

Facultative Upland Plants (FACU): Plants that occur sometimes (estimated probability 1% to <33%) in wetlands.

Not Listed (NL or UPL): Plants that occur rarely (estimated probability <1%) in wetlands.

**2. Soil:** Soils are present and have been classified as hydric, or they possess characteristics that are associated with reducing soil conditions. A complete description of hydric soils can be found in the Supplement. Common hydric soil indicators include:

Organic Soil: A soil that is more than 50% organic material (peats and mucks).

Sulfidic Material: A soil that emits the odor of rotten eggs produced by sulfides formed in a reducing environment of saturated soils.

Aquic or Peraquic Moisture Regime: A soil that is permanently flooded and/or saturated close to the surface and is devoid of oxygen.

Soil Colors: Gleyed (Gray) soils and/or soils with low matrix chroma and bright mottles in the top 10-12 inches. A chroma of #2 in mottled soils or #1 in unmottled soils is considered hydric. (Colors are as defined in Munsell Color Book, 1975).

Soil on Hydric Soils List: A soil that matches the profile description for a soil type defined as hydric by the National Technical Committee on Hydric Soils (NTCHS).

Iron and/or Manganese Concretions: Segregated oxides of iron or manganese are found close to the surface (within 7.5 cm).

*3. Hydrology:* The area is inundated either permanently or periodically at mean water depths of less than or equal to 6.6 feet, or the soil is saturated to the surface at some time during the growing season of the prevalent vegetation.

Except in certain situations, evidence of a minimum of one positive wetland indicator from each parameter (vegetation, soils, and hydrology) must be found in order to make a positive wetland determination.

Wetland hydrology is indicated by drift lines, sediment deposition, watermarks, recorded well or stream gage data, visual observations, blackened leaves, or oxidized root channels with living roots.

The general guidance utilized at this time is that water must be within one foot of the surface consecutively greater than 5% of the growing season or more than 12 consecutive days during the growing season.

#### **Data Collection**

The absence or presence of waters and/or wetland parameters observed throughout the subject property was recorded in standard field note books. Representative wetland and upland borings were recorded at or near the wetland or waters boundary as well as any representative areas of disagreement between this delineation and the United States Fish & Wildlife Service (USFWS), National Wetlands Inventory (NWI) map or where deemed appropriate.

The soils observed at each sample boring were exposed using a hand soil auger. These borings were made to depths of 18 inches whenever possible. Soil texture information follows the United States Department of Agriculture (USDA) classification system.

The plants recorded at each sample station follow the nomenclature of Fernald (1950) and Kartesz and Kartesz (1981) and the PLANTS Database (USDA, 2007).

Hydrological indicators follow the descriptions of the 1987 Wetland Delineation Manual and Regional Supplement to the Corps of Engineers Wetland delineation Manual: Atlantic and Gulf Coastal Plain Region. Wetland hydrology indicator nomenclature uses the system developed by Cowardin, et al. (1981) and the USFWS NWI mapping program.

#### Data Sheets

The field analysis provided ample opportunity to express the typical conditions found in the field which determined where to place the waters and/or wetland flags as well as to document any conditions found in areas of disagreement between the delineation and the NWI or SWMP designations. Site conditions were characterized by representative samples which recorded the vegetation, apparent hydrology, and existing soil conditions. These samples were documented on the Routine Wetland Delineation Data Forms from the 1987 USACE Wetlands Delineation Manual, which are attached in the Appendix. Sample locations were estimated on the plans based on their relative location to physical features and surveyed flags.

## Jurisdiction

#### USACE and EPA

#### Section 10 Waters of the U.S. (Navigable Waters) and Tidal Wetlands

Section 10 of the Rivers and Harbors Act (RHA) of 1899 gives the Environmental Protection Agency (EPA) and USACE (the agencies) jurisdiction over traditional navigable waters (TNW). Section 10 Waters (including wetlands) includes tidal open waters and wetlands at and below the mean high tide mark and non-tidal navigable waters and wetlands to the ordinary high-water mark (OHWM). The USACE maintains a list TNWs. These waterways include tidal and certain non-tidal waters.

## Section 404 Waters of the U.S. including Vegetated Wetlands

Waters of the United States including tidal and non-tidal vegetated wetlands are regulated by the USACE under Section 404 of the Clean Water Act. Section 404 waters (including wetlands) include tidal open waters to the high tide line, non-tidal navigable waters to the OHWM, non-navigable open water to the OHWM, and all wetlands to the wetland/upland boundary. In order to be jurisdictional, non-wetland Waters of the United States (typically referred to as just waters of the U.S.) must be consistent with the definitions listed in 33 CFR (Code of Federal Regulations) Section 328.3 and the current guidance. Non-tidal wetlands must display the three criteria (hydric soils, hydrophytic vegetation, and wetland hydrology) in order to be jurisdictional.

In accordance with guidance, the agencies will assert jurisdiction over the following waters and wetlands:

- Traditional Navigable Waters (TNWs)
- Wetlands adjacent to TNWs
- Non-navigable tributaries of TNWs that are relatively permanent (relative permanent waters RPW) where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months.)
- Wetlands that directly abut such tributaries

The agencies will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus (see Glossary) with a TNW:

- Non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to, but that do not directly abut a non-navigable RPW tributary
- In addition, an USACE policy decision has been made to collect information relevant to a significant nexus evaluation for all "intermittent" non-navigable tributaries and their adjacent wetlands (i.e., even if the tributary's flow may be relatively permanent, but is not perennial).

The agencies will **not** assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow)
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water

The agencies will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream TNWs.
- Significant nexus includes consideration of hydrologic or ecologic factors (see Glossary)

Geographically isolated wetlands which do not have a significant nexus connection to interstate commerce are not jurisdictional. The USACE District Office evaluates if these wetlands are isolated under the CWA if submitted for a jurisdictional determination (JD). USACE and EPA headquarters must concur with an isolated wetlands evaluation for a non-jurisdictional determination.

#### State of Delaware

#### State Subaqueous Lands

The State of Delaware regulates all perennial and intermittent watercourses as State Subaqueous Lands. Subaqueous Lands are water conveyances with defined banks and channels permanently or seasonally supported by groundwater, spring seeps, or surface waters in addition to precipitation and surface water runoff from storm events. Ephemeral streams are not typically considered Subaqueous Lands as they rely only on surface water runoff from storm events and are otherwise dry. A determination of the limits of regulated Subaqueous Lands is usually done on a case-by-case basis by DNREC. If Subaqueous Lands are determined to be present on the property, they will most likely be found to coincide with waters of the United States.

#### Tidal Wetlands

The State of Delaware regulates those tidal wetlands indicated on the Delaware Tidal Wetland maps in accordance with the Delaware Wetlands Title 7, Part VII, Chapter 66. These areas include tidal waters and adjacent areas "...whose surface is at or below an elevation of 2 feet above local mean high water, and upon which may grow or is capable of growing..." typical tidal water hydrophytes.

#### Sussex County

#### Perennial and Intermittent Streams

The Code of Sussex County, Delaware, requires a 50-foot buffer zone from the ordinary high-water line of perennial non-tidal rivers and non-tidal streams. Excluded from buffer zone designations are farm ponds, tax ditches and other man-made bodies of water where these waters are not located on or within perennial streams. A buffer zone shall not be required for agricultural drainage ditches if the adjacent agricultural land is the subject of a conservation farm plan established with the Sussex Conservation District.

#### Non-Tidal Vegetated Wetlands

Sussex County does not apply any additional regulations on non-tidal vegetated wetlands.

#### Tidal Wetlands

The Code of Sussex County, Delaware, requires a 50-foot buffer for structures from the mean highwater line on all tidal waters, tidal tributary streams and tidal wetlands.

#### Results

#### General Site Description

A background review was performed in the office prior to the commencement of site work. The results of this background review are described below.

#### Location

The field delineation was performed on May 3-4, 2021 within the boundaries of the designated study area located at Latitude 38.586434° North and Longitude -75.244621° West, and consisted mainly of forested areas with interspersed maintained clearings and old field areas, paved parking areas and access roads, and two existing substations. The designated study area was bordered to the north and west by Indian River, to the south by Power Plant Road, and to the east by an existing electrical substation and the Indian River Power LLC facility. See Figures 1 and 2 for details.

#### Soils

The USDA Web Soil Survey document indicated the designated study area is primarily underlain with Henlopen loamy sands (HpA, HpB) and Runclint loamy sand (RuA), with lesser areas mapped as Broadkill mucky peat (Br), Manahawkin muck (Ma), Purnell peat (Pu), and Brockatonorton-Urban land complex (BuA). Henlopen loamy sands and Runclint loamy sand consist of somewhat excessively drained soils; Broadkill mucky peat, Manahawken muck, and Purnell peat consist of very poorly drained soils and are considered hydric by the Natural Technical Committee on Hydric Soils. Urban land complexes typically consist of soils that have been highly disturbed through past urbanization; Brockatonorton-Urban land complex is considered hydric when associated with beaches and tidal marshes. Runclint loamy sand may be considered hydric where it occurs in depressions. See Figure 4 for details.

## Mapped Hydrology and Topography

The designated study area drains mainly northward into Indian River; the southwestern portion drains southward into Indian Creek, a tributary to Indian River. Hydrology within the designated study area appeared to be influenced mainly by surface water runoff and from tidal influence from the adjacent Indian River and Indian Creek. Elevations within the designated study area ranged from 10 feet in the northern and western portions down to zero at Indian River to the north, west, and east according to the LiDAR-derived contours shown on Figure 5.

#### Mapped Wetlands

## State and Federal Wetland Mapping

Both the Delaware State Wetlands (SWMP) map and the USFWS National Wetlands Inventory (NWI) map depicted emergent Estuarine wetlands (E2EM) in association with Indian River to the north, east, and northwest, and with Indian Creek to the south of the designated study area. In addition, both maps indicated a small palustrine forested wetland (PFO) in the eastern portion of the designated study area. See Figures 3a and 3b for details.

#### **Delineation Specifics**

#### <u>Upland Land Use and Land Cover Types</u>

Old Field Areas – Large linear areas between Gate A Road and Power Plant Road in the southern
portion of the study area, and just east and northeast of the 230 kV Delmarva Power substation
in the east central portion of the study area consisted primarily of old field vegetation and
appeared to be actively maintained. Electric lines on wooden poles and larger steel poles

traversed these old field areas and beyond. Common species observed in this old field areas included Sweet Vernal Grass, Oldfield Blackberry, Yarrow, Broomsedge, Meadow Onion, Sheep Sorrel, Woodsorrel, Narrow-leaf Plantain, Meadow Fescue, Japanese Honeysuckle, Ragwort and Thistles.

- Paved and Industrially-Developed Areas A 230 kV Delmarva Power substation consisting of stone-paved surfaces and large electrical components was situated in the south-central portion of the designated study area. An asphalt-paved access road (Gate A Road) and a railroad traversed the southern portion of the study area. A linear stone-paved area was situated in the easternmost portion of the study area adjacent to the tidal wetlands.
- Scrub-Shrub Vegetation Scrub-shrub vegetation was limited to the narrow upland area between the stone-paved access area and tidal wetlands in the easternmost portion of the study area. A minor component scattered throughout the designated study area consisted of scrub-shrub vegetation and saplings. Common species observed in these areas included Black Cherry, Loblolly Pine, Virginia Pine, Persimmon, Sassafras, Southern Red Oak, American Holly, Shining Sumac, Japanese Honeysuckle, Sheep Sorrel, and Broomsedge.
- Mixed Deciduous-Coniferous Forests Much of the upland areas encountered within the study area consisted of relatively undisturbed mixed forest vegetation. Common species observed in these areas included Loblolly Pine, Virginia Pine, Southern Red Oak, Black Oak, White Oak, Water Oak, Mockernut Hickory, Bitternut Hickory, Red Maple, Black Cherry, Hackberry, Sassafras, Black Gum, Persimmon, Flowering Dogwood, American Holly, Highbush Blueberry, Lowbush Blueberry and Greenbriar.

#### Line Specifications

One wetland line was placed within the designated study area as estimated during fieldwork based on physical features. The limits of the water and/or wetland features found within the study area were flagged with pink and black vinyl ribbon. This line was marked with alpha-numeric designators with letters representing the line and numbers representing the positions along the line.

Line AA originated at the easternmost end of the designated study area at the chain-link fence to the power plant. Line AA headed generally westward for ±900 feet to flag AA31 along the southern limits of a large emergent tidal wetland and narrow non-tidal wetland fringe associated with Indian River. From flag AA31, line AA continued generally westward and delineated a small emergent and forested non-tidal wetland finger. At flag AA43, Line AA circled back northward and eastward along the northern limits of the emergent and forested non-tidal wetland to flag AA55. Line AA continued briefly eastward to a point overlooking the emergent tidal wetland at flag AA58, then turned sharply northward and westward along the southern limits of the large emergent tidal wetland and narrow non-tidal wetland fringe.

At flag AA81, Line AA crossed over a 200-foot-wide power line clearing and headed westward for ±900 feet to flag AA100. From this point, Line AA continued southward and westward ±2,400 feet along the southern and eastern limits of the large emergent tidal wetland and narrow non-tidal wetland fringe to flag AA140 where the large emergent tidal wetland became significantly narrowed. At this point, Line AA turned southward for ±350 feet along the eastern bank of Indian River to flag AA146. From flag AA146, Line AA headed generally eastward along the northern limits of an emergent and scrub-shrub tidal wetland plus narrow non-tidal wetland fringe associated with Indian Creek for ±2,400 feet, ending at flag AA188 adjacent to Gate A Road.

Dominant wetland vegetation observed in the emergent tidal wetlands included Salt Marsh Cordgrass, Salt Meadow Cordgrass, Common Reed, and Groundseltree.

Dominant wetland vegetation in the non-tidal fringes included Greenbriar, Groundseltree, Arrowwood, American Holly, Highbush Blueberry, Persimmon, Water Oak, Red Maple, Atlantic White Cedar, Black Gum and Loblolly Pine

Dominant wetland vegetation in the non-tidal emergent and forested wetland area in the eastern portion of the study area between flags AA31 and AA55 included Greenbriar, Common Reed, Groundseltree, Red Maple, Black Gum, Water Oak, and Loblolly Pine.

#### Section 404 Waters

No non-tidal waters of the U.S. were encountered within the designated study area at the time of the investigation.

#### State Subaqueous Lands

Indian River and associated flats and tidal marshes along the western, northern, and northeastern borders of the designated study area, and Indian Creek and associated tidal marshes along the southern border of the study area would qualify as State Subaqueous Lands. The State determines the boundaries of their jurisdiction on a case-by-case basis.

#### Non-tidal Vegetated Wetlands

Non-tidal wetland conditions encountered within the designated study area at the time of the investigation consisted of a small forested and emergent wetland finger situated slightly up-gradient of the adjacent emergent tidal wetland area in the eastern portion of the designated study area between flags AA31 and AA55. Narrow vegetated non-tidal wetland fringes were encountered along much of the delineation separating the emergent tidal wetland areas from the up-gradient upland forested areas.

#### Section 10 Waters

Indian River along the western, northern, and northeastern boundaries, and Indian Creek along the southern boundary would be considered Section 10 Waters. These described water features are applicable to USACE Section 10 regulation. The ordinary high water line elevation was not delineated separately.

#### Tidal Wetlands

Tidal emergent wetlands were observed throughout the northwestern, northern and eastern portions of the designated study in association with Indian River, and in the southern portion in association with Indian Creek.

#### Comparison to Mapped Wetlands

Both the Delaware State Wetlands (SWMP) map and the USFWS National Wetlands Inventory (NWI) map depicted emergent Estuarine wetlands (E2EM) in association with Indian River to the

north, east, and northwest, and with Indian Creek to the south of the designated study area. In addition, both maps indicated a small palustrine forested wetland (PFO) in the eastern portion of the designated study area. The mapped wetlands appeared to be reasonably consistent with the field-located wetland boundaries.

#### Conclusions

This wetland delineation within the designated study area was completed by Landmark in May 2021. One wetland line was placed along the limits of the tidal and non-tidal wetlands and wetland fringes that separated the upland areas from the Waters of the U.S. This line was surveyed and plotted by Landmark Science & Engineering and is shown on the accompanying wetland delineation plan.

This investigation was completed following the 1987 USACE Wetland Delineation Manual (Y-87-1) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (November 2010). Reference maps and site photographs from this investigation are included in the appendix of this report for review by reviewing and regulatory agencies, along with the wetland plan denoting the wetland and non-wetland features.

The sole purpose of this investigation was to identify any encountered wetland conditions and delineate the limits of Waters of the United States including wetlands, Tidal Waters, Navigable Waters, and Subaqueous Lands within the designated study area. This report contains the information necessary to accompany the JD information sheets when submitting to the USACE with a jurisdictional determination request, if necessary.

#### Notes

The USACE regulates the placement of structures and fill in Section 10 Waters (below the ordinary high water mark elevation of navigable waters) and the placement of fill and/or dredge material into Waters of the U.S. including wetlands (Section 404). The placement of fill and/or dredged material has been widely interpreted by the Courts. Please consult our office prior to any work in wetlands or Waters of the U.S. No work of this nature should be performed without a JD and/or a permit from the USACE.

The State of Delaware regulates activities in Subaqueous Lands as well as State mapped tidal wetlands. No work in those areas should be performed without a permit from the State.

This investigation has been performed utilizing best professional judgment based on the site conditions encountered at the time of the investigation. The investigator is not responsible for changed conditions, either man-made or natural, which may change wetland boundaries.

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## Glossary

Waters of the U.S. As defined by 33 CFR Part 328, Section 328.3.

- a. Waters of the United States
  - 1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide:
  - 2. All interstate waters including interstate wetlands;
  - 3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use degradation or destruction of which could affect interstate or foreign commerce including any such waters;
    - a. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
    - b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    - c. Which are used or could be used for industrial purposes by industries in interstate commerce;
  - 4. All impoundments of waters otherwise defined as waters of the United States under the definition:
  - 5. Tributaries of waters identified in paragraphs (a) (1)-(4) of this section;
  - 6. The territorial seas:
  - 7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1)-(6) of this section.
    - Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States.
  - 8. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.
- b. The term "wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.
- c. The term "adjacent" means bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and the like are "adjacent wetlands."
- d. The term "high tide line" means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

- e. The term "ordinary high-water mark" means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.
- f. The term "tidal waters" means those waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by hydrologic, wind, or other effects.

Guidelines and Public Notices periodically released by the EPA and USACE refine and interpret these definitions.

## Navigable Waters of the U.S. As defined by 33 CFR Part 328, Section 329.4

Navigable waters of the United States are those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the waterbody, and is not extinguished by later actions or events which impede or destroy navigable capacity.

Tabulated lists of final determinations of navigability are to be maintained in each district office, and be updated as necessitated by court decisions, jurisdictional inquiries, or other changed conditions.

# **Traditional Navigable Water (TNW)** *Per US Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook, dated May 30, 2007*

Traditional navigable water currently used or that have been used in the past, or may be susceptible to use, in interstate or foreign commerce, including but not limited to tidal waters. Such waters are those referred to in as "navigable-in-fact".

#### Non-navigable Tributaries of TNWs with Relatively Permanent Flow (RPF)

The guidance describes the second category – non-navigable tributaries with relatively permanent flow as waters, e.g., streams, that typically flow year-round or that have continuous flow at least seasonally (typically three months) excluding ephemeral tributaries and intermittent streams.

### Significant Nexus Determination

The significant nexus evaluation will combine, for analytical purposes, the tributary, and all of its adjacent wetlands, whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. A significant nexus analysis will assess the flow characteristics and functions of the relevant reach of the tributary, in combination with functions collectively performed by all wetlands (if present) adjacent to the tributary, to determine if they have more than an insubstantial or speculative effect on the chemical, physical, and biological integrity of TNWs.

Consideration will be given to the distance between the tributary and the TNW. The tributary will not be so remote as to make the effect on the TNW speculative or insubstantial. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW).

Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of a significant nexus.

Hydrologic factors will be considered, such as:

- volume, duration, and frequency of flow, including consideration of certain physical characteristics of the tributary
- proximity to the traditional navigable water
- size of the watershed
- average annual rainfall
- average annual winter snow pack

Ecologic factors will be considered, such as:

- the ability of the tributary and its adjacent wetlands (if any) to carry pollutants and flood waters to traditional navigable waters
- the ability of the tributary and its adjacent wetlands (if any) to provide aquatic habitat that supports biota of a traditional navigable water
- the ability for adjacent wetlands to trap and filter pollutants or store flood waters
- the ability to maintain water quality

Certain geographical features (e.g., ditches, canals) that transport relatively permanent (continuous at least seasonally) flow directly or indirectly into TNWs or between two (or more) waters of the U.S., including wetlands, are jurisdictional waters regulated under the CWA.

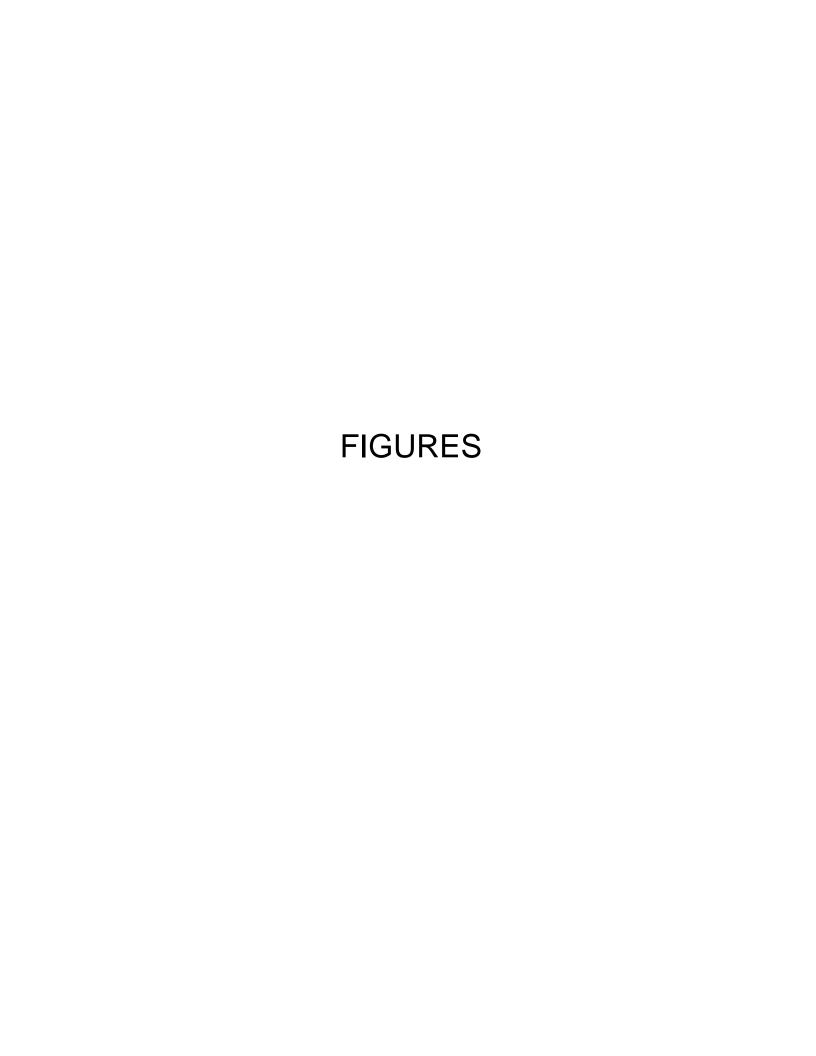
Certain geographic features (e.g., swales, ditches, pipes) may contribute to a surface hydrologic connection where the features:

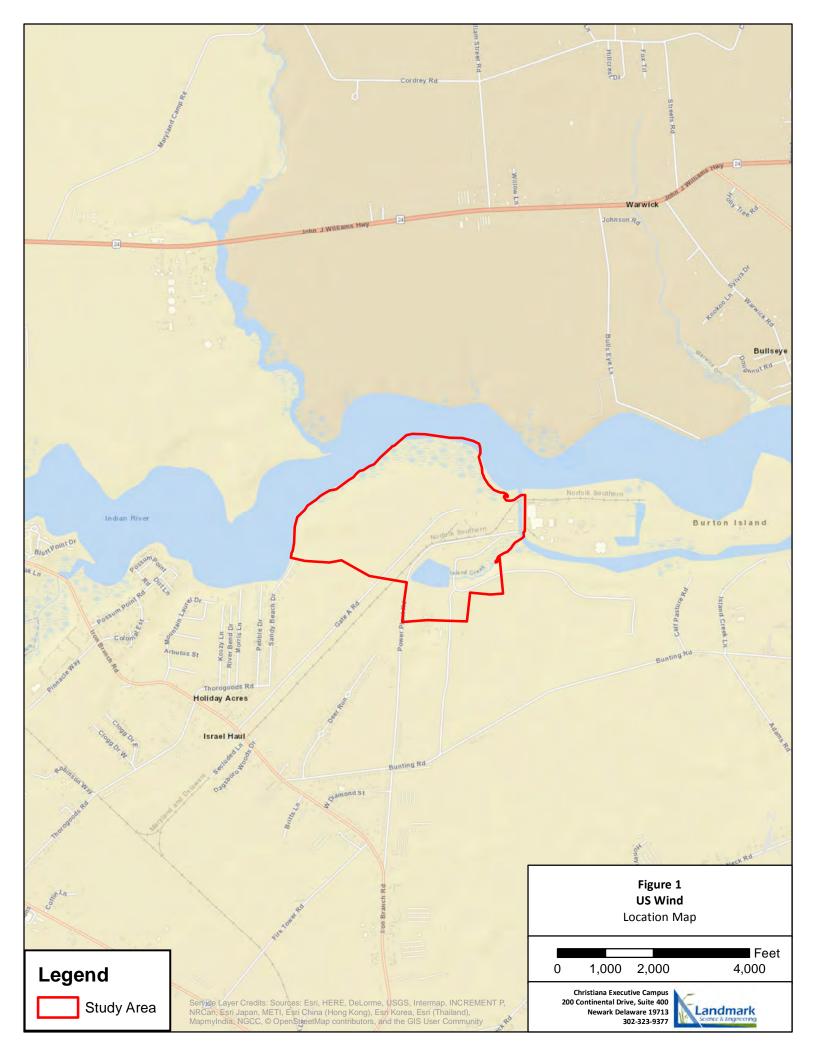
- replace or relocate a water of the U.S., or
- connect a water of the U.S. to another water of the U.S., or
- provide relatively permanent flow to a water of the U.S.

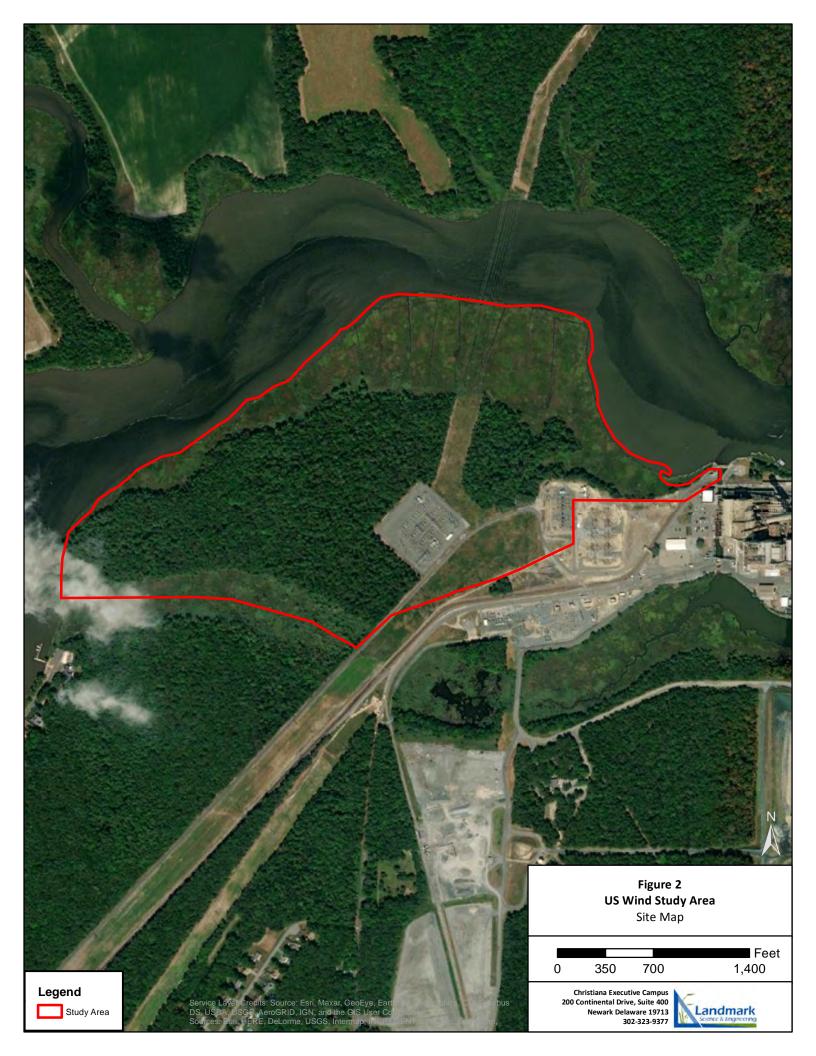
Certain geographic features generally are not jurisdictional waters:

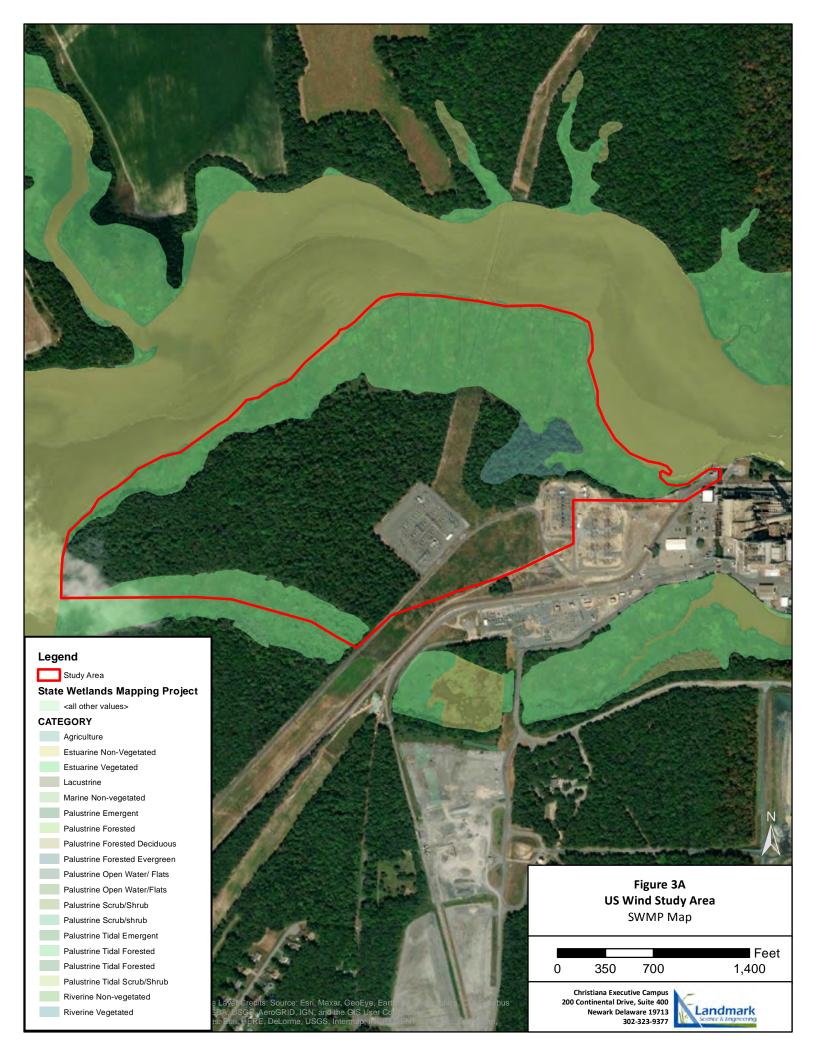
- swales, erosional features (e.g. gullies) and small washes characterized by low volume, infrequent, and short duration flow
- ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water
- uplands transporting over land flow generated from precipitation (i.e., rain events and snowmelt)

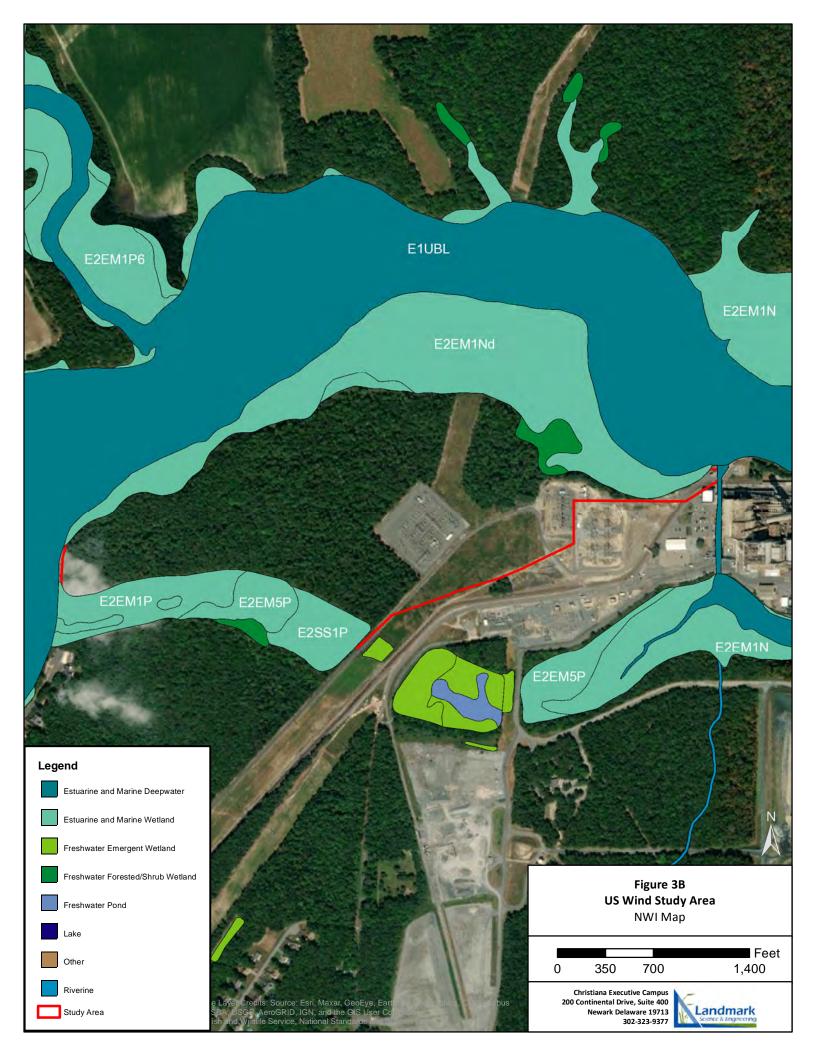






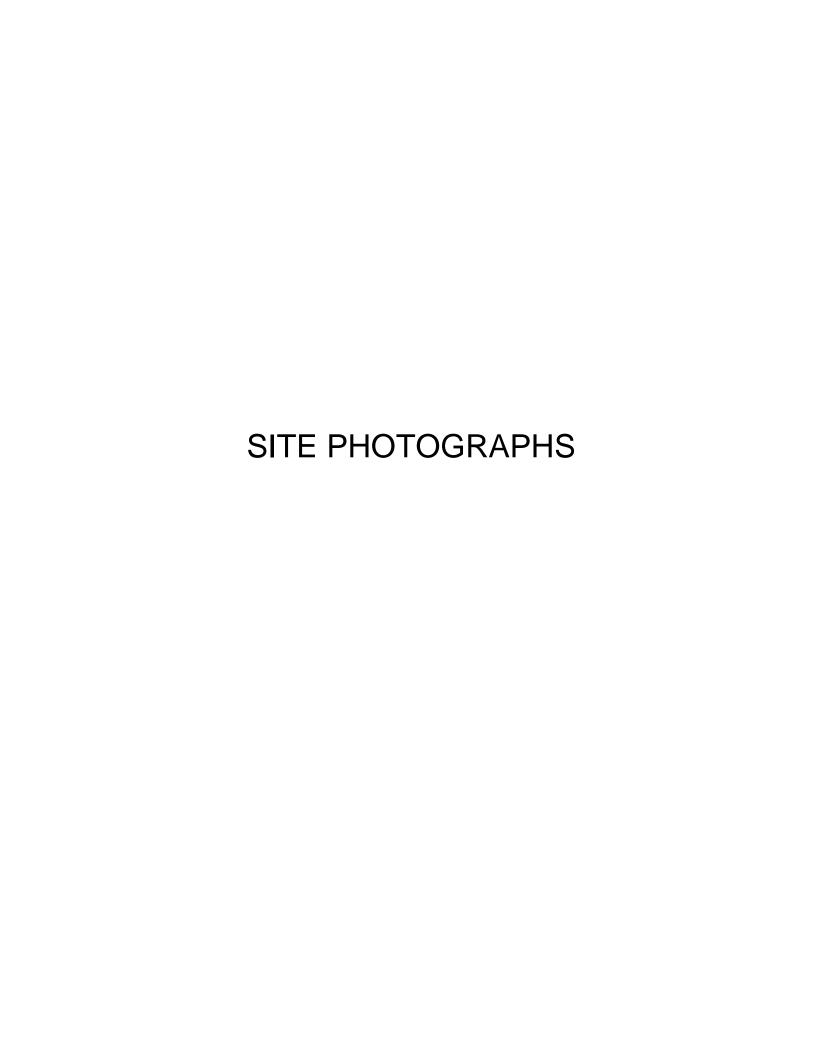














LOOKING NORTH FROM EDGE OF WETLAND TOWARD INDIAN RIVER. EASTERN END OF STUDY AREA.



LOOKING NORTHEAST FROM EDGE OF WETLAND TOWARD INDIAN RIVER. EASTERN END OF STUDY AREA



LOOKING NORTHWEST FROM EDGE OF WETLAND TOWARD INDIAN RIVER. EASTERN END OF STUDY AREA



LOOKING NORTH FROM EDGE OF WETLAND TOWARD INDIAN RIVER. EASTERN END OF STUDY AREA.



NARROW UPLAND AREA BETWEEN FENCE AND TIDAL WETLANDS IN EASTERN END OF STUDY AREA.



NARROW UPLAND AREA BETWEEN FENCE AND TIDAL WETLANDS IN EASTERN END OF STUDY AREA.



NON-TIDAL EMERGENT AND FORESTED WETLAND AREA IN EASTERN PORTION OF STUDY AREA. UPLAND FOREST BEYOND. NEAR FLAG AA35.



NON-TIDAL EMERGENT WETLAND AREA IN EASTERN PORTION OF STUDY AREA NEAR FLAG AA33.



LOOKING SOUTHEAST FROM NON-TIDAL EMERGENT WETLAND TOWARD UPLAND FORESTED AREA. EASTERN PORTION OF STUDY AREA NEAR FLAG AA33.



UPLAND FOREST IN EAST CENTRAL PORTION OF STUDY AREA WEST OF FLAG AA43.



UPLAND FOREST ON SMALL PENINSULA IN EASTERN PORTION OF STUDY AREA NEAR FLAG AA58



UPLAND FOREST ON SMALL PENINSULA IN EASTERN PORTION OF STUDY AREA NEAR FLAG AA58.



UPLAND MIXED FOREST IN EAST CENTRAL PORTION OF STUDY AREA. POWER LINE CLEARING IN DISTANCE.



UPLAND MIXED FOREST IN EAST CENTRAL PORTION OF STUDY AREA.



LOOKING NORTH FROM UPLAND EDGE IN POWER LINE CLEARING ACROSS INDIAN RIVER. EAST CENTRAL PORTION OF STUDY AREA NEAR FLAG 81AA.



UPLAND MIXED FOREST IN EAST CENTRAL PORTION OF STUDY AREA.



LOOKING NORTH TOWARD POWER LINE CLEARING IN EAST CENTRAL PORTION OF STUDY AREA.



LOOKING EAST ACROSS OLD FIELD AREA TOWARD POWER PLANT FROM POWER LINE CLEARING IN EAST CENTRAL PORTION OF STUDY AREA.



UPLAND FOREST NEAR DATA POINT 7 JUST NORTH OF EXISTING DPL SUBSTATION. CENTRAL PORTION OF STUDY AREA.



UPLAND FOREST NEAR DATA POINT 7 JUST NORTH OF EXISTING DPL SUBSTATION. CENTRAL PORTION OF STUDY AREA.



UPLAND FOREST NEAR DATA POINT 8 JUST NORTHWEST OF EXISTING DPL SUBSTATION. CENTRAL PORTION OF STUDY AREA.



UPLAND FOREST NEAR DATA POINT 8 JUST NORTHWEST OF EXISTING DPL SUBSTATION. CENTRAL PORTION OF STUDY AREA.



UPLAND FOREST NEAR DATA POINT 9 JUST WEST OF EXISTING DPL SUBSTATION. CENTRAL PORTION OF STUDY AREA.



UPLAND FOREST SOUTHWEST OF EXISTING DPL SUBSTATION EAST OF FLAG 184AA.



UPLAND FOREST NEAR FLAG 113AA. NORTHERN PORTION OF STUDY AREA.



NON-TIDAL WETLAND EDGE NEAR FLAG 113AA WITH TIDAL WETLANDS BEYOND. INDIAN RIVER IN DISTANCE.



UPLAND FOREST NEAR FLAG AA116. NORTHERN PORTION OF STUDY AREA.



NON-TIDAL WETLAND EDGE NEAR FLAG AA125 WITH TIDAL WETLANDS BEYOND. INDIAN RIVER IN DISTANCE



LOOKING NORTHWEST ACORSS TIDAL WETLANDS NEAR FLAG AA125. INDIAN RIVER BEYOND. NORTHWESTERN PORTION OF STUDY AREA.



LOOKING NORTHEAST ACORSS TIDAL WETLANDS NEAR FLAG AA125. INDIAN RIVER BEYOND. NORTHWESTERN PORTION OF STUDY AREA.



LOOKING WEST FROM NORTHWESTERN CORNER OF STUDY AREA ACROSS INDIAN RIVER NEAR FLAG 140AA.



LARGE BLACKJACK OAK TREE ON RIVERBANK NEAR WESTERN EDGE OF STUDY AREA NEAR FLAG 142AA



EMERGENT TIDAL WETLAND AREA NEAR FLAG AA160 IN WESTERN PORTION OF STUDY AREA.



EMERGENT TIDAL WETLAND AREA NEAR FLAG AA160 IN WESTERN PORTION OF STUDY AREA.



LOOKING EAST ALONG GATE A ROAD IN SOUTHWESTERN PORTION OF STUDY AREA. OLD FIELD AREAS AT RIGHT.



LOOKING SOUTHWEST FROM GATE A ROAD IN SOUTHWESTERN PORTION OF STUDY AREA. OLD FIELD AREAS AT LEFT.



WETL	AND C	DETER	RMINA	OITA	N DAT	A FOR	RM - Atlantic	and Gulf	Coastal Plain Region			
Project/Site: Proposed 230kV	USW Sul	bstation	n Site		City/C	County:	Sussex County		Sampling Date: 05-03-21			
Applicant/Owner: US Wind						State: Delaware	2	Sampling Point: DP1				
						Section/Township:						
Landform: Plain							Local relief: Flat % Slope: 1%					
Subregion:MLRA 153D			Lat: 38.	.5868°N	N		Long: -75.2363°	W	Datum:			
Soil Map Unit Name: Brockat	onorton-	Urban	land con	nplex (I	BuA)			NWI Classification: UPL				
Are climatic/hydrologic condi						year?			Yes V No			
									I Circumstances" present?			
Is vegetation soil or hydrology naturally problematic?									Yes V No			
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.												
Hydrophytic vegetation prese			Yes		No	<b>V</b>			pled Area within a Wetland?			
Hydric soil present?			Yes		No	<b>√</b>		Yes				
Wetland Hydrology present?			Yes		No	<u> </u>			No 🗸			
Remarks: Area appeared t	o havo l	heen h		صارير طاد			_1					
HYDROLOGY												
Wetland Hydrology Indica	ators:											
Primary indicators (minimum		require	ed; chec	k all tha	at apply	·)		Secondary indicators (minimum of two required)				
Surface water (A1)			Water-	stained	lleaves	(B9)		Surface soil cracks (B6)				
High water table (A2)						Sparsely vegetated concave surface (B8)						
Saturation (A3)							Drainage patterns (B10)					
Water marks (B1)							Moss trim lines (B16)					
Sediment deposits (B2)	Sediment deposits (B2)  Oxidized rhizospheres on living roots (C3)					Dry-season water table (C2)						
Drift deposits (B3)			Presen	ce of re	duced i	ron (C4)		Crayfish burrows (C8)				
Algal mat or crust (B4) Recent iron reduction in tilled					duction	I soils (C4)	Saturation visible on aerial photos (C9)					
☐ Iron deposits (B5) ☐ Thick muck surface (C7)					rface (C		Geomorphic position (D2)					
Inundation visible on Other (explain in remarks)							Shallow aquitard (D3)					
aerial photos (B7)								FAC-neutral test (D5)				
Field Observations:			•					_				
Surface water present?	Yes		No	<b>✓</b>	Depth	n (inches	5)		Is Wetland Hydrology Present?			
Water table present?	Yes		No	<b>✓</b>	Depth	n (inches	5)		Yes			
Saturation present?	Yes		No	<b>✓</b>	Depth	n (inches	5)		No 🗸			
(includes capillary fringe)												
Describe recorded data (strea	m gage,	monito	ring wel	l, aeria	l photos	s, previo	us inspections) if a	vailable:				
Remarks: Area is a narrow scr	uh chruh	unland	1 hotwo	on ston	0-02000	d areas a	and tidal amargant	wotlands				
Remarks. Area is a marrow scr	ub-5111 ub	upiani	i betwee	211 31011	e-pavec	ı ai eas a	ina tidai emergent	wettatius				

VEGETATION - Use scientific names		Absolute	Dominant	Indicator	Sampli			ng Point: DP1	
Tree Stratum	Plot size:	% Cover	Species?	Status	Dominance Test Worksheet				
Quercus nigra		20	Υ	FAC	Number of OBL, I	Number of OBL, FACW and FAC species:			
Acer rubrum		20	Υ	FAC	Total number of	Total number of all dominant species:			
					% of OBL, FACW	% of OBL, FACW and FAC dominant species:		75	
					Prevalence Index Worksheet				
					Total % cover		Multiplier	B-value	
					OBL species	0	1	1 C	
					FACW species	1	2	2 2	
		40	Total Cover		FAC species	97	3	3 291	
Sapling Stratum	Plot size:				FACU species	36	4	1 144	
Quercus nigra		30	Υ	FAC	UPL species	0		5 0	
Quercus falcata		20	Y	FACU	Column total	134		437	
Pinus taeda		5	N	FAC	Prevalence Index	3.26			
					Hydrophytic Vegetation Indicators  Dominance test is > 50%			•	
					Prevalence inde				
							drophytic veget	tation	
		55	Total Cover		Explanantion of p				
Shrub Stratum	Plot size:					_			
Ilex opaca	1100 3120.	5	Υ	FAC	Area is maintained as a power line easement				
· ·	· a	5	Y	FAC	Definitions of vegetation strata:  Tree - Woody plants, excluding woody vines, approx.				
Baccharis halimifolia			'	TAC	20 feet (6 m) or more in height and 3 inches (7.6 cm) or				
				larger in diameter at breast height (DBH).					
				<del>-</del>	Sapling - Woody plants, excluding woody vines, approx.				
				20 feet (6 m) or r	•	-			
				(7.6 cm) DBH.	nore in neight a	1110 1633 (11011 5 1	inches		
	10	Total Cover		Shrub - Woody plants, excluding woody vines, approx.					
Harb Stratum	10	Total Cover		3 to 20 feet (1 to					
Herb Stratum	Plot size:	10	Y	FACIL	Herb - All herbac	, ,		uding	
Festuca rubra		10	-	FACU	herbaceous vines, regardless of size. Includes woody				
Andropogon virginicus		10	Y	FAC	plants, except woody vines, less than approximately				
Prunus serotina		5	N N	FACU	1	ately			
Panicum clandestinum		1	N N	FACW	3 feet (1 m) in he Woody Vine - All	ight.			
Juncus tenuis		1	N 	FAC					
Smilax rotundifolia		1	N FAC Remarks: (If observed, list morphological				nological adapta	ations)	
Parthenocissus quinquefolia		1	N	FACU	_				
					_				
					_				
					_				
					1				
Г	29	Total cover							
Woody Vine Stratum Plot size:			T.	1	_				
			<u> </u>						
			<u> </u>		Is H	ydrophytic Ve	egetation Pre	sent?	
						Yes			
	0	Total cover			No	<b>✓</b>			

SOIL Sampling Point: DP												
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)												
Depth								·				
(inches)	Color (moist)							Remarks				
0-3	10YR 4/2	100	10YR 6/1	5	С	М	Sd Lo					
3-8	10YR 4/4	85	10YR 5/3 & 4/2	15	С	М	Lo Sd					
8-18	10YR 4/4	85	10YR 4/2 & 5/6	15	С	М	Lo Sd					
Types: C-co	oncentration, D-depletion	, RM-reduce	d matrix, CS covered or co	oated sand g	ains.			Locations: PL-pore lining, M-matrix				
Types: C-concentration, D-depletion, RM-reduced matrix, CS covered or coated sand grains.  Locations: PL-pore lining, M-matrix  Hydric Soil Indicators:  Indicators for Problematic Hydric Soils:												
Histos	sol (A1)		Polyvalue below surf	ace (S8)(LRR	S, T, U	)	1 cm muck (A9)(LRR O)					
Histic	epipedon (A2)		Thin dark surface (SS	))(LRR S, T, U	)			2 cm muck (A10)(LRR S)				
	histic (A3)		Loamy mucky minera	al (F1)(LRR O	)		Reduced vertic (F18)					
☐ Hydro	ogen sulfide (A4)		Loamy gleyed matrix					(outside MLRA 150A, B)				
	fied layers (A5)		Depleted matrix (F3)					Piedmont floodplain soils (F19)				
Organ	nic bodies (A6)(LRR P, T, U	)	Redox dark surface (	F6)				(LRR P, S, T)				
	mucky mineral (A7)(LRR L			Anomalous bright loamy soils (F20)								
Muck	presence (A8)(LRR U)		Redox depressions (	=8)			(MLRA 153B)					
	muck (A9) (LRR P, T)		Marl (F10)(LRR U)	-,			Red parent material (TF2)					
	eted below dark surface (A	(11)	Depleted ochric (F11	.)(MLRA 151)			Very shallow dark surface (TF12)					
Thick dark surface (A12)  Fe-Mn masses (F12)(LRR O, P, T)								(LRR T, U)				
Coast	prairie redox (A16)(MLRA	\ 150A)	Umbric surface (F13)				Other (explain in remarks)					
	/ mucky mineral (S1)(LRR	•			,							
Sandy	gleyed matrix (S4)		Reduced vertic (F18)	(MLRA 150A)	150B)			Indicators of hydrophytic vegetation				
Sandy	redox (S5)		Piedmont floodplain	soils (F19)(N	ILRA 14	19A)	and wetland hydrology must be					
Stripp	ped matrix (S6)		Anomalous bright lo	amy soils (F2	0)		present, unless disturbed or					
	surface (S7)(LRR P, S, T, U	)	(MLRA 149A, 153C, 1		•		problematic.					
-	Layer (if observed):		· · · · · · · · · · · · · · · · · · ·	,			Is Hydric Soil Present?					
	Type:						Yes					
	Depth (inches):						No 🗸					
Remarks:	Soil appeared to have be	en historica	lly disturbed and may hav	e been old fi	I							
Remarks: Soil appeared to have been historically disturbed and may have been old fill												

WETLAND	DETERMINA	ATION DAT	ra fori	M - Atlantic	and Gulf Co	oastal Plain	Region		
Project/Site: Proposed 230kV USW Si	ubstation Site	City/	County: Su	ussex County	S	Sampling Date:	05-03-21		
Applicant/Owner: US Wind		<u> </u>	•	State: Delaware		Sampling Point			
Investigators: Craig Smith				Section/Townsh					
Landform: Plain				Local relief: Flat	% Slope: 2-3%				
Subregion:MLRA 153D	Lat: 38	.5867°N		Long: -75.2405°		Datum:			
Soil Map Unit Name: Brockatonortor				. 0	+	NWI Classificati	ion: UPL		
Are climatic/hydrologic conditions on			f year?			res 🗸 No			
Is vegetation soil or hydrol		cantly disturbe	-		Are "Normal Ci	rcumstances" i	present?		
Is vegetation soil or hydrol		lly problemation				res 🗸 No			
SUMMARY OF FINE				ampling point			_		
Hydrophytic vegetation present?	Yes	No No	[v]	ampining point			n a Wetland?		
Hydric soil present?	Yes	□ No	7		p.	Yes	7		
Wetland Hydrology present?	Yes	□ No	7			No -	_ 7		
Remarks:	I			I					
HYDROLOGY									
Wetland Hydrology Indicators:									
Primary indicators (minimum of one	is required: chec	k all that apply	<i>y</i> )		Seconda	ry indicators (n	ninimum of two required)		
Surface water (A1)		-stained leaves				Surface soil cra			
High water table (A2)		c fauna (B13)	, (53)				ited concave surface (B8)		
Saturation (A3)		eposits (B15) (	LRR U)			Orainage patte			
Water marks (B1)		gen sulfide odo				Moss trim lines			
Sediment deposits (B2)		ed rhizosphere		roots (C3)		Dry-season wat			
Drift deposits (B3)		ce of reduced	_	()		Crayfish burrov			
Algal mat or crust (B4)	_	iron reduction	` '	oils (CA)		,	le on aerial photos (C9)		
Iron deposits (B5)		nuck surface ((		0113 (C4)		Geomorphic po	, , ,		
Inundation visible on		(explain in rem	•			Shallow aquitar			
aerial photos (B7)		(explain in rein	iaiksj			AC-neutral tes			
Field Observations:						AC-fieutrar tes	(03)		
Surface water present? Yes	No	✓ Dept	h (inches)		Is	Wetland Hy	drology Present?		
· · · · · · · · · · · · · · · · · · ·					"	Yes			
Water table present? Yes	□ No		h (inches)			No			
Saturation present? Yes	∐ No	ш рерт	h (inches)			NO			
(includes capillary fringe)		U 2-1 - 6 - 1 -			. 21 . 1. 1 .				
Describe recorded data (stream gage	, monitoring wei	ii, aeriai photo	s, previous	s inspections) if a	valiable:				
Remarks: Area is a forested upland a	djacent to a non-	-tidal emergen	it and scrui	b-shrub wetland					

<b>VEGETATION</b> - U	se scientific names	Absolute	Dominant	Indicator			Samplin	g Point: DP2	
Tree Stratum	Plot size:	% Cover	Species?	Status	Dominance Te	st Worksheet	1		
Pinus taeda		30	Υ	FAC	Number of OBL,	FACW and FAC	species:	6	
Quercus nigra		10	Υ	FAC	Total number of	all dominant sp	ecies:	8	
Quercus alba		10	Υ	FACU	% of OBL, FACW	and FAC domin	ant species:	75	
Quercus falcata		5	N	FACU	Prevalence Ind	lex Workshee	t		
Quercus velutina		5	N	UPL	Total % cover		Multiplier	B-value	
Pinus virginiana		5	N	UPL	OBL species	0	1	. 0	
					FACW species 0 2				
		65	Total Cover		FAC species	118	3	354	
Sapling Stratum	Plot size:		•		FACU species 25 4				
Prunus serotina		10	Υ	FACU	UPL species	10	5	50	
Acer rubrum		10	Υ	FAC	Column total	153		504	
Pinus taeda		5	N	FAC	Prevalence Index	c:		3.29	
					Hydrophytic V	egetation Ind	icators		
					<b>~</b>	Dominance tes	t is > 50%		
						Prevalence inde	ex is ≤ 3.0		
						Problematic hy	drophytic veget	ation	
		25	Total Cover		Explanantion of problematic vegetation:				
Shrub Stratum	Plot size:		•		Area is maintained as a power line easement				
	_ L				Definitions of vegetation strata:				
					Tree - Woody pla			prox.	
					20 feet (6 m) or r	nore in height a	and 3 inches (7.6	5 cm) or	
					larger in diamete	_	•	` '	
					Sapling - Woody			approx.	
					20 feet (6 m) or r	nore in height a	and less than 3 i	nches	
					(7.6 cm) DBH.				
		0	Total Cover		Shrub - Woody p	lants, excluding	woody vines, a	pprox.	
Herb Stratum	Plot size:				3 to 20 feet (1 to	6 m) in height.			
Smilax rotundifolia	_ L	35	Υ	FAC	Herb - All herbac	, ,	dy) plants, inclu	ding	
Quercus nigra		1	Υ	FAC	herbaceous vines	s, regardless of	size. Includes wo	oody	
Acer rubrum		1	N	FAC	plants, except wo				
llex opaca		1	N	FAC	3 feet (1 m) in he	eight.			
					Woody Vine - All	woody vines, r	egardless of hei	ght.	
					Remarks: (If obse	erved, list morpl	hological adapta	ations)	
					1			,	
					_				
					_				
					_				
					_				
		38	Total cover	<u>I</u>	†				
Woody Vine Stratum	Plot size:	30	223.00007						
Smilax rotundifolia	1 100 3120.	25	Y	FAC	†				
Similar rotalialjolia		23	'	TAC	le U	vdronhytic V	egetation Pres	sent?	
					- 13 П	yaropiiyae ve Yes		,citti	
		25	Total cover	<u> </u>	1	No			
		23	i otal cover		1	NO			

SOIL	SOIL Sampling Point: DP2											
Profile De	Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)											
Depth	Matrix	<u> </u>		Features				·				
(inches)	Color (moist)	%	Color (moist)	%	Туре	Loc	Texture	Remarks				
0-1	10YR 2/2	100					Sd Lo	High organic content				
1-6	10YR 5/1	90	10YR 6/1	10	С	М	Lo Sd					
6-15	10YR 4/4	90	10YR 4/6	10	С	М	Lo Sd					
15-18	10YR 4/6	90	10YR 4/4	10	С	М	Lo Sd					
Types: C-co	oncentration, D-depletion	, RM-reduce	d matrix, CS covered or co	oated sand g	rains.			Locations: PL-pore lining, M-matrix				
Hydric So	oil Indicators:			Indicators for Problematic Hydric Soils:								
Histos	sol (A1)		Polyvalue below surf	ace (S8)(LRR	S, T, U	)		1 cm muck (A9)(LRR O)				
Histic	epipedon (A2)		Thin dark surface (SS	))(LRR S, T, U	)			2 cm muck (A10)(LRR S)				
Black	histic (A3)		Loamy mucky minera					Reduced vertic (F18)				
Hydr	ogen sulfide (A4)		Loamy gleyed matrix					(outside MLRA 150A, B)				
	fied layers (A5)		Depleted matrix (F3)					Piedmont floodplain soils (F19)				
Organ	nic bodies (A6)(LRR P, T, U	)	Redox dark surface (	F6)				(LRR P, S, T)				
	mucky mineral (A7)(LRR L		Depleted dark surface	ce (F7)				Anomalous bright loamy soils (F20)				
Muck	presence (A8)(LRR U)		Redox depressions (	=8)			(MLRA 153B)					
	muck (A9) (LRR P, T)		Marl (F10)(LRR U)	-,				Red parent material (TF2)				
	eted below dark surface (A	(11)	Depleted ochric (F11	.)(MLRA 151)				Very shallow dark surface (TF12)				
	dark surface (A12)	,	Fe-Mn masses (F12)					(LRR T, U)				
Coast	prairie redox (A16)(MLRA	\ 150A)	Umbric surface (F13)					Other (explain in remarks)				
	/ mucky mineral (S1)(LRR	•	Delta ochric (F17)(M					,				
Sandy	gleyed matrix (S4)		Reduced vertic (F18)	(MLRA 150A	150B)			Indicators of hydrophytic vegetation				
Sandy	redox (S5)		Piedmont floodplain	soils (F19)(N	ILRA 14	19A)	and wetland hydrology must be					
Stripp	ped matrix (S6)		Anomalous bright lo	amy soils (F2	0)		present, unless disturbed or					
	surface (S7)(LRR P, S, T, U	)	(MLRA 149A, 153C, 1		•		problematic.					
-	Layer (if observed):			,			Is Hydric Soil Present?					
	Type:							Yes				
	Depth (inches):							No 🗸				
Remarks:												

roject/Site: Proposed 230kV USW Substation Site  City/County: Sussex County  pplicant/Owner: US Wind  State: Delaware  svestigators: Craig Smith  section/Township  andform: Plain  Local relief: Flat  ubregion:MLRA 153D  Lat: 38.5869°N  Long: -75.2405°W  poil Map Unit Name: Runclint loamy sand (RuA)	Sampling Date: 05-03-21				
andform: Plain  Local relief: Flat  ubregion:MLRA 153D  Lat: 38.5869°N  Long: -75.2405°W	Convoling Rain! DD2				
andform: Plain Local relief: Flat ubregion:MLRA 153D Lat: 38.5869°N Long: -75.2405°W	Sampling Point: DP3				
ubregion:MLRA 153D Lat: 38.5869°N Long: -75.2405°W	p:				
	% Slope: 0%				
oil Map Unit Name: Runclint loamy sand (RuA)	V Datum:				
	NWI Classification: PEM/PSS				
re climatic/hydrologic conditions on the site typical for this time of year?	Yes 🗸 No 🗌				
vegetation soil or hydrology significantly disturbed?	Are "Normal Circumstances" present?				
vegetation soil or hydrology naturally problematic?	Yes 🗸 No 🗌				
SUMMARY OF FINDINGS - Attach site map showing sampling point le	ocations, transects, important features, etc.				
	Is the Sampled Area within a Wetland?				
ydric soil present? Yes V No	Yes				
Vetland Hydrology present? Yes V No	No				
HYDROLOGY					
Vetland Hydrology Indicators:					
rimary indicators (minimum of one is required; check all that apply)	Secondary indicators (minimum of two required)				
Surface water (A1) Water-stained leaves (B9)	Surface soil cracks (B6)				
✓ High water table (A2)	Sparsely vegetated concave surface (B8)				
✓ Saturation (A3)	Drainage patterns (B10)				
Water marks (B1) Hydrogen sulfide odor (C1)	Moss trim lines (B16)				
Sediment deposits (B2) Oxidized rhizospheres on living roots (C3)	Dry-season water table (C2)				
Drift deposits (B3) Presence of reduced iron (C4)	Crayfish burrows (C8)				
Algal mat or crust (B4) Recent iron reduction in tilled soils (C4)	Saturation visible on aerial photos (C9)				
Iron deposits (B5) Thick muck surface (C7)	✓ Geomorphic position (D2)				
Inundation visible on Other (explain in remarks)	Shallow aquitard (D3)				
aerial photos (B7)	FAC-neutral test (D5)				
ield Observations:					
	Is Wetland Hydrology Present?				
urface water present? Yes No Depth (inches)	Yes				
Vater table present? Yes No Depth (inches) 2					
	No				

<b>VEGETATION</b> - U	Jse scientific names	Absolute	Dominant	Indicator	r Sampling Point: DP3				
Tree Stratum	Plot size:	% Cover	Species?	Status	Dominance Te	st Worksheet			
Pinus taeda		25	Υ	FAC	Number of OBL,	FACW and FAC	species:	6	
Nyssa sylvatica		5	N	FAC	Total number of	all dominant sp	ecies:	6	
					% of OBL, FACW	and FAC domin	ant species:	100	
					Prevalence Inc	lex Workshee	t		
					Total % cover		Multiplier	B-value	
					OBL species 0			1 0	
					FACW species	130			
		30	Total Cover		FAC species	198			
Sapling Stratum	Plot size:				FACU species 0			1 C	
Acer rubrum		5	Υ	FAC	UPL species	0	ŗ	5 0	
Nyssa sylvatica		5	Y	FAC	Column total	131		328	
					Prevalence Inde	x:		2.50	
					Hydrophytic V	egetation Ind	icators	<u> </u>	
					7	Dominance tes			
					<u> </u>	Prevalence inde			
					Problematic hydrophytic vegetation				
<u> </u>		10	Total Cover	<u>I</u>	Explanantion of problematic vegetation:				
Shrub Stratum	Plot size:				Area is maintained as a power line easement				
Baccharis halimifolia	1.101.01201	20	Y	FAC	Definitions of				
baccilaris naminjona		20	'	TAC	Tree - Woody pla			nrox.	
					20 feet (6 m) or i	_			
					7	o citi) oi			
					larger in diameter at breast height (DBH).  Sapling - Woody plants, excluding woody vines, appro 20 feet (6 m) or more in height and less than 3 inches				
					(7.6 cm) DBH.	more in neight a	1110 1633 (11011 5 1	inches	
		20	Total Cover		Shrub - Woody p	lants, excluding	woody vines, a	ipprox.	
Herb Stratum	Plot size:	20	Total Cover		3 to 20 feet (1 to				
	Plot Size.	35	Y	FACW	Herb - All herbac	, ,		ıding	
Phragmites australis		+			-	,		ū	
Teucrium canadense		30	Y N	FACW	herbaceous vines				
Smilax rotundifolia		5		FAC	plants, except wo	•	triari approxima	ately	
Toxicodendron radical	ns	1	N	FAC	3 feet (1 m) in he Woody Vine - All		egardless of hei	ight.	
					Remarks: (If obse	erved, list morpl	nological adapta	ations)	
					_				
					_				
					_				
					_				
					4				
		71	Total cover						
Woody Vine Stratum	Plot size:			1					
			<u> </u>		Is Hydrophytic Vegetation Present?				
					<u> </u>	Yes	<b>V</b>		
		0	Total cover			No			

SOIL								Sampling Point: DP3			
Profile De	escription: (Describe to	the dept	n needed to documen	t the indica	tor or	conf	irm the a	bsence of indicators)			
Depth	Matrix		Redox I	Features							
(inches)	Color (moist)	%	Color (moist)	%	Туре	Loc	Texture	Remarks			
0-1	10YR 2/1	100					Lo Sd	High organic content			
1-4	10YR 4/1	90	10YR 5/1	10	С	М	Lo Sd				
4-18	10YR 4/3	85	10YR 4/4 & 5/3	15	С	М	Lo Sd				
Types: C-co	oncentration, D-depletion	, RM-reduce	d matrix, CS covered or co	oated sand g	rains.			Locations: PL-pore lining, M-matrix			
Hydric So	il Indicators:						Indicators for Problematic Hydric Soils:				
Histos	sol (A1)		Polyvalue below surf	ace (S8)(LRR	S, T, U	)		1 cm muck (A9)(LRR O)			
Histic	epipedon (A2)		Thin dark surface (SS	)(LRR S, T, U	)			2 cm muck (A10)(LRR S)			
Black	histic (A3)		Loamy mucky minera	al (F1)(LRR O	)			Reduced vertic (F18)			
Hydro	ogen sulfide (A4)		Loamy gleyed matrix	(F2)				(outside MLRA 150A, B)			
Stratif	fied layers (A5)		Depleted matrix (F3)					Piedmont floodplain soils (F19)			
Organ	nic bodies (A6)(LRR P, T, U	)	Redox dark surface (	F6)				(LRR P, S, T)			
5 cm r	mucky mineral (A7)(LRR U	I)	Depleted dark surface	ce (F7)			Anomalous bright loamy soils (F20)				
☐ Muck	presence (A8)(LRR U)		Redox depressions (I	<del>-</del> 8)				(MLRA 153B)			
1 cm r	muck (A9) (LRR P, T)		Marl (F10)(LRR U)					Red parent material (TF2)			
Deple	ted below dark surface (A	11)	Depleted ochric (F11	.)(MLRA 151)				Very shallow dark surface (TF12)			
Thick	dark surface (A12)		Fe-Mn masses (F12)	(LRR O, P, T)				(LRR T, U)			
Coast	prairie redox (A16)(MLRA	A 150A)	Umbric surface (F13)	(LRR P, T, U)				Other (explain in remarks)			
Sandy	mucky mineral (S1)(LRR	O, S)	Delta ochric (F17)(M	LRA 151)							
Sandy	gleyed matrix (S4)		Reduced vertic (F18)	(MLRA 150A	150B)			Indicators of hydrophytic vegetation			
Sandy	redox (S5)		Piedmont floodplain	soils (F19)(N	ILRA 14	49A)	and wetland hydrology must be				
Stripp	ed matrix (S6)		Anomalous bright lo	amy soils (F2	0)		present, unless disturbed or				
✓ Dark s	surface (S7)(LRR P, S, T, U	)	(MLRA 149A, 153C, 1	L53D)			problematic.				
Restrictive	Layer (if observed):						Is Hydric Soil Present?				
	Type:							Yes 🗸			
	Depth (inches):							No 🗌			
Remarks:							<u>-</u>				

WETLAND DETE	RMINATION DATA FOR	RM - Atlantic	and Gulf C	oastal Plain Region			
Project/Site: Proposed 230kV USW Substation	on Site City/County: 5	Sussex County		Sampling Date: 05-03-21			
Applicant/Owner: US Wind	σιτή σσαιτή:	State: Delaware	<u> </u>	Sampling Point: DP4			
Investigators: Craig Smith		Section/Townsh					
Landform: Plain		Local relief: Flat	·				
Subregion:MLRA 153D	Lat: 38.5867°N	Long: -75.2419°					
Soil Map Unit Name: Henlopen loamy sand	-	Long73.2419	vv	NWI Classification: UPL			
Are climatic/hydrologic conditions on the sit				Yes V No			
Is vegetation soil or hydrology	significantly disturbed?		Aro "Normal (	Circumstances" present?			
			Are Norman				
Is vegetation soil or hydrology	naturally problematic?	compling point	locations to				
		Sampling point		ansects, important features, etc.			
Hydrophytic vegetation present?	Yes No Y	1	is the samp	led Area within a Wetland?  Yes			
Hydric soil present?		4					
Wetland Hydrology present?  Remarks:	Yes No			No 🗸			
HYDROLOGY							
Wetland Hydrology Indicators:							
Primary indicators (minimum of one is requi	red; check all that apply)		Second	ary indicators (minimum of two required)			
Surface water (A1)	Water-stained leaves (B9)			Surface soil cracks (B6)			
High water table (A2)	Aquatic fauna (B13)			Sparsely vegetated concave surface (B8)			
Saturation (A3)	Marl deposits (B15) (LRR U)			Drainage patterns (B10)			
Water marks (B1)	Hydrogen sulfide odor (C1)			Moss trim lines (B16)			
Sediment deposits (B2)	Oxidized rhizospheres on living	g roots (C3)		Dry-season water table (C2)			
Drift deposits (B3)	Presence of reduced iron (C4)			Crayfish burrows (C8)			
Algal mat or crust (B4)	Recent iron reduction in tilled	soils (C4)		Saturation visible on aerial photos (C9)			
Iron deposits (B5)	Thick muck surface (C7)			Geomorphic position (D2)			
Inundation visible on	Other (explain in remarks)			Shallow aquitard (D3)			
aerial photos (B7)				FAC-neutral test (D5)			
Field Observations:			T				
Surface water present? Yes	No Depth (inches)	)	ı	s Wetland Hydrology Present?			
Water table present? Yes	No Depth (inches)	)		Yes			
Saturation present? Yes U	No Depth (inches)	)		No 🗸			
(includes capillary fringe)							
Describe recorded data (stream gage, monit	oring well, aerial photos, previou	us inspections) if a	vailable:				
Remarks:							

<b>VEGETATION</b> - U	se scientific names	Absolute	Dominant	Indicator	r Sampling Point: DP4				
Tree Stratum	Plot size:	% Cover	Species?	Status	Dominance Te	est Worksheet			
Pinus taeda		60	Υ	FAC	Number of OBL,	FACW and FAC	species:	3	
Quercus nigra		8	N	FAC	Total number of	all dominant sp	ecies:	4	
Quercus falcata		8	N	FACU	% of OBL, FACW	and FAC domin	ant species:	75	
Acer rubrum		8	N	FAC	Prevalence Inc	dex Workshee	t		
Pinus virginiana		4	N	UPL	Total % cover		Multiplier	B-value	
					OBL species	0	:	1 0	
					FACW species	4	2	2 8	
		88	Total Cover	•	FAC species 98 3				
Sapling Stratum	Plot size:				FACU species 18 4				
Acer rubrum		15	Υ	FAC	UPL species	4	į	5 20	
Sassafras albidum		6	Υ	FACU	Column total	124		394	
Quercus nigra		3	N	FAC	Prevalence Inde	x:		3.18	
Diospyros virginiana		3	N	FAC	Hydrophytic V	egetation Ind	icators	•	
Prunus serotina		3	N	FACU	7	Dominance tes			
					Prevalence index is ≤ 3.0				
					Problematic hydrophytic vegetation				
		30	Total Cover	1	Explanantion of problematic vegetation:				
Shrub Stratum	Plot size:		<u>.</u>		Area is maintained as a power line easement				
Vaccinium corymbosun		3	Υ	FACW					
vaccinam corymbosan			'	TACW	Tree - Woody pl			prox.	
					20 feet (6 m) or	_			
						=	•	0 0111, 01	
					larger in diameter at breast height (DBH).  Sapling - Woody plants, excluding woody vines, approx.				
					20 feet (6 m) or	•	-		
					(7.6 cm) DBH.				
		3	Total Cover		Shrub - Woody	olants, excluding	woody vines, a	ipprox.	
Herb Stratum	Plot size:	3	rotal cover		3 to 20 feet (1 to				
Sassafras albidum	FIOU SIZE.	1	N	FACU	Herb - All herba			nding	
				FAC	herbaceous vine	•		=	
Quercus nigra  Vaccinium corymbosun	<u> </u>	1	N N	FACW	plants, except w				
vacciniam corymbosan		1	IN	FACW		•	tilali appioxilli	ately	
					3 feet (1 m) in h Woody Vine - A		egardless of he	ight.	
		+	-						
					Remarks: (If obs	erved, list morpi	nological adapti	ations)	
					-				
					-				
					-				
					-				
					4				
r	1	3	Total cover						
Woody Vine Stratum	Plot size:		1	1	1				
					ls F	lydrophytic Ve	egetation Pre	sent?	
					1	Yes			
		0	Total cover			No	<b>✓</b>		

SOIL								Sampling Point: DP4			
Profile De	escription: (Describe to	the dept	n needed to documen	t the indica	tor or	conf	irm the a	bsence of indicators)			
Depth	Matrix		Redox I	Features							
(inches)	Color (moist)	%	Color (moist)	%	Туре	Loc	Texture	Remarks			
0-2	10YR 3/3	100					Sd Lo	High organic content			
2-8	10YR 5/2	90	10YR 4/1	10	С	М	Lo Sd				
8-18	10YR 4/4	85	10YR 4/6 & 5/3	15	С	М	Lo Sd				
Types: C-co	oncentration, D-depletion	, RM-reduce	d matrix, CS covered or co	oated sand g	rains.		Locations: PL-pore lining, M-matrix				
Hydric So	il Indicators:						Indicators for Problematic Hydric Soils:				
Histos	sol (A1)		Polyvalue below surf	face (S8)(LRR	S, T, U	)		1 cm muck (A9)(LRR O)			
Histic	epipedon (A2)		Thin dark surface (SS	9)(LRR S, T, U	)			2 cm muck (A10)(LRR S)			
Black	histic (A3)		Loamy mucky minera	al (F1)(LRR O	)			Reduced vertic (F18)			
Hydro	ogen sulfide (A4)		Loamy gleyed matrix	(F2)				(outside MLRA 150A, B)			
Stratif	fied layers (A5)		Depleted matrix (F3)	)				Piedmont floodplain soils (F19)			
Organ	nic bodies (A6)(LRR P, T, U	)	Redox dark surface (	F6)				(LRR P, S, T)			
5 cm i	mucky mineral (A7)(LRR U	J)	Depleted dark surface	ce (F7)			Anomalous bright loamy soils (F20)				
☐ Muck	presence (A8)(LRR U)		Redox depressions (	F8)				(MLRA 153B)			
1 cm r	muck (A9) (LRR P, T)		Marl (F10)(LRR U)					Red parent material (TF2)			
Deple	ted below dark surface (A	11)	Depleted ochric (F11	.)(MLRA 151)				Very shallow dark surface (TF12)			
☐ Thick	dark surface (A12)		Fe-Mn masses (F12)	(LRR O, P, T)				(LRR T, U)			
Coast	prairie redox (A16)(MLRA	A 150A)	Umbric surface (F13)	)(LRR P, T, U)				Other (explain in remarks)			
Sandy	mucky mineral (S1)(LRR	O, S)	Delta ochric (F17)(M	LRA 151)							
Sandy	gleyed matrix (S4)		Reduced vertic (F18)	(MLRA 150A	150B)	)		Indicators of hydrophytic vegetation			
Sandy	redox (S5)		Piedmont floodplain	soils (F19)(N	ILRA 14	49A)	and wetland hydrology must be				
Stripp	ed matrix (S6)		Anomalous bright lo	amy soils (F2	0)		present, unless disturbed or				
Dark s	surface (S7)(LRR P, S, T, U	)	(MLRA 149A, 153C, 1	153D)			problematic.				
Restrictive	Layer (if observed):						Is Hydric Soil Present?				
	Type:							Yes			
	Depth (inches):							No 🗸			
Remarks:											

WETLAND DET	ERMINATION	N DATA FOR	M - Atlantic	and Gulf C	Coastal Plain Region			
Project/Site: Proposed 230kV USW Substat	ion Site	City/County: S	Sussex County		Sampling Date: 05-03-21			
Applicant/Owner: US Wind		city/county.	State: Delaware	2	Sampling Point: DP5			
Investigators: Craig Smith			Section/Townsh		Sumpling Former DF3			
Landform: Plain			Local relief: Flat	·				
Subregion:MLRA 153D	Lat: 38.5867°N	I	Long: -75.2410°					
Soil Map Unit Name: Runclint loamy sand		•	LONG73.2410	· ·	NWI Classification: PSS/PFO			
Are climatic/hydrologic conditions on the s	,	time of year?			Yes No			
Is vegetation soil or hydrology	significantly di			Aro "Normal (	Circumstances" present?			
				Ale Norman				
Is vegetation soil or hydrology	naturally prob							
		No No	Sampling point		ansects, important features, etc.			
Hydrophytic vegetation present?		No		is the Samp	Yes 🗸			
Hydric soil present?								
Wetland Hydrology present? Remarks:	Yes	No $\square$			No			
HYDROLOGY								
Wetland Hydrology Indicators:				I				
Primary indicators (minimum of one is requ				Second	ary indicators (minimum of two required)			
Surface water (A1)	Water-stained	, ,			Surface soil cracks (B6)			
High water table (A2)	Aquatic fauna	, ,			Sparsely vegetated concave surface (B8)			
Saturation (A3)	Marl deposits				Drainage patterns (B10)			
Water marks (B1)	Hydrogen sulfi				Moss trim lines (B16)			
Sediment deposits (B2)	_	spheres on living	g roots (C3)		Dry-season water table (C2)			
Drift deposits (B3)	Presence of re	duced iron (C4)			Crayfish burrows (C8)			
Algal mat or crust (B4)		duction in tilled	soils (C4)		Saturation visible on aerial photos (C9)			
Iron deposits (B5)	Thick muck su			<u> </u>	Geomorphic position (D2)			
Inundation visible on	Other (explain	in remarks)			Shallow aquitard (D3)			
aerial photos (B7)				<b>✓</b>	FAC-neutral test (D5)			
Field Observations:		1		1				
Surface water present? Yes	No 🗸	Depth (inches)		'	s Wetland Hydrology Present?			
Water table present? Yes	No 🗸	Depth (inches)			Yes			
Saturation present? Yes $\square$	No 🗸	Depth (inches)			No			
(includes capillary fringe)								
Describe recorded data (stream gage, mon	itoring well, aerial	photos, previou	s inspections) if a	vailable:				
Remarks: Area is a shallow depression betv	veen two upland f	orested areas						

<b>VEGETATION</b> - U	Ise scientific names	Absolute	Dominant	Indicator			Samplin	g Point: DP5	
Tree Stratum	Plot size:	% Cover	Species?	Status	Dominance Test W	/orksheet			
Pinus taeda		35	Υ	FAC	Number of OBL, FAC	V and FAC sp	oecies:	5	
Acer rubrum		15	Υ	FAC	Total number of all de	ominant spec	cies:	5	
Prunus serotina		5	N	FACU	% of OBL, FACW and	FAC domina	nt species:	100	
Nyssa sylvatica		5	N	FAC	Prevalence Index \	<b>Norksheet</b>			
Quercus nigra		5	N	FAC	Total % cover	N	Multiplier	B-value	
					OBL species	0	1	0	
					FACW species	10	2	20	
		65	Total Cover		FAC species	198			
Sapling Stratum	Plot size:		_		FACU species	5	4	20	
Acer rubrum	•	20	Υ	FAC	UPL species	0	5	0	
Nyssa sylvatica		15	Υ	FAC	Column total	81		238	
Magnolia virginiana		5	N	FACW	Prevalence Index:			2.94	
					Hydrophytic Veget	tation Indic	ators		
					✓ Dom	ninance test i	is > 50%		
					✓ Prev	alence index	c is ≤ 3.0		
					Prob	olematic hydi	rophytic veget	ation	
		40	Total Cover		Explanantion of prob	ematic vege	tation:		
Shrub Stratum	Plot size:		•		Area is maintained as a power line easement				
Vaccinium corymbosui	m	5	Υ	FACW					
	··				Tree - Woody plants,			orox.	
					20 feet (6 m) or more	in height an	nd 3 inches (7.6	cm) or	
					larger in diameter at	-	•	. , .	
					Sapling - Woody plan			approx.	
					20 feet (6 m) or more				
					(7.6 cm) DBH.	· ·			
<u> </u>		5	Total Cover	<u> </u>	Shrub - Woody plants	s, excluding v	voody vines, a	oprox.	
Herb Stratum	Plot size:		1		3 to 20 feet (1 to 6 m	) in height			
Tiero Stratam	1100 3120.				Herb - All herbaceous		/) plants, inclu	ding	
					herbaceous vines, reg	,		•	
					plants, except woody				
					3 feet (1 m) in height		тап арргохина	tery	
					Woody Vine - All woo		gardless of hei	ght.	
					Remarks: (If observed				
					1			tions)	
					No herbaceous veget	ation in vicin	ity.		
					_				
					-				
					_				
				ļ					
	E	0	Total cover						
Woody Vine Stratum	Plot size:		1	1	_				
			<u> </u>		Is Hydro		getation Pres	ent?	
						Yes			
		0	Total cover			No			

SOIL								Sampling Point: DP5			
Profile De	escription: (Describe to	the dept	n needed to documen	t the indica	tor or	conf	irm the a	bsence of indicators)			
Depth	Matrix		Redox I	eatures							
(inches)	Color (moist)	%	Color (moist)	%	Туре	Loc	Texture	Remarks			
0-2	10YR 3/1	100					Lo Sd	High organic content			
2-4	10YR 5/1	90	10YR 4/1	10	С	М	Lo Sd				
4-16	10YR 5/3	85	10YR 4/3 & 5/6	15	С	М	Lo Sd				
16-18	10YR 6/4	90	10YR 5/3	10	С	М	Lo Sd				
Types: C-co	oncentration, D-depletion	, RM-reduce	d matrix, CS covered or co	oated sand g	ains.		Locations: PL-pore lining, M-matrix				
Hydric So	il Indicators:						Indicato	ors for Problematic Hydric Soils:			
Histos	sol (A1)		Polyvalue below surf	ace (S8)(LRR	S, T, U	)		1 cm muck (A9)(LRR O)			
Histic	epipedon (A2)		Thin dark surface (SS	)(LRR S, T, U	)			2 cm muck (A10)(LRR S)			
Black	histic (A3)		Loamy mucky minera	al (F1)(LRR O	)			Reduced vertic (F18)			
Hydro	ogen sulfide (A4)		Loamy gleyed matrix	(F2)				(outside MLRA 150A, B)			
Stratif	fied layers (A5)		Depleted matrix (F3)					Piedmont floodplain soils (F19)			
Organ	nic bodies (A6)(LRR P, T, U	)	Redox dark surface (	F6)				(LRR P, S, T)			
5 cm i	mucky mineral (A7)(LRR U	J)	Depleted dark surface	e (F7)			Anomalous bright loamy soils (F20)				
☐ Muck	presence (A8)(LRR U)		Redox depressions (	<sup>-</sup> 8)				(MLRA 153B)			
1 cm i	muck (A9) (LRR P, T)		Marl (F10)(LRR U)					Red parent material (TF2)			
☐ Deple	ted below dark surface (A	<b>\11</b> )	Depleted ochric (F11	)(MLRA 151)				Very shallow dark surface (TF12)			
☐ Thick	dark surface (A12)		Fe-Mn masses (F12)	LRR O, P, T)				(LRR T, U)			
Coast	prairie redox (A16)(MLRA	A 150A)	Umbric surface (F13)	(LRR P, T, U)				Other (explain in remarks)			
Sandy	mucky mineral (S1)(LRR	O, S)	Delta ochric (F17)(M	LRA 151)							
Sandy	gleyed matrix (S4)		Reduced vertic (F18)	(MLRA 150A	150B)			Indicators of hydrophytic vegetation			
Sandy	redox (S5)		Piedmont floodplain	soils (F19)(N	ILRA 14	49A)	and wetland hydrology must be				
☐ Stripp	ed matrix (S6)		Anomalous bright lo	amy soils (F2	0)		present, unless disturbed or				
✓ Dark s	surface (S7)(LRR P, S, T, U	)	(MLRA 149A, 153C, 1	153D)			problematic.				
Restrictive	Layer (if observed):						Is Hydric Soil Present?				
	Type:							Yes 🗸			
	Depth (inches):							No 🗌			
Remarks:											

WETLAND DETE	RMINATION DA	ATA FORN	Л - Atlantic	and Gulf C	oastal Plai	n Region
Project/Site: Proposed 230kV USW Substati	on Site	y/County: Su	ssex County		Sampling Date	· 05-03-21
Applicant/Owner: US Wind	on site city		State: Delaware	<u> </u>	Sampling Poin	
Investigators: Craig Smith			Section/Townsh		Sampling Poin	i. Dro
					0/ 61 10/	
Landform: Plain	1 20 507081		Local relief: Flat		% Slope: 1%	
Subregion:MLRA 153D	Lat: 38.5879°N		Long: -75.2418°\	VV	Datum:	Cara LIDI
Soil Map Unit Name: Runclint loamy sand (	•				NWI Classificat	
Are climatic/hydrologic conditions on the si	7	-		. "		
Is vegetation soil or hydrology	significantly disturb			Are "Normal (	Circumstances"	
Is vegetation soil or hydrology _	naturally problema				Yes 🗸 No	
SUMMARY OF FINDING						
Hydrophytic vegetation present?	Yes No			Is the Samp		in a Wetland?
Hydric soil present?	Yes No				Yes [	
Wetland Hydrology present?	Yes L No	<b>y</b>			No	<u> </u>
HYDROLOGY						
Wetland Hydrology Indicators:						
Primary indicators (minimum of one is requ	ired; check all that app	ply)		Second	ary indicators (	minimum of two required)
Surface water (A1)	Water-stained leave	es (B9)			Surface soil cra	acks (B6)
High water table (A2)	Aquatic fauna (B13)	)			Sparsely veget	ated concave surface (B8)
Saturation (A3)	Marl deposits (B15)	) (LRR U)			Drainage patte	erns (B10)
Water marks (B1)	Hydrogen sulfide o	dor (C1)			Moss trim line	s (B16)
Sediment deposits (B2)	Oxidized rhizosphe	res on living r	roots (C3)		Dry-season wa	ter table (C2)
Drift deposits (B3)	Presence of reduce	ed iron (C4)			Crayfish burro	ws (C8)
Algal mat or crust (B4)	Recent iron reducti	ion in tilled so	oils (C4)		Saturation visi	ble on aerial photos (C9)
Iron deposits (B5)	Thick muck surface	(C7)			Geomorphic p	osition (D2)
Inundation visible on	Other (explain in re	emarks)			Shallow aquita	rd (D3)
aerial photos (B7)					FAC-neutral te	st (D5)
Field Observations:						
Surface water present? Yes		pth (inches)		I	s Wetland Hy	drology Present?
Water table present? Yes	No 🗸 Dep	pth (inches)			Yes	
Saturation present? Yes	No 🗸 Dep	pth (inches)			No	<b>✓</b>
(includes capillary fringe)						
Describe recorded data (stream gage, monit	coring well, aerial phot	tos, previous	inspections) if a	vailable:		
Remarks:						

<b>VEGETATION</b> - U	se scientific names	Absolute	Dominant	Indicator	r Sampling Point: DP6				
Tree Stratum	Plot size:	% Cover	Species?	Status	Dominance Te	st Worksheet			
Pinus taeda	-	20	Υ	FAC	Number of OBL,	FACW and FAC	species:	7	
Acer rubrum		20	Υ	FAC	Total number of	all dominant sp	ecies:	8	
Quercus nigra		15	Υ	FAC	% of OBL, FACW	and FAC domin	ant species:	88	
Quercus alba		10	N	FACU	Prevalence Index Worksheet				
Prunus serotina		5	N	FACU	Total % cover	B-value			
					OBL species	0	-	1 0	
					FACW species	4	2	2 8	
		70	Total Cover	•	FAC species	116	3	3 348	
Sapling Stratum	Plot size:		•		FACU species	24	4	4 96	
Acer rubrum	•	20	Υ	FAC	UPL species	0	į	5 0	
Diospyros virginiana		20	Y	FAC	Column total	144		452	
Sassafras albidum		4	N	FACU	Prevalence Inde	x:		3.14	
					Hydrophytic V	egetation Ind	icators	•	
					7	Dominance tes			
						Prevalence inde	ex is ≤ 3.0		
						Problematic hy	drophytic vege	tation	
		44	Total Cover	<u>I</u>	Explanantion of	problematic veg	etation:		
Shrub Stratum	Plot size:		ı		Explanantion of problematic vegetation:  Area is maintained as a power line easement				
llex opaca		10	Y	FAC	Definitions of vegetation strata:				
Vaccinium corymbosur	n	4	N N	FACW	Tree - Woody pl			prox.	
vaccimam corymbosar		'	.,	17.000	20 feet (6 m) or	_		•	
					larger in diamete	=	•	0 0111, 01	
					Sapling - Woody			approx.	
					20 feet (6 m) or		-		
					(7.6 cm) DBH.				
		14	Total Cover		Shrub - Woody	olants, excluding	woody vines, a	approx.	
Herb Stratum	Plot size:				3 to 20 feet (1 to	n 6 m) in height			
Smilax rotundifolia	1 100 3120.	10	Y	FAC	Herb - All herba	, ,		ıding	
Vaccinium angustifoliu	ım	5	Y	FACU	herbaceous vine	•		_	
Pinus taeda		1	N N	FAC	plants, except w				
r mas tacaa		-	- ' '	1710	3 feet (1 m) in h	•	than approxim	acciy	
					Woody Vine - A		egardless of he	ight.	
					Remarks: (If obs	oruad list maral	hological adapt	ations	
					Kemarks. (ii obs	ervea, list morpi	nological adapti	ations	
					-				
					-				
					-				
					-				
		16	T. I. I		1				
	T	16	Total cover						
Woody Vine Stratum	Plot size:		1		-				
			-						
					ls H	lydrophytic Ve		sent?	
					1	Yes			
		0	Total cover			No	<b>✓</b>		

SOIL								Sampling Point: DP6		
Profile De	escription: (Describe to	o the dept	n needed to documen	t the indica	tor or	conf	irm the a	bsence of indicators)		
Depth	Matrix		Redox I	eatures						
(inches)	Color (moist)	%	Color (moist)	%	Туре	Loc	Texture	Remarks		
0-1	10YR 2/1	100					Sd Lo	High organic content		
1-3	10YR 4/1	100					Lo Sd			
3-6	10YR 5/2	90	10YR 5/3	10	С	М	Lo Sd			
6-15	10YR 4/4	90	10YR 5/3	10	С	М	Lo Sd			
15-18	10YR 5/4	90	10YR 4/3	10	С	М	Lo Sd			
Types: C-co	oncentration, D-depletion	, RM-reduce	d matrix, CS covered or co	oated sand gi	rains.			Locations: PL-pore lining, M-matrix		
Hydric So	il Indicators:						Indicato	rs for Problematic Hydric Soils:		
Histos	sol (A1)		Polyvalue below surf	ace (S8)(LRR	S, T, U	)		1 cm muck (A9)(LRR O)		
Histic	epipedon (A2)		Thin dark surface (S9	)(LRR S, T, U	)			2 cm muck (A10)(LRR S)		
Black	histic (A3)		Loamy mucky minera	al (F1)(LRR O	)			Reduced vertic (F18)		
Hydr	ogen sulfide (A4)		Loamy gleyed matrix	(F2)				(outside MLRA 150A, B)		
Strati	fied layers (A5)		Depleted matrix (F3)					Piedmont floodplain soils (F19)		
Organ	nic bodies (A6)(LRR P, T, U	)	Redox dark surface (	F6)				(LRR P, S, T)		
5 cm	mucky mineral (A7)(LRR U	J)	Depleted dark surfac	e (F7)				Anomalous bright loamy soils (F20)		
☐ Muck	presence (A8)(LRR U)		Redox depressions (F	E8)				(MLRA 153B)		
1 cm	muck (A9) (LRR P, T)		Marl (F10)(LRR U)					Red parent material (TF2)		
☐ Deple	eted below dark surface (A	A11)	Depleted ochric (F11	)(MLRA 151)				Very shallow dark surface (TF12)		
☐ Thick	dark surface (A12)		Fe-Mn masses (F12)(	LRR O, P, T)				(LRR T, U)		
Coast	prairie redox (A16)(MLRA	A 150A)	Umbric surface (F13)	(LRR P, T, U)				Other (explain in remarks)		
Sandy	mucky mineral (S1)(LRR	O, S)	Delta ochric (F17)(M	LRA 151)						
Sandy	gleyed matrix (S4)		Reduced vertic (F18)	(MLRA 150A,	150B)			Indicators of hydrophytic vegetation		
Sandy	redox (S5)		Piedmont floodplain	soils (F19)(N	ILRA 14	19A)	and wetland hydrology must be			
Stripp	oed matrix (S6)		Anomalous bright loa	amy soils (F2	0)		present, unless disturbed or			
Dark s	surface (S7)(LRR P, S, T, U	)	(MLRA 149A, 153C, 1	L53D)			problematic.			
Restrictive	Layer (if observed):							Is Hydric Soil Present?		
	Туре:							Yes		
	Depth (inches):							No 🗸		
Remarks:							•			

WETLAND DETE	RMINATION DATA FOR	M - Atlantic	and Gulf C	oastal Plain Region
Project/Site: Proposed 230kV USW Substation	on Site City/County: 5	Sussex County		Sampling Date: 05-04-21
Applicant/Owner: US Wind	only equity.	State: Delaware	2	Sampling Point: DP7
Investigators: Craig Smith		Section/Townsh		Sampling Community
Landform: Plain		Local relief: Flat	•	% Slope: 1%
Subregion:MLRA 153D	Lat: 38.5874°N	Long: -75.2438°		Datum:
Soil Map Unit Name: Henlopen loamy sand	<u> </u>	20116. 73.2 130	••	NWI Classification: UPL
Are climatic/hydrologic conditions on the sit				Yes V No
Is vegetation soil or hydrology	significantly disturbed?		Are "Normal (	Circumstances" present?
Is vegetation soil or hydrology	naturally problematic?		7.10 110	Yes No
		sampling point	locations tr	ansects, important features, etc.
Hydrophytic vegetation present?	Yes No			led Area within a Wetland?
Hydric soil present?	Yes No 🗸	-	is the sump	Yes
		1		No 🔽
Wetland Hydrology present?  Remarks:	Yes  No	1		HV :
HYDROLOGY				
Wetland Hydrology Indicators:				
Primary indicators (minimum of one is requi	red; check all that apply)		Second	ary indicators (minimum of two required)
Surface water (A1)	Water-stained leaves (B9)			Surface soil cracks (B6)
High water table (A2)	Aquatic fauna (B13)			Sparsely vegetated concave surface (B8)
Saturation (A3)	Marl deposits (B15) (LRR U)			Drainage patterns (B10)
Water marks (B1)	Hydrogen sulfide odor (C1)			Moss trim lines (B16)
Sediment deposits (B2)	Oxidized rhizospheres on living	g roots (C3)		Dry-season water table (C2)
Drift deposits (B3)	Presence of reduced iron (C4)			Crayfish burrows (C8)
Algal mat or crust (B4)	Recent iron reduction in tilled	soils (C4)		Saturation visible on aerial photos (C9)
☐ Iron deposits (B5)	Thick muck surface (C7)			Geomorphic position (D2)
Inundation visible on	Other (explain in remarks)			Shallow aquitard (D3)
aerial photos (B7)				FAC-neutral test (D5)
Field Observations:				
Surface water present? Yes	No  Depth (inches)	)	Į l	s Wetland Hydrology Present?
Water table present? Yes	No  Depth (inches)			Yes
Saturation present? Yes	No Depth (inches)			No 🗸
(includes capillary fringe)				
Describe recorded data (stream gage, monit	oring well, aerial photos, previou	us inspections) if a	vailable:	
Remarks:				

<b>VEGETATION</b> -	Use scientific names	Absolute	Dominant	Indicator	r Sampling Point: DP7				
Tree Stratum	Plot size:	% Cover	Species?	Status	Dominance Test Worksheet				
Quercus falcata		20	Υ	FACU	Number of OBL, FACW and FAC species:				
Carya tomentosa		20	Υ	UPL	Total number of all dominant species:				
Pinus taeda		15	Υ	FAC	% of OBL, FACW and FAC dominant species:				
Quercus velutina		5	N	UPL	Prevalence Index Worksheet				
Pinus virginiana		5	N	UPL	Total % cover		Multiplier	B-value	
Sassafras albidum		5	N	FACU	OBL species	0	1	. 0	
					FACW species	0	2	2 0	
		70	Total Cover		FAC species	35	3	105	
Sapling Stratum	Plot size:		_		FACU species	86	4	344	
Diospyros virginiana		15	Υ	FAC	UPL species	45		225	
Carya tomentosa		10	Υ	UPL	Column total	166		674	
Sassafras albidum		10	Y	FACU	Prevalence Inde	x:		4.06	
Pinus virginiana		5	N	UPL	Hydrophytic V	egetation Ind	icators		
						Dominance tes	t is > 50%		
						Prevalence ind	ex is ≤ 3.0		
						Problematic hy	drophytic veget	tation	
		40	Total Cover	•	Explanantion of p	problematic veg	etation:		
Shrub Stratum	Plot size:		•		Area is maintained as a power line easement				
					Definitions of	vegetation st	rata:		
					Tree - Woody pla			prox.	
					20 feet (6 m) or i	more in height a	and 3 inches (7.	6 cm) or	
					larger in diamete	er at breast heig	ht (DBH).		
					Sapling - Woody	plants, excludir	ng woody vines,	approx.	
					20 feet (6 m) or i	more in height a	and less than 3 i	nches	
					(7.6 cm) DBH.				
		0	Total Cover	•	Shrub - Woody p	lants, excluding	woody vines, a	pprox.	
Herb Stratum	Plot size:		•		3 to 20 feet (1 to	6 m) in height.			
Vaccinium angustifol	ium	50	Υ	FACU	Herb - All herbac	ceous (non-woo	dy) plants, inclu	ding	
Dichanthelium sphae	rocarpon	1	N	FACU	herbaceous vine	s, regardless of	size. Includes w	oody	
Smilax rotundifolia		1	N	FAC	plants, except we	oody vines, less	than approxima	ately	
Quercus nigra		1	N	FAC	3 feet (1 m) in he	eight.			
Acer rubrum		1	N	FAC	Woody Vine - Al	l woody vines, r	egardless of hei	ght.	
Ilex opaca		1	N	FAC	Remarks: (If obse	erved, list morp	hological adapta	ations)	
Pinus taeda		1	N	FAC					
		56	Total cover	ē.	1				
Woody Vine Stratum	Plot size:		•						
					1				
					Is H	ydrophytic Vo	egetation Pre	sent?	
						Yes			
		0	Total cover	-	1	No	<b>✓</b>		

SOIL								Sampling Point: DP7			
Profile De	escription: (Describe to	the dept	n needed to documen	t the indica	tor or	conf	irm the a	bsence of indicators)			
Depth	Matrix		Redox I	eatures							
(inches)	Color (moist)	%	Color (moist)	%	Туре	Loc	Texture	Remarks			
0-1	10YR 5/1	100					Sd Lo				
1-3	10YR 5/2	85	10YR 4/3 & 6/1	15	С	М	Lo Sd				
3-6	10YR 4/3	90	10YR 4/4	10	С	М	Lo Sd				
6-15	10YR 5/4	90	10YR 5/3	10	С	М	Lo Sd				
15-18	10YR 6/3	90	10YR 6/4	10	С	М	Lo Sd				
Types: C-co	oncentration, D-depletion	, RM-reduce	d matrix, CS covered or co	oated sand gi	ains.			Locations: PL-pore lining, M-matrix			
Hydric So	il Indicators:						Indicato	rs for Problematic Hydric Soils:			
Histos	sol (A1)		Polyvalue below surf	ace (S8)(LRR	S, T, U	)		1 cm muck (A9)(LRR O)			
Histic	epipedon (A2)		Thin dark surface (SS	)(LRR S, T, U	)			2 cm muck (A10)(LRR S)			
Black	histic (A3)		Loamy mucky minera	al (F1)(LRR O	)			Reduced vertic (F18)			
Hydro	ogen sulfide (A4)		Loamy gleyed matrix	(F2)				(outside MLRA 150A, B)			
Stratif	fied layers (A5)		Depleted matrix (F3)					Piedmont floodplain soils (F19)			
Organ	nic bodies (A6)(LRR P, T, U	)	Redox dark surface (	F6)				(LRR P, S, T)			
5 cm i	mucky mineral (A7)(LRR U	J)	Depleted dark surfac	e (F7)			Anomalous bright loamy soils (F20)				
☐ Muck	presence (A8)(LRR U)		Redox depressions (F	<del>-</del> 8)				(MLRA 153B)			
1 cm	muck (A9) (LRR P, T)		Marl (F10)(LRR U)					Red parent material (TF2)			
☐ Deple	ted below dark surface (A	A11)	Depleted ochric (F11	)(MLRA 151)				Very shallow dark surface (TF12)			
☐ Thick	dark surface (A12)		Fe-Mn masses (F12)(	LRR O, P, T)				(LRR T, U)			
Coast	prairie redox (A16)(MLRA	A 150A)	Umbric surface (F13)	(LRR P, T, U)				Other (explain in remarks)			
Sandy	mucky mineral (S1)(LRR	O, S)	Delta ochric (F17)(M	LRA 151)							
Sandy	gleyed matrix (S4)		Reduced vertic (F18)	(MLRA 150A,	150B)			Indicators of hydrophytic vegetation			
Sandy	redox (S5)		Piedmont floodplain	soils (F19)(N	ILRA 14	19A)	and wetland hydrology must be				
☐ Stripp	ed matrix (S6)		Anomalous bright loa	amy soils (F2	0)		present, unless disturbed or				
☐ Dark s	surface (S7)(LRR P, S, T, U	)	(MLRA 149A, 153C, 1	L53D)			problematic.				
Restrictive	Layer (if observed):							Is Hydric Soil Present?			
	Туре:							Yes			
	Depth (inches):							No 🗸			
Remarks:							-				

WETLAND DET	TERMINATION DATA I	FORM - Atlantic	and Gulf Coasta	l Plain Region
Project/Site: Proposed 230kV USW Substa	ation Site City/Cour	nty: Sussex County	Sampli	ng Date: 05-04-21
Applicant/Owner: US Wind		State: Delaware		ng Point: DP8
Investigators: Craig Smith		Section/Townsh	<u> </u>	
Landform: Plain		Local relief: Flat	: % Slop	e: 1%
Subregion:MLRA 153D	Lat: 38.5865°N	Long: -75.2446°		
Soil Map Unit Name: Henlopen loamy sar		. 0		assification: UPL
Are climatic/hydrologic conditions on the		nr?	Yes 🗸	
Is vegetation soil or hydrology	significantly disturbed?		Are "Normal Circums	tances" present?
Is vegetation soil or hydrology			Yes ~	
SUMMARY OF FINDING		ving sampling point		
Hydrophytic vegetation present?		√]		ea within a Wetland?
Hydric soil present?		<u> </u>	Yes	
Wetland Hydrology present?		7	No	
Remarks:				
HYDROLOGY				
Wetland Hydrology Indicators:			1	
Primary indicators (minimum of one is rec				cators (minimum of two required)
Surface water (A1)	Water-stained leaves (B9)	)		e soil cracks (B6)
High water table (A2)	Aquatic fauna (B13)			ly vegetated concave surface (B8)
Saturation (A3)	Marl deposits (B15) (LRR			ge patterns (B10)
Water marks (B1)	Hydrogen sulfide odor (C:			rim lines (B16)
Sediment deposits (B2)	Oxidized rhizospheres on	. ,		ason water table (C2)
Drift deposits (B3)	Presence of reduced iron	(C4)	☐ Crayfis	h burrows (C8)
Algal mat or crust (B4)	Recent iron reduction in t	cilled soils (C4)	Saturat	tion visible on aerial photos (C9)
Iron deposits (B5)	Thick muck surface (C7)		Geomo	orphic position (D2)
Inundation visible on	Other (explain in remarks	5)	Shallov	v aquitard (D3)
aerial photos (B7)			FAC-ne	eutral test (D5)
Field Observations:			T	
Surface water present? Yes	No 🗸 Depth (in	ches)	Is Wetl	and Hydrology Present?
Water table present? Yes	No 🔽 Depth (in	ches)	Yes	
Saturation present? Yes	No 🗸 Depth (in	ches)	No	✓
(includes capillary fringe)				
Describe recorded data (stream gage, mo	nitoring well, aerial photos, pro	evious inspections) if a	vailable:	
Remarks:				

<b>VEGETATION</b> - U	se scientific names	Absolute	Dominant	Indicator	r Sampling Point: DP8				
Tree Stratum	Plot size:	% Cover	Species?	Status	Dominance Test Worksheet				
Pinus virginiana		30	Υ	UPL	Number of OBL, FACW and FAC species:				
Quercus falcata		20	Υ	FACU	Total number of all dominant species:				
Pinus taeda		10	N	FAC	% of OBL, FACW and FAC dominant species:				
Quercus alba		10	N	FACU	Prevalence Index Worksheet				
Quercus velutina		5	N	UPL	Total % cover		Multiplier	B-value	
Acer rubrum		5	N	FAC	OBL species	0	1	L C	
					FACW species	10	2	2 20	
		80	Total Cover	•	FAC species	49	3	147	
Sapling Stratum	Plot size:				FACU species	104	4	416	
Sassafras albidum		20	Υ	FACU	UPL species	35	5	175	
Diospyros virginiana		10	Υ	FAC	Column total	198		758	
Nyssa sylvatica		10	Υ	FAC	Prevalence Inde	x:		3.83	
Acer rubrum		5	N	FAC	Hydrophytic V	egetation Ind	icators		
Carya cordiformis		2	N	FAC		Dominance tes	t is > 50%		
Quercus falcata		2	N	FACU		Prevalence inde	ex is ≤ 3.0		
						Problematic hy	drophytic veget	tation	
		49	Total Cover		Explanantion of	problematic veg	etation:		
Shrub Stratum	Plot size:				Area is maintained as a power line easement				
Vaccinium corymbosun	n	10	Υ	FACW					
Ilex opaca		4	Υ	FAC	Tree - Woody pla			prox.	
					20 feet (6 m) or i	more in height a	and 3 inches (7.6	6 cm) or	
					larger in diamete	er at breast heig	ht (DBH).		
					Sapling - Woody	plants, excludir	ng woody vines,	approx.	
					20 feet (6 m) or i	more in height a	and less than 3 i	nches	
					(7.6 cm) DBH.				
		14	Total Cover		Shrub - Woody p	lants, excluding	woody vines, a	pprox.	
Herb Stratum	Plot size:				3 to 20 feet (1 to	6 m) in height.			
Vaccinium angustifoliu	m	50	Υ	FACU	Herb - All herbad	ceous (non-woo	dy) plants, inclu	ding	
Diospyros virginiana		1	N	FAC	herbaceous vine	s, regardless of	size. Includes w	oody	
Smilax rotundifolia		1	N	FAC	plants, except we	oody vines, less	than approxima	ately	
Quercus falcata		1	N	FACU	3 feet (1 m) in he	eight.			
Sassafras albidum		1	N	FACU	Woody Vine - Al	l woody vines, r	egardless of hei	ght.	
Ilex opaca		1	N	FAC	Remarks: (If obse	erved, list morpl	hological adapta	ations)	
					1				
					1				
					1				
					1				
					1				
		55	Total cover		1				
Woody Vine Stratum	Plot size:		1						
	1	1			1				
					Is H	ydrophytic Ve	egetation Pre	sent?	
		1	<u> </u>		1	Yes			
		0	Total cover	1	1	No			

SOIL								Sampling Point: DP8		
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)										
Depth	Matrix		Redox I	Features						
(inches)	Color (moist)	%	Color (moist)	%	Туре	Loc	Texture	Remarks		
0-1	10YR 3/1	100					Sd Lo	High organic content		
1-2	10YR 4/1	90	10YR 5/1	10	С	М	Lo Sd			
2-5	10YR 5/1	85	10YR 4/1 & 4/3	15	С	М	Lo Sd			
5-10	10YR 5/4	85	10YR 5/1 & 5/3	15	С	М	Lo Sd			
10-15	10YR 6/4	85	10YR 6/2 & 6/3	15	С	М	Lo Sd			
15-18	10YR 6/4	90	10YR 6/3	10	С	М	Lo Sd			
Types: C-co	oncentration, D-depletion	, RM-reduce	d matrix, CS covered or co	oated sand gi	rains.			Locations: PL-pore lining, M-matrix		
Hydric So	il Indicators:						Indicato	rs for Problematic Hydric Soils:		
Histos	sol (A1)		Polyvalue below surf	face (S8)(LRR	S, T, U	)		1 cm muck (A9)(LRR O)		
Histic	epipedon (A2)		Thin dark surface (SS	9)(LRR S, T, U	)			2 cm muck (A10)(LRR S)		
Black	histic (A3)		Loamy mucky minera	al (F1)(LRR O	)			Reduced vertic (F18)		
Hydr	ogen sulfide (A4)		Loamy gleyed matrix	(F2)				(outside MLRA 150A, B)		
Strati	fied layers (A5)		Depleted matrix (F3)	)				Piedmont floodplain soils (F19)		
Organ	nic bodies (A6)(LRR P, T, U	)	Redox dark surface (	F6)				(LRR P, S, T)		
5 cm	mucky mineral (A7)(LRR U	J)	Depleted dark surface	ce (F7)				Anomalous bright loamy soils (F20)		
☐ Muck	presence (A8)(LRR U)		Redox depressions (	F8)				(MLRA 153B)		
1 cm	muck (A9) (LRR P, T)		Marl (F10)(LRR U)					Red parent material (TF2)		
☐ Deple	eted below dark surface (A	A11)	Depleted ochric (F11	.)(MLRA 151)				Very shallow dark surface (TF12)		
☐ Thick	dark surface (A12)		Fe-Mn masses (F12)	(LRR O, P, T)				(LRR T, U)		
Coast	prairie redox (A16)(MLRA	A 150A)	Umbric surface (F13)	)(LRR P, T, U)				Other (explain in remarks)		
Sandy	mucky mineral (S1)(LRR	O, S)	Delta ochric (F17)(M	LRA 151)						
Sandy	gleyed matrix (S4)		Reduced vertic (F18)	(MLRA 150A,	150B)			Indicators of hydrophytic vegetation		
Sandy	redox (S5)		Piedmont floodplain	soils (F19)(N	ILRA 14	19A)	and wetland hydrology must be			
Stripp	oed matrix (S6)		Anomalous bright lo	amy soils (F2	0)		present, unless disturbed or			
	surface (S7)(LRR P, S, T, U	)	(MLRA 149A, 153C, 1	153D)			problematic.			
	Layer (if observed):							Is Hydric Soil Present?		
	Туре:							Yes		
	Depth (inches):							No 🗸		
Remarks:							-			

WETLAND DETE	RMINATION DATA FOR	RM - Atlantic	and Gulf C	oastal Plain Region
Project/Site: Proposed 230kV USW Substation	on Site City/County: S	Sussex County		Sampling Date: 05-04-21
Applicant/Owner: US Wind	οιτη εσαπιτή:	State: Delaware	<u> </u>	Sampling Point: DP9
Investigators: Craig Smith		Section/Townsh		Sampung Contr. 272
Landform: Plain		Local relief: Flat	•	% Slope: 1-2%
Subregion:MLRA 153D	Lat: 38.5859°N	Long: -75.2460°		Datum:
Soil Map Unit Name: Henlopen loamy sand	<del>!</del>	Long73.2400	vv	NWI Classification: UPL
Are climatic/hydrologic conditions on the site				Yes V No
Is vegetation soil or hydrology	significantly disturbed?		Aro "Normal (	Circumstances" present?
	1		Are Norman	
Is vegetation soil or hydrology	naturally problematic?			
		Sampling point		ansects, important features, etc.
Hydrophytic vegetation present?	Yes No 7	1	is the samp	led Area within a Wetland?  Yes
Hydric soil present?		4		
Wetland Hydrology present?  Remarks:	Yes No			No 🗸
HYDROLOGY				
HYDROLOGY				
Wetland Hydrology Indicators:			T	
Primary indicators (minimum of one is requi	red; check all that apply)		Second	ary indicators (minimum of two required)
Surface water (A1)	Water-stained leaves (B9)			Surface soil cracks (B6)
High water table (A2)	Aquatic fauna (B13)			Sparsely vegetated concave surface (B8)
Saturation (A3)	Marl deposits (B15) (LRR U)			Drainage patterns (B10)
Water marks (B1)	Hydrogen sulfide odor (C1)			Moss trim lines (B16)
Sediment deposits (B2)	Oxidized rhizospheres on living	g roots (C3)		Dry-season water table (C2)
Drift deposits (B3)	Presence of reduced iron (C4)			Crayfish burrows (C8)
Algal mat or crust (B4)	Recent iron reduction in tilled	soils (C4)		Saturation visible on aerial photos (C9)
Iron deposits (B5)	Thick muck surface (C7)			Geomorphic position (D2)
Inundation visible on	Other (explain in remarks)			Shallow aquitard (D3)
aerial photos (B7)				FAC-neutral test (D5)
Field Observations:			1	
Surface water present? Yes	No Depth (inches)	)	l:	s Wetland Hydrology Present?
Water table present? Yes	No Depth (inches)	)		Yes
Saturation present? Yes	No Depth (inches)	)		No 🗸
(includes capillary fringe)				
Describe recorded data (stream gage, monito	oring well, aerial photos, previou	us inspections) if a	vailable:	
Remarks:				

<b>VEGETATION</b> - U	se scientific names	Absolute	Dominant	Indicator	or Sampling Point: DP9				
Tree Stratum	Plot size:	% Cover	Species?	Status	Dominance Test Worksheet				
Pinus taeda		30	Υ	FAC	Number of OBL,	FACW and FAC	species:	2	
Quercus alba		20	Υ	FACU	Total number of	all dominant sp	ecies:	6	
Quercus velutina		10	N	UPL	% of OBL, FACW	and FAC domin	ant species:	33	
Carya cordiformis		10	N	FAC	Prevalence Ind	lex Workshee	t		
Quercus falcata		5	N	FACU	Total % cover		Multiplier	B-value	
Pinus virginiana		5	N	UPL	OBL species	0	1	0	
					FACW species	10	2	20	
		80	Total Cover		FAC species	60	3	180	
Sapling Stratum	Plot size:		_		FACU species	92	4	368	
Carya cordiformis		20	Υ	FAC	UPL species	27	5	135	
Carya tomentosa		10	Υ	UPL	Column total	189		703	
Quercus alba		10	Υ	FACU	Prevalence Index	c:		3.72	
Cornus florida		5	N	FACU	Hydrophytic V	egetation Ind	icators		
Sassafras albidum		2	N	FACU		Dominance tes	t is > 50%		
Pinus virginiana		2	N	UPL		Prevalence inde	ex is ≤ 3.0		
						Problematic hy	drophytic veget	ation	
		49	Total Cover		Explanantion of p	problematic veg	etation:		
Shrub Stratum	Plot size:		4		Area is maintained as a power line easement				
	1				Definitions of	vegetation st	rata:		
					Tree - Woody pla			orox.	
					20 feet (6 m) or r	nore in height a	and 3 inches (7.6	cm) or	
					larger in diamete	_	·	,	
					Sapling - Woody			approx.	
					20 feet (6 m) or r	nore in height a	and less than 3 in	nches	
					(7.6 cm) DBH.				
		0	Total Cover		Shrub - Woody p	lants, excluding	woody vines, a	oprox.	
Herb Stratum	Plot size:		<u>I</u>		3 to 20 feet (1 to	6 m) in height.			
Vaccinium angustifoliu		50	Y	FACU	Herb - All herbac	, ,	dy) plants, inclu	ding	
Quercus falcata		1	N	FACU	herbaceous vines	s. regardless of	size. Includes wo	oodv	
					plants, except wo				
					3 feet (1 m) in he	·		··· <b>,</b>	
					Woody Vine - All		egardless of hei	ght.	
					Remarks: (If obse	erved list morni	hological adanta	tions)	
					Themarks. (II obse		norogical adapta	icions,	
					†				
		51	Total cover	ļ	†				
Moody View Class	Diet size:	31	i otal cover						
Woody Vine Stratum	Plot size:			I	1				
					- Is H		egetation Pres	sent?	
					4	Yes			
		0	Total cover			No	<b>✓</b>		

SOIL								Sampling Point: DP9		
Profile De	escription: (Describe to	o the depti	n needed to documen	t the indica	tor or	conf	irm the a	bsence of indicators)		
Depth	Matrix		Redox I	Features						
(inches)	Color (moist)	%	Color (moist)	%	Туре	Loc	Texture	Remarks		
0-1	10YR 4/1	90	10YR 3/1	10	С	М	Sd Lo	High organic content		
1-3	10YR 3/3	90	10YR 4/4	10	С	М	Lo Sd			
3-10	10YR 4/4	90	10YR 5/3	10	С	М	Lo Sd			
10-18	10YR 6/3	90	10YR 6/4	10	С	М	Lo Sd			
Types: C-co	oncentration, D-depletion	, RM-reduce	d matrix, CS covered or co	oated sand g	rains.			Locations: PL-pore lining, M-matrix		
Hydric So	il Indicators:						Indicato	ors for Problematic Hydric Soils:		
Histos	sol (A1)		Polyvalue below surf	ace (S8)(LRR	S, T, U	)		1 cm muck (A9)(LRR O)		
Histic	epipedon (A2)		Thin dark surface (SS	)(LRR S, T, U	)			2 cm muck (A10)(LRR S)		
Black	histic (A3)		Loamy mucky minera	al (F1)(LRR O	)			Reduced vertic (F18)		
Hydro	ogen sulfide (A4)		Loamy gleyed matrix	(F2)				(outside MLRA 150A, B)		
Stratif	fied layers (A5)		Depleted matrix (F3)					Piedmont floodplain soils (F19)		
Organ	nic bodies (A6)(LRR P, T, U	)	Redox dark surface (	F6)				(LRR P, S, T)		
5 cm r	mucky mineral (A7)(LRR L	J)	Depleted dark surface	ce (F7)				Anomalous bright loamy soils (F20)		
☐ Muck	presence (A8)(LRR U)		Redox depressions (	<del>-</del> 8)				(MLRA 153B)		
1 cm i	muck (A9) (LRR P, T)		Marl (F10)(LRR U)					Red parent material (TF2)		
Deple	ted below dark surface (A	11)	Depleted ochric (F11	.)(MLRA 151)				Very shallow dark surface (TF12)		
Thick	dark surface (A12)		Fe-Mn masses (F12)	(LRR O, P, T)			_	(LRR T, U)		
Coast	prairie redox (A16)(MLRA	A 150A)	Umbric surface (F13)	(LRR P, T, U)				Other (explain in remarks)		
Sandy	mucky mineral (S1)(LRR	O, S)	Delta ochric (F17)(M	LRA 151)						
Sandy	gleyed matrix (S4)		Reduced vertic (F18)	(MLRA 150A	150B)		Indicators of hydrophytic vegetation			
Sandy	redox (S5)		Piedmont floodplain	soils (F19)(N	ILRA 14	49A)	and wetland hydrology must be			
Stripp	ed matrix (S6)		Anomalous bright lo	amy soils (F2	0)		present, unless disturbed or			
Dark s	surface (S7)(LRR P, S, T, U	)	(MLRA 149A, 153C, 1	L53D)			problematic.			
Restrictive	Layer (if observed):							Is Hydric Soil Present?		
	Type:							Yes		
	Depth (inches):							No 🗸		
Remarks:										

Project/Site: Proposed 230kV USW Substation Site			JE I ET	KIVIIN/	AHOI	N DAT	A FUI	RM - Atlantic	and Guif (	coastai Pla	ın Kegion			
Section/Township:   Landform: Plain   Landform: Plain   Landform: Plain   Landform: Plain   Landform: Plain   Landform: Plain   Lat: 38.5875*N   Long: -75.2483*W   Datum: Subregion.MLRA. 1530   Lat: 38.5875*N   Long: -75.2483*W   Datum: Subregion.MLRA. 1530   Long: -75.2483*W   D	Project/Site: Proposed 230kV	USW Su	bstatio	n Site		City/Co	ounty:	Sussex County		Sampling Dat	e: 05-04-21			
Latinform: Plain	Applicant/Owner: US Wind					•		State: Delaware	pelaware Sampling Point: DP10					
Subregion:MLRA 153D	Investigators: Craig Smith							Section/Townsh	Section/Township:					
Soli Map Unit Name: Broadkill mucky peat (Br)  Are climatic/hydrologic conditions on the site typical for this time of year?  Are climatic/hydrologic conditions on the site typical for this time of year?  Are climatic/hydrologic conditions on the site typical for this time of year?  Are "Normal Circumstances" present?  Yes	Landform: Plain							Local relief: Flat		% Slope: 0%				
Are climatic/hydrologic conditions on the site typical for this time of year?  Are "Normal Circumstances" present?  Is vegetation	Subregion:MLRA 153D			Lat: 38	3.5875°I	N		Long: -75.2483°	W	Datum:				
Segetation   soil   or hydrology   significantly disturbed?   Are "Normal Circumstances" present?	Soil Map Unit Name: Broadk	II mucky	peat (F	Br)				1 -		NWI Classific	ation: PEM/PSS			
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic vegetation present?	 Are climatic/hydrologic condi	tions on	the site	typical	for this	time of	year?			Yes 🗸 N	lo 🗌			
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic vegetation present?	s vegetation soil c	r hydrolc	ogy 🗌	signific	cantly d	isturbed	?		Are "Normal	Circumstances	" present?			
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic vegetation present?				natura	ılly prok	olematic?	)							
Hydrophytic vegetation present?								sampling point	locations, t	ransects, imp	ortant feature	s, etc.		
Advance soil present?  Wetland Hydrology present?  Wetland Hydrology present?  Wetland Hydrology Indicators:  Primary indicators (minimum of one is required; check all that apply)  Secondary indicators (minimum of two required)  Surface water (A1)  Water-stained leaves (B9)  Surface soil cracks (B6)  High water table (A2)  Aquatic fauna (B13)  Sparsely vegetated concave surface (B8)  Surface soil cracks (B6)  Hydrogen sulfide odor (C1)  Sediment deposits (B2)  Oxidized rhizospheres on living roots (C3)  Dry-season water table (C2)  Drift deposits (B3)  Presence of reduced iron (C4)  Algal mat or crust (B4)  Recent iron reduction in tilled soils (C4)  Inoundation visible on  aerial photos (B7)  Field Observations:  Surface water present?  Ves  No  Depth (inches)  Ves  No  Depth (inches)  Yes  No  No  No  No  No  No  No  No  No  N								1						
Wetland Hydrology present?  Wetland Hydrology Indicators:  Primary indicators (minimum of one is required; check all that apply)  Secondary indicators (minimum of two required)  Surface water (A1)				Yes	<u> </u>		$\overline{\Box}$							
HYDROLOGY  Wetland Hydrology Indicators:  Primary indicators (minimum of one is required; check all that apply)  Surface water (A1)	•			Yes	<u></u>	No	$\overline{\Box}$							
Wetland Hydrology Indicators:  Primary indicators (minimum of one is required; check all that apply)  Surface water (A1)	HYDROLOGY													
Primary indicators (minimum of one is required; check all that apply)  Secondary indicators (minimum of two required; Surface water (A1)  Water-stained leaves (B9)  High water table (A2)  Aquatic fauna (B13)  Saturation (A3)  Marl deposits (B15) (LRR U)  Water marks (B1)  Hydrogen sulfide odor (C1)  Sediment deposits (B2)  Oxidized rhizospheres on living roots (C3)  Drift deposits (B3)  Presence of reduced iron (C4)  Iron deposits (B5)  Thick muck surface (C7)  Inundation visible on aerial photos (B7)  Field Observations:  Surface water present?  Yes  No  Depth (inches)  Yes  No  Depth (inches)  Secondary indicators (minimum of two required; Secondary indicators (minimum of two required; Surface soil cracks (B6)  Surface soil cracks (B6)  Surface soil cracks (B6)  Surface soil cracks (B6)  Sparsely vegetated concave surface (B8)  Sparsely vegetated concave surface (B8)  Mos strim lines (B16)  Moss trim lines (B16)  Dry-season water table (C2)  Crayfish burrows (C8)  Saturation visible on aerial photos (C9)  Geomorphic position (D2)  Shallow aquitard (D3)  FAC-neutral test (D5)  Field Observations:  Surface water present?  Yes  No  Depth (inches)  Yes  No  No  No  No  No  No  No  No  No  N														
Surface water (A1)					ملة الماد				Canan	da	/:-:			
High water table (A2)									Secon	7	-	requirea)		
Saturation (A3)										_	` '	face (BS)		
Water marks (B1)	_						OD 11\					race (B8)		
Sediment deposits (B2)  Oxidized rhizospheres on living roots (C3)  Drift deposits (B3)  Presence of reduced iron (C4)  Algal mat or crust (B4)  Iron deposits (B5)  Inundation visible on aerial photos (B7)  Field Observations:  Surface water present?  Water table present?  Yes  No  Depth (inches)  Sediment deposits (B2)  Oxidized rhizospheres on living roots (C3)  Dry-season water table (C2)  Crayfish burrows (C8)  Saturation visible on aerial photos (C9)  Geomorphic position (D2)  Shallow aquitard (D3)  FAC-neutral test (D5)  Is Wetland Hydrology Present?  Yes  No  Depth (inches)  Yes  No  No  Depth (inches)  No  No  No  Depth (inches)  No  No  No  No  No  No  No  No  No  N														
Drift deposits (B3)								g roots (C3)						
Algal mat or crust (B4)				1		•				-				
Iron deposits (B5)				,										
Inundation visible on aerial photos (B7)  Circled Observations:  Surface water present?  Water table present?  Yes No Depth (inches)  No Depth (inches)  Saturation present?  Yes No Depth (inches)  Yes No Depth (inches)  Saturation present?  Yes No Depth (inches)  Yes No Depth (inches)								SOIIS (C4)						
aerial photos (B7)  FAC-neutral test (D5)  FIELD Observations:  Surface water present?  Ves No Depth (inches)  No Vertable present?  No Depth (inches)  Saturation present?  Yes No Depth (inches)  Tyes Ves No Depth (inches)			늗	1		•	•			_				
Field Observations:  Surface water present? Yes No Depth (inches)  Water table present? Yes No Depth (inches)  Saturation present? Yes No Depth (inches)  Saturation present? Yes No Depth (inches)  Is Wetland Hydrology Present?  Yes No Depth (inches)  No Depth (inches)  No Depth (inches)	_			Other	(explair	i iii i eiiia	113)							
Fourface water present?  Yes No Depth (inches)  No Water table present?  Yes No Depth (inches)  Yes Volume No Depth (inches)  No Depth (inches)  Yes No Depth (inches)  No Depth (inches)  No Depth (inches)  No Depth (inches)										_ I AC-lieutiai t	.631 (D3)			
Water table present?  Yes No Depth (inches)  Yes V  No Depth (inches)  No No Depth (inches)  No Depth (inches)  No Depth (inches)		Yes		No	<b>7</b>	Denth	(inches	)		Is Wetland H	lydrology Prese	nt?		
includes capillary fringe)  Yes No Depth (inches) 12  No No Depth (inches) 12	·		ᅟ								_			
includes capillary fringe)	·		7											
· · · · · · · · · · · · · · · · · · ·	•	103		110		Dehtil	(micries	, 12						
		m gage,	monito	oring we	ll, aeria	l photos,	previo	us inspections) if a	<u>l</u> vailable:					

<b>VEGETATION</b> - U	Ise scientific names	Absolute	Dominant	Indicator		ng Point: DP10			
Tree Stratum	Plot size:	% Cover	Species?	Status	Dominance Te	est Worksheet			
Nyssa sylvatica		5	Υ	FAC	Number of OBL,	FACW and FAC	species:	7	
Acer rubrum		5	Υ	FAC	Total number of	all dominant sp	ecies:	9	
Quercus falcata		5	Υ	FACU	% of OBL, FACW	and FAC domin	ant species:	78	
Quercus alba		5	Υ	FACU	Prevalence Inc	dex Workshee	t		
					Total % cover		Multiplier	B-value	
					OBL species	10	-	1 10	
					FACW species	60	2	2 120	
		20	Total Cover		FAC species	95	3	3 285	
Sapling Stratum	Plot size:		4		FACU species	15	4	1 60	
Nyssa sylvatica	•	35	Υ	FAC	UPL species	0	į	5 0	
Quercus nigra		10	N	FAC	Column total	180		475	
Quercus alba		5	N	FACU	Prevalence Inde	x:		2.64	
Diospyros virginiana		5	N	FAC	Hydrophytic V	egetation Ind	icators	•	
5					7	Dominance tes			
					7	Prevalence inde	ex is ≤ 3.0		
						Problematic hy	drophytic vege	tation	
		55	Total Cover	<u>I</u>	Explanantion of	etation:			
Shrub Stratum	Plot size:		ı		Area is maintained as a power line easement				
llex opaca		10	Y	FAC	Definitions of vegetation strata:				
Chamaecyparis thyoid	10	Y	OBL	Tree - Woody pl			prox.		
Baccharis halimifolia				FAC	20 feet (6 m) or	_			
bucchans naminjena		3	N		larger in diamet	=	•	, .	
					Sapling - Woody			approx.	
					20 feet (6 m) or	more in height a	and less than 3 i	inches	
					(7.6 cm) DBH.	o o			
		23	Total Cover	<u>I</u>	Shrub - Woody	olants, excluding	woody vines, a	ipprox.	
Herb Stratum	Plot size:		ı		3 to 20 feet (1 to	o 6 m) in height.			
Phragmites australis		50	Υ	FACW	Herb - All herba	, ,		ıding	
Smilax rotundifolia		20	Y	FAC	herbaceous vine	•		=	
Teucrium canadense		10	N	FACW	plants, except w				
Baccharis halimifolia		1	N	FAC	3 feet (1 m) in h	•		,	
Acer rubrum		1	N	FAC	March March All and Committee of help				
					Remarks: (If obs	erved list morn	hological adant	ations)	
					itemarks: (ii obs	civea, not morp	norogical adapt	acions,	
					1				
					1				
					1				
					1				
		0.7	Total save:	ļ	1				
M 1 M 2: - :	District o	82	Total cover						
Woody Vine Stratum	Plot size:		1	I	1				
						Ladama de 11 - 11		+7	
					IS F	lydrophytic Ve		sentr	
					Yes 🗸				
		0	Total cover			No			

SOIL	Sampling Point: DP10										
Profile De	escription: (Describe to	the dept	n needed to documen	t the indica	tor or	conf	irm the a	bsence of indicators)			
Depth	Matrix		Redox	Features				·			
(inches)	Color (moist)	%	Color (moist)	%	Туре	Loc	Texture	Remarks			
0-8	10YR 5/1	85	10YR 3/1 & 4/1	15	С	М	Lo Sd				
8-15	10YR 5/1	85	10YR 4/4 & 5/2	15	С	М	Lo Sd				
15-18	10YR 5/2	85	10YR 4/4 & 5/1	15	С	М	Lo Sd				
Types: C-co	oncentration, D-depletion	, RM-reduce	d matrix, CS covered or c	oated sand g	rains.			Locations: PL-pore lining, M-matrix			
Hydric Soil Indicators: Indicators for Problematic Hydric Soils:											
Histosol (A1) Polyvalue below surface (S8)(LRR S, T, U) 1 cm muck (A9)(LRR O)											
Histic	epipedon (A2)				2 cm muck (A10)(LRR S)						
Black	histic (A3)				Reduced vertic (F18)						
Hydro	ogen sulfide (A4)				(outside MLRA 150A, B)						
☐ Hydrogen sulfide (A4)       ☐ Loamy gleyed matrix (F2)       (outside MLRA 150A, B)         ☐ Stratified layers (A5)       ☐ Depleted matrix (F3)       ☐ Piedmont floodplain soils (F19)											
Organ	(LRR P, S, T)										
5 cm i	mucky mineral (A7)(LRR U	I)			Anomalous bright loamy soils (F20)						
☐ Muck	presence (A8)(LRR U)				(MLRA 153B)						
	muck (A9) (LRR P, T)				Red parent material (TF2)						
☐ Deple	ted below dark surface (A	(11)			Very shallow dark surface (TF12)						
☐ Thick	dark surface (A12)		Fe-Mn masses (F12)	(LRR O, P, T)				(LRR T, U)			
Coast	prairie redox (A16)(MLRA	A 150A)	Umbric surface (F13)	(LRR P, T, U)				Other (explain in remarks)			
Sandy	mucky mineral (S1)(LRR	O, S)	Delta ochric (F17)(M	LRA 151)							
Sandy	gleyed matrix (S4)		Reduced vertic (F18)	(MLRA 150A	150B)			Indicators of hydrophytic vegetation			
Sandy	redox (S5)		Piedmont floodplain	soils (F19)(N	ILRA 14	19A)		and wetland hydrology must be			
☐ Stripp	ed matrix (S6)		Anomalous bright lo	amy soils (F2	0)			present, unless disturbed or			
☐ Dark s	surface (S7)(LRR P, S, T, U	)	(MLRA 149A, 153C, 1	L53D)				problematic.			
Restrictive	Layer (if observed):							Is Hydric Soil Present?			
	Type:						Yes 🗸				
	Depth (inches):							No 🗌			
Remarks:							-				

WETLAND DE	TERMINATION	N DATA FOR	RM - Atlantic	and Gulf C	oastal Pl	lain Re	egion
Project/Site: Proposed 230kV USW Substa	ation Site	City/County:	Sussex County		Sampling D	ate: 05	-04-21
Applicant/Owner: US Wind	acion site	city/ county.	State: Delaware	2	Sampling P		
Investigators: Craig Smith			Section/Townsh		Sumpling i	011111. 151	
Landform: Plain			Local relief: Flat	elief: Flat % Slope: 1-2%			
Subregion:MLRA 153D	Lat: 38.5873°N	N.	Long: -75.2484°		Datum:	2/0	
Soil Map Unit Name: Runclint loamy sand		•	LOTIG7 3.2404	vv	NWI Classif	fication:	IIDI
Are climatic/hydrologic conditions on the	, ,	time of year?			Yes 🗸	No $\square$	OI L
Is vegetation soil or hydrology		·		Are "Normal (			ont?
				Are Norman			ent:
Is vegetation Soil or hydrology			compling point	locations to		No 📙	nt footuuro oto
SUMMARY OF FINDIN			sampling point				
Hydrophytic vegetation present?	Yes	No ✓	+	Is the Sampl	Yes	nunin a	wettandr
Hydric soil present?	Yes		4				
Wetland Hydrology present?  Remarks:	Yes	No 🛂			No	<b>✓</b>	
HYDROLOGY							
Wetland Hydrology Indicators:							
Primary indicators (minimum of one is red	quired; check all the	at apply)		Second	ary indicato	rs (minii	mum of two required)
Surface water (A1)	Water-stained	d leaves (B9)			Surface soil		
High water table (A2)	Aquatic fauna	, ,			Sparsely ve	getated	concave surface (B8)
Saturation (A3)	Marl deposits				Drainage pa		•
Water marks (B1)	Hydrogen sulf				Moss trim I	,	•
Sediment deposits (B2)		spheres on living	g roots (C3)		Dry-season		
Drift deposits (B3)	Presence of re	educed iron (C4)			Crayfish bu	rrows (C	28)
Algal mat or crust (B4)	Recent iron re	eduction in tilled	soils (C4)		Saturation	visible o	n aerial photos (C9)
Iron deposits (B5)	Thick muck su	rface (C7)			Geomorphi	ic positio	on (D2)
Inundation visible on	Other (explain	n in remarks)			Shallow aq	,	,
aerial photos (B7)					FAC-neutra	l test (D	5)
Field Observations:				1			
Surface water present? Yes	No 🗸	Depth (inches	)	l:	s Wetland	Hydro	logy Present?
Water table present? Yes	No 🗸	Depth (inches	)		Yes		
Saturation present? Yes	No 🗹	Depth (inches	)		No	✓	
(includes capillary fringe)							
Describe recorded data (stream gage, mo	nitoring well, aeria	l photos, previou	us inspections) if a	vailable:			
Remarks: Forested upland adjacent to em	nergent tidal wetlar	nd					

<b>VEGETATION</b> - U	se scientific names	Absolute	Dominant	Indicator		Samplin	g Point: DP11	
Tree Stratum	Plot size:	% Cover	Species?	Status	Dominance Te	st Worksheet		
Pinus taeda		25	Υ	FAC	Number of OBL, I	FACW and FAC	species:	4
Quercus falcata		20	Υ	FACU	Total number of	all dominant sp	ecies:	5
Prunus serotina		5	N	FACU	% of OBL, FACW	and FAC domin	ant species:	80
Acer rubrum		5	N	FAC	Prevalence Ind	lex Workshee	t	
Juglans nigra		5	N	UPL	Total % cover		Multiplier	B-value
					OBL species	0	1	. 0
					FACW species	5	2	2 10
		60	Total Cover	•	FAC species	90	3	270
Sapling Stratum	Plot size:		•		FACU species	47	4	188
Acer rubrum		20	Υ	FAC	UPL species	15	5	5 75
Diospyros virginiana		15	Y	FAC	Column total	157		543
Nyssa sylvatica		10	N	FAC	Prevalence Index	<b>(</b> :	•	3.46
Cornus florida		10	N	FACU	Hydrophytic V	egetation Ind	icators	
Sassafras albidum		5	N	FACU		Dominance tes		
Magnolia virginiana		5	N	FACW		Prevalence inde	ex is ≤ 3.0	
Carya tomentosa		5	N	UPL		Problematic hy	drophytic veget	ation
		70	Total Cover	1	Explanantion of p			
			ı		Area is maintaine	•		
Quercus nigra		5	N	FAC	Definitions of			
Prunus serotina		5	N	FACU	Tree - Woody pla			prox.
Juglans nigra	5	N	UPL	20 feet (6 m) or r	_			
- 1 g v · 1 g v				larger in diamete	_	•	, .	
					Sapling - Woody			approx.
					20 feet (6 m) or r	nore in height a	and less than 3 i	nches
					(7.6 cm) DBH.			
		15	Total Cover	<u>I</u>	Shrub - Woody p	lants, excluding	woody vines, a	pprox.
Herb Stratum	Plot size:		ı		3 to 20 feet (1 to	6 m) in height.		
Smilax rotundifolia		10	Y	FAC	Herb - All herbac		dy) plants, inclu	ding
Vaccinium angustifoliu	m	2	N	FACU	herbaceous vines	•		=
			1		plants, except wo			
					3 feet (1 m) in he	·		,
					Woody Vine - All		egardless of hei	ght.
					Remarks: (If obse	erved list morni	nological adanta	ations)
					nemarks. (ii obse		Torogreat adapte	20013)
					1			
					1			
					1			
					1			
		12	Total cover	ļ	1			
	I <sub>21</sub>	12	Total cover					
Woody Vine Stratum	Plot size:		1		ĺ			
-						المناج المسامي		+2
		<del>                                     </del>			IS H	ydrophytic Ve	getation Pres	sentf
		-			Yes			
		0	Total cover			No	<b>✓</b>	

WETLA	ND DETEI	RMINATIO	N DAT	A FOR	M - Atlantic	and Gulf C	oastal P	lain R	egion
Project/Site: Proposed 230kV US	SW Substatio	n Site	City/C	County: S	Sussex County		Sampling	Date: 05	i-04-21
Applicant/Owner: US Wind	· · · · · · · · · · · · · · · · · · ·		0.047		State: Delaware	<u> </u>	Sampling		
Investigators: Craig Smith					Section/Townsh		oup8	0	
Landform: Plain					Local relief: Flat	elief: Flat % Slope: 1-2%			
Subregion:MLRA 153D		Lat: 38.5852°1	N		Long: -75.2524°		Datum:	-2/0	
Soil Map Unit Name: Henlopen	loamy sand (		N .		LOTIG73.2324	vv	NWI Class	ification	LIDI
Are climatic/hydrologic conditio			time of	vear?			Yes 🗸	No T	]
	ydrology	significantly d		-		Are "Normal (			Sont?
, ,		1				Ale Norman		No T	1
	ydrology L	naturally prob				losotions to			unt factures ats
SUMMARY OF F			No		Sampling point	Is the Samp			
Hydrophytic vegetation present	f	Yes	No	7		is the Samp	Yes		i wetianu:
Hydric soil present?			+	7					
Wetland Hydrology present?  Remarks:		Yes 📙	No	Ů			No	<b>V</b>	
HYDROLOGY									
Wetland Hydrology Indicate						1			
Primary indicators (minimum of	one is requir	1				Second			mum of two required)
Surface water (A1)		│ Water-stained		(B9)			Surface so		
High water table (A2)		Aquatic fauna	. ,					_	I concave surface (B8)
Saturation (A3)		Marl deposits					Drainage		
Water marks (B1)		Hydrogen sulf			. (22)		Moss trim	,	·
Sediment deposits (B2)		Oxidized rhizo			g roots (C3)		Dry-seaso		
Drift deposits (B3)		Presence of re		, ,			Crayfish b		
Algal mat or crust (B4)	L	Recent iron re			soils (C4)				on aerial photos (C9)
Iron deposits (B5)	L	Thick muck su					Geomorph		
Inundation visible on	L	Other (explair	n in rema	arks)			Shallow ad		,
aerial photos (B7)							FAC-neutr	al test ([	05)
Field Observations:			1			1			
Surface water present? Yes	es 📙	No 🗸	Depth	n (inches)		 		d Hydro	ology Present?
	es $\square$	No 🗸	Depth	(inches)			Yes	Ļ	]
Saturation present? Yes	es $\square$	No 🗸	Depth	(inches)			No	_	
(includes capillary fringe)									
Describe recorded data (stream	gage, monito	oring well, aeria	l photos	, previou	s inspections) if a	vailable:			
Remarks: Forested upland adjac	ent to riverba	ank							

<b>VEGETATION</b> - Use scientific names	Absolute	Dominant	Indicator	ng Point: DP12				
Tree Stratum Plot size:	% Cover	Species?	Status	Dominance Tes	st Worksheet			
Pinus taeda	35	Υ	FAC	Number of OBL, F	ACW and FAC	species:	3	
Diospyros virginiana	15	Υ	UPL	Total number of a	all dominant sp	ecies:	6	
Celtis occidentalis	5	N	FACU	% of OBL, FACW	and FAC domin	ant species:	50	
Ilex opaca	5	N	FAC	Prevalence Ind	ex Workshee	t		
Quercus nigra	5	N	FAC	Total % cover		Multiplier	B-value	
Quercus falcata	5	N	FACU	OBL species	0	1	. 0	
				FACW species	0	2	2 0	
	70	Total Cover	•	FAC species	118	3	354	
Sapling Stratum Plot size:				FACU species	48	4	192	
Diospyros virginiana	20	Υ	FAC	UPL species	16	5	80	
Sassafras albidum	10	Υ	FACU	Column total	182		626	
Celtis occidentalis	10	Υ	FACU	Prevalence Index	c:		3.44	
Prunus serotina	5	N	FACU	Hydrophytic Ve	egetation Ind	icators		
Acer rubrum	3	N	FAC		Dominance tes	t is > 50%		
					Prevalence inde	ex is ≤ 3.0		
					Problematic hy	drophytic veget	tation	
	48	Total Cover		Explanantion of problematic vegetation:				
Shrub Stratum Plot size:		4		Area is maintaine	ed as a power lii	ne easement		
<u> </u>				Definitions of v	egetation stu	rata:		
				Tree - Woody pla			prox.	
				20 feet (6 m) or n	nore in height a	and 3 inches (7.6	6 cm) or	
				larger in diamete	_	•	,	
				Sapling - Woody	ng woody vines,	approx.		
				20 feet (6 m) or n	nore in height a	and less than 3 i	nches	
				(7.6 cm) DBH.				
	0	Total Cover		Shrub - Woody p	lants, excluding	woody vines, a	pprox.	
Herb Stratum Plot size:				3 to 20 feet (1 to	6 m) in height.			
Smilax rotundifolia	50	Υ	FAC	Herb - All herbac			ding	
Vaccinium angustifolium	5	N	FACU	herbaceous vines	, regardless of	size. Includes w	oody	
Lonicera japonica	5	N	FACU	plants, except wo				
Ambrosia artemisilfolia	2	N	FACU	3 feet (1 m) in he	•		•	
Cradamine parviflora	1	N	FACU	Ward Mar All and Commendate Chalaba				
Oxalis corniculata	1	N	UPL	Remarks: (If obse	rved, list morpl	hological adapta	ations)	
					,		· · · · · · · · · · · · · · · · · · ·	
				1				
				_				
				_				
				_				
	64	Total cover	ļ	†				
Woody Vine Stratum Plot size:	1	1						
Troc 3126.				†				
				Ic H	vdrophytic V	egetation Pre	sent?	
				1 .5	Yes			
L	0	Total cover	1	†	No			

SOIL	SOIL Sampling Point: DP12										
Profile De	escription: (Describe to	the dept	n needed to documen	t the indica	tor or	conf	irm the a	bsence of indicators)			
Depth	Matrix	-	I	Features				·			
(inches)	Color (moist)	%	Color (moist)	%	Туре	Loc	Texture	Remarks			
0-2	10YR 3/2	90	10YR 4/2	10	С	М	Sd Lo				
2-5	10YR 3/3	90	10YR 4/3	10	С	М	Lo Sd				
5-12	10YR 4/4	85	10YR 5/4 & 3/2	15	С	М	Lo Sd				
12-18	10YR 6/4	85	10YR 6/2 & 6/3	15	С	М	Lo Sd				
Types: C-co	oncentration, D-depletion	, RM-reduce	d matrix, CS covered or co	oated sand g	ains.			Locations: PL-pore lining, M-matrix			
Hydric Soil Indicators: Indicators for Problematic Hydric Soils:											
Histosol (A1) Polyvalue below surface (S8)(LRR S, T, U) 1 cm muck (A9)(LRR O)											
Histic epipedon (A2)  Thin dark surface (S9)(LRR S, T, U)  2 cm muck (A10)(LRR S)											
Black	histic (A3)				Reduced vertic (F18)						
Hydr	ogen sulfide (A4)				(outside MLRA 150A, B)						
Hydrogen sulfide (A4)  Loamy gleyed matrix (F2)  Outside MLRA 150A, B)  Stratified layers (A5)  Depleted matrix (F3)  Piedmont floodplain soils (F19)											
Organic bodies (A6)(LRR P, T, U)  Redox dark surface (F6)  (LRR P, S, T)											
	mucky mineral (A7)(LRR L			Anomalous bright loamy soils (F20)							
	presence (A8)(LRR U)	,			(MLRA 153B)						
	muck (A9) (LRR P, T)				Red parent material (TF2)						
	eted below dark surface (A	\11)		ΙΠ	Very shallow dark surface (TF12)						
	dark surface (A12)	,		(LRR T, U)							
	prairie redox (A16)(MLRA	Δ 150Δ)	Fe-Mn masses (F12)( Umbric surface (F13)					Other (explain in remarks)			
	/ mucky mineral (S1)(LRR		Delta ochric (F17)(M					other (explain in remarks)			
	/ gleyed matrix (S4)	0, 3)	Reduced vertic (F18)	•	150R)			Indicators of hydrophytic vegetation			
	/ redox (S5)		Piedmont floodplain					and wetland hydrology must be			
	ped matrix (S6)					+9A)					
	surface (S7)(LRR P, S, T, U	١	Anomalous bright lo		J)			present, unless disturbed or			
-	Layer (if observed):	)	(MLRA 149A, 153C, 1	1330)				problematic.			
Restrictive	Type:						Is Hydric Soil Present?  Yes				
	Depth (inches):						Yes				
Remarks:	Depth (menes).										
Remarks.											

WET	LAND I	DETER	RMINA	OITA	N DAT	A FOI	RM - Atlantic	and Gulf (	Coastal P	lain	Region	
Project/Site: Proposed 230k\	/ USW Su	ıbstatior	n Site		City/C	ounty:	Sussex County		Sampling I	Date:	05-04-21	
Applicant/Owner: US Wind							State: Delaware	Delaware Sampling Point: DP13				
Investigators: Craig Smith							Section/Townsh	ection/Township:				
Landform: Plain							Local relief: Flat	ocal relief: Flat % Slope: 0%				
Subregion:MLRA 153D			Lat: 38	.5846°N	N		Long: -75.2511°	'				
Soil Map Unit Name: Manah	awkin mı	uck (Ma	)				_i		NWI Classi	ficatio	on: PSS/PFO	
Are climatic/hydrologic cond				for this	time of	year?			Yes 🗸	No		
	or hydrolo				isturbed			Are "Normal		es" p	resent?	
	or hydrolo	ogv $\square$			olematic?				Yes 🗸	No		
SUMMARY O		· —					sampling point	locations, t	ransects, i	mpor	tant features, e	tc.
Hydrophytic vegetation prese			Yes	<b>V</b>	No						n a Wetland?	
Hydric soil present?			Yes	7	No	$\overline{\Box}$	7	•	Yes	1	_	
Wetland Hydrology present?									No	Ē	_ ]	
HYDROLOGY												
Wetland Hydrology Indic	ators:											
Primary indicators (minimum		Second	dary indicate	ors (m	inimum of two rec	uired)						
Surface water (A1)			Water-	stained	d leaves (	B9)			Surface so	il crac	ks (B6)	
✓ High water table (A2)			Aquati	c fauna	(B13)				Sparsely v	egetat	ed concave surfac	e (B8)
✓ Saturation (A3)			Marl d	eposits	(B15) (LI	RR U)			្ធ Drainage ជ	atteri	ns (B10)	
Water marks (B1)			Hydrog	gen sulf	ide odor	(C1)			] Moss trim	lines (	(B16)	
Sediment deposits (B2)			Oxidize	ed rhizo	spheres	on livir	ng roots (C3)		Dry-seaso	wate	er table (C2)	
Drift deposits (B3)			Presen	ce of re	educed ir	on (C4)	)		Crayfish b	ırrow	s (C8)	
Algal mat or crust (B4)			Recent	iron re	duction	in tilled	l soils (C4)		Saturation	visibl	e on aerial photos	(C9)
Iron deposits (B5)			Thick n	nuck su	rface (C	7)		Geomorphic position (D2)				
Inundation visible on			Other (	(explair	n in rema	rks)			Shallow ac	uitaro	d (D3)	
aerial photos (B7)								✓	FAC-neutr	al test	(D5)	
Field Observations:												
Surface water present?	Yes		No	<b>√</b>	Depth	(inches	5)		Is Wetland	l Hyd	rology Present?	l .
Water table present?	Yes	<b>✓</b>	No		Depth	(inches	s) 18		Yes		<b>✓</b>	
Saturation present?	Yes	<b>✓</b>	No		Depth	(inches	s) 8		No			
(includes capillary fringe)												
Describe recorded data (strea	am gage,	monito	ring wel	I, aeria	l photos,	previo	us inspections) if a	vailable:				
Remarks: Area is a narrow lin	ear non-	tidal we	tland fri	inge be	tween ti	dal em	ergent wetlands ar	nd forested up	olands			

<b>VEGETATION</b> - U	Ise scientific names	Absolute	Dominant	Indicator	Sampling Point:					
Tree Stratum	Plot size:	% Cover	Species?	Status	Dominance Te	st Worksheet				
Nyssa sylvatica		25	Υ	FAC	Number of OBL,	FACW and FAC	species:	8		
Pinus taeda		10	Υ	FAC	Total number of	all dominant sp	ecies:	8		
Ilex opaca		10	Υ	FAC	% of OBL, FACW	and FAC domin	ant species:	100		
Quercus lyrata		5	N	OBL	Prevalence Inc	dex Workshee	t			
					Total % cover		Multiplier	B-value		
					OBL species	5	-	1 5		
					FACW species	51	2	2 102		
		50	Total Cover		FAC species	111	3	3 333		
Sapling Stratum	Plot size:				FACU species	1	4	4 4		
Nyssa sylvatica		5	Υ	FAC	UPL species	0	į	5 C		
					Column total	168		444		
					Prevalence Inde	x:		2.64		
					Hydrophytic V	egetation Ind	icators	<u> </u>		
					7	Dominance tes				
					7	Prevalence inde				
						Problematic hy	drophytic vege	tation		
		5	Total Cover	<u>I</u>	Explanantion of	etation:				
Shrub Stratum	Plot size:					-	ver line easement			
Baccharis halimifolia	1.1003.201	25	Υ	FAC	Definitions of	•				
llex opaca	10	Y	FAC	Tree - Woody pla			prox.			
πελ οράτα	10	'	TAC	20 feet (6 m) or	_		•			
					larger in diamete	=	•	o citi, oi		
					Sapling - Woody			approx		
					1		-			
					20 feet (6 m) or more in height and less than 3 inches (7.6 cm) DBH.  Shrub - Woody plants, excluding woody vines, approx.					
		35	Total Cover							
Herb Stratum	Plot size:	33	Total Cover		3 to 20 feet (1 to					
	Piot size.	50	Y	FACW	Herb - All herba			ıding		
Phragmites australis Smilax rotundifolia					herbaceous vine	•		=		
Parthenocissus quinqu	afalia	20	Y	FAC	plants, except w					
	,	1	N N	FACW	╣	•	triari approxima	ately		
Vaccinium corymbosui	m	1	N N		FACW 3 feet (1 m) in height.  FAC Woody Vine - All woody vines, regardle			ight.		
Acer rubrum		1	N	FAC						
					Remarks: (If obs	erved, list morpl	hological adapt	ations)		
					-					
					-					
					_					
					1					
					<u> </u>					
		73	Total cover							
Woody Vine Stratum	Plot size:		T	ı	1					
Smilax rotundifolia		5	Υ	FAC						
					Is Hydrophytic Vegetation Present?					
					]	Yes	<b>√</b>			
		5	Total cover		No 🗆					

SOIL	Sampling Point: DP13										
Profile De	escription: (Describe to	o the depti	h needed to documer	nt the indica	tor or	conf	irm the a	bsence of indicators)			
Depth	Matrix	<u> </u>		Features				·			
(inches)	Color (moist)	%	Color (moist)	%	Туре	Loc	Texture	Remarks			
0-3	10YR 2/1	100					Sd Lo	High organic content			
3-8	10YR 6/2	100					Lo Sd				
8-15	10YR 5/3	100					Lo Sd				
15-18	10YR 6/3	100									
Types: C-co	oncentration, D-depletion	, RM-reduce	d matrix, CS covered or	coated sand g	rains.			Locations: PL-pore lining, M-matrix			
Hydric Soil Indicators: Indicators for Problematic Hydric Soils:											
Histos	sol (A1)		)		1 cm muck (A9)(LRR O)						
Histic	epipedon (A2)				2 cm muck (A10)(LRR S)						
Black	histic (A3)				Reduced vertic (F18)						
Hydro	ogen sulfide (A4)				(outside MLRA 150A, B)						
Strati	fied layers (A5)				Piedmont floodplain soils (F19)						
Organ	nic bodies (A6)(LRR P, T, U	)			(LRR P, S, T)						
5 cm i	mucky mineral (A7)(LRR U	J)		Anomalous bright loamy soils (F20)							
☐ Muck	presence (A8)(LRR U)				(MLRA 153B)						
1 cm	muck (A9) (LRR P, T)				Red parent material (TF2)						
☐ Deple	ted below dark surface (A	A11)	Depleted ochric (F1	1)(MLRA 151)	)			Very shallow dark surface (TF12)			
☐ Thick	dark surface (A12)		Fe-Mn masses (F12)	)(LRR O, P, T)				(LRR T, U)			
Coast	prairie redox (A16)(MLRA	\ 150A)	Umbric surface (F13	3)(LRR P, T, U)				Other (explain in remarks)			
Sandy	mucky mineral (S1)(LRR	O, S)	Delta ochric (F17)(N	ЛLRA 151)							
Sandy	gleyed matrix (S4)		Reduced vertic (F18	3)(MLRA 150A	, 150B)			Indicators of hydrophytic vegetation			
Sandy	redox (S5)		Piedmont floodplair	n soils (F19)(N	الاA 14	19A)		and wetland hydrology must be			
☐ Stripp	ed matrix (S6)		Anomalous bright lo	oamy soils (F2	.0)			present, unless disturbed or			
☐ Dark s	surface (S7)(LRR P, S, T, U	)	(MLRA 149A, 153C,	153D)				problematic.			
Restrictive	Layer (if observed):							Is Hydric Soil Present?			
	Type:						Yes ✓				
	Depth (inches):							No 🗌			
Remarks:							-				

WETLANI	D DETEI	RMINATIO	N DA	TA FOR	M - Atlantic	and Gulf C	oastal F	Plain R	egion	
Project/Site: Proposed 230kV USW		Sampling	Date: 05	i-04-21						
Applicant/Owner: US Wind	- Cubotatio		G.C//	County: S	State: Delaware Sampling Point: DP14					
Investigators: Craig Smith					Section/Townsh	1				
Landform: Plain					Local relief: Flat	<u> </u>				
Subregion:MLRA 153D		Lat: 38.5850°	PNI .		Long: -75.2511°		Datum:	3/0		
Soil Map Unit Name: Henlopen loamy sand (HpB)							NWI Class	ification	· I IDI	
Are climatic/hydrologic conditions		Yes 🗸	No T	1						
Is vegetation soil or hyd	Are "Normal (			cont2						
		significantly				Are Norman			1	
Is vegetation soil or hyd		naturally pro				locations to		No L	unt footuuros oto	
SUMMARY OF FIN	NDING3				Sampling point	Is the Samp				
	drophytic vegetation present?  Yes No   dric soil present?  Yes No						Yes		i welland:	
Hydric soil present?		Yes	No	<b>√</b>	-					
Wetland Hydrology present?  Remarks:		Yes 🔲	No	<u> </u>			No	<b>✓</b>		
HYDROLOGY										
Wetland Hydrology Indicators						1				
Primary indicators (minimum of on	e is requir	1				Second			imum of two required)	
Surface water (A1)		J Water-staine		s (B9)			Surface so			
High water table (A2)		Aquatic faun	, ,			Sparsely vegetated concave surface (B8)				
Saturation (A3)		Marl deposit				Drainage patterns (B10)				
Water marks (B1)		Hydrogen su			. ()	Moss trim lines (B16)				
Sediment deposits (B2)		Oxidized rhiz			g roots (C3)	Dry-season water table (C2)				
Drift deposits (B3)		Presence of r	reduced	iron (C4)			Crayfish b		•	
Algal mat or crust (B4)		Recent iron r			soils (C4)				on aerial photos (C9)	
Iron deposits (B5)		Thick muck s					Geomorp			
Inundation visible on	L	Other (explai	in in rem	narks)			Shallow a		•	
aerial photos (B7)							FAC-neut	al test ([	05)	
Field Observations:			1			ī				
Surface water present? Yes	<u> </u>	No 🗸	Dept	h (inches)				d Hydro	ology Present?	
Water table present? Yes	<u> </u>	No 🗸	Dept	h (inches)			Yes	Ļ	]	
Saturation present? Yes		No 🗹	Dept	h (inches)			No	~	<u>'</u>	
(includes capillary fringe)										
Describe recorded data (stream ga	ge, monito	oring well, aeri	al photo	s, previou	is inspections) if a	vailable:				
Remarks: Forested upland adjacen	t to emerg	ent tidal wetla	ınd							
	J									

<b>VEGETATION</b> - U	se scientific names	Absolute	Dominant	Indicator	or Sampling Point: DP14					
Tree Stratum	Plot size:	% Cover	Species?	Status	Dominance Test Worksheet					
Pinus taeda		20	Υ	FAC	Number of OBL,	4				
Quercus falcata		20	Υ	FACU	Total number of	all dominant sp	ecies:	6		
Quercus nigra		10	N	FAC	% of OBL, FACW	and FAC domin	ant species:	67		
Acer rubrum		10	N	FAC	Prevalence Inc	lex Workshee	t			
Sassafras albidum		5	N	FACU	Total % cover		Multiplier B-value			
					OBL species	0	1	1 0		
					FACW species	0	2	2 0		
		65	Total Cover	•	FAC species	300				
Sapling Stratum	Plot size:				FACU species	41	4	1 164		
Acer rubrum		25	Υ	FAC	UPL species	0		5 0		
Nyssa sylvatica		5	N	FAC	Column total	141		464		
					Prevalence Inde	x:		3.29		
					Hydrophytic V	egetation Ind	icators	<u> </u>		
						Dominance tes				
						Prevalence inde				
					][		tic hydrophytic vegetation			
		30	Total Cover	<u> </u>	Explanantion of					
Shrub Stratum	Plot size:		1		Area is maintained as a power line easement					
Ilex opaca	. 100 3,201	5	Y	FAC	Definitions of					
пех ориси		'	TAC	Tree - Woody pla			nrox.			
		+			1	_				
		+			1	20 feet (6 m) or more in height and 3 inches (7.6 cm) or larger in diameter at breast height (DBH).				
		+			Sapling - Woody plants, excluding woody vines, approx.  20 feet (6 m) or more in height and less than 3 inches					
					(7.6 cm) DBH.	inore in neight t	1110 1633 (11011 5 1	inches		
		5	Total Cover		Shrub - Woody p	lants, excluding	woody vines, a	ipprox.		
Hards Christians	Diet einer	3	Total Cover							
Herb Stratum	Plot size:	25	l v	546	3 to 20 feet (1 to			uding		
Smilax rotundifolia		25	Y	FAC	-	,		ū		
Vaccinium angustifoliu	lm	15	Y	FACU	1	herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately				
Sassafras albidum		1	N	FACU	1	•	tnan approxima	ately		
					3 feet (1 m) in he Woody Vine - Al		egardless of hei	ight		
					Remarks: (If obse	erved, list morpl	hological adapta	ations)		
					4					
					4					
					1					
					4					
		<del>                                     </del>			1					
		41	Total cover							
Woody Vine Stratum	Plot size:		1	1	1					
					Is H	ydrophytic Ve	egetation Pre	sent?		
					]	Yes				
		0	Total cover			No	<b>✓</b>			

SOIL	SOIL Sampling Point: DP14										
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)											
Depth	Matrix	<u> </u>			·						
(inches)	Color (moist)	%	Color (moist)	%	Туре	Loc	Texture	Remarks			
0-3	10YR 3/2	100					Sd Lo	High organic content			
3-6	10YR 4/4	85	10YR 5/3 & 6/2	15	С	М	Lo Sd				
6-15	10YR 5/3	85	10YR 5/4 & 5/6	15	С	М	Lo Sd				
15-18	10YR 5/4	85	10YR 5/3 & 5/6	15	С	М	Lo Sd				
Types: C-concentration, D-depletion, RM-reduced matrix, CS covered or coated sand grains.  Locations: PL-pore lining, M-matrix											
Hydric Soil Indicators: Indicators for Problematic Hydric Soils:											
Histos	sol (A1)		Polyvalue below surf	ace (S8)(LRR	S, T, U	)		1 cm muck (A9)(LRR O)			
Histic	epipedon (A2)		Thin dark surface (SS	)(LRR S, T, U	)			2 cm muck (A10)(LRR S)			
Black	histic (A3)		Loamy mucky minera	al (F1)(LRR O	)			Reduced vertic (F18)			
Hydro	ogen sulfide (A4)		Loamy gleyed matrix	(F2)				(outside MLRA 150A, B)			
Strati	fied layers (A5)		Depleted matrix (F3)					Piedmont floodplain soils (F19)			
Organ	nic bodies (A6)(LRR P, T, U	)	Redox dark surface (	F6)				(LRR P, S, T)			
5 cm i	mucky mineral (A7)(LRR U	I)		Anomalous bright loamy soils (F20)							
☐ Muck	presence (A8)(LRR U)			(MLRA 153B)							
	muck (A9) (LRR P, T)		Marl (F10)(LRR U)					Red parent material (TF2)			
☐ Deple	ted below dark surface (A	(11)	Depleted ochric (F11	.)(MLRA 151)				Very shallow dark surface (TF12)			
☐ Thick	dark surface (A12)		Fe-Mn masses (F12)	(LRR O, P, T)				(LRR T, U)			
Coast	prairie redox (A16)(MLRA	A 150A)	Umbric surface (F13)	(LRR P, T, U)				Other (explain in remarks)			
Sandy	mucky mineral (S1)(LRR	O, S)	Delta ochric (F17)(M	LRA 151)							
Sandy	gleyed matrix (S4)		Reduced vertic (F18)	(MLRA 150A	, 150B)			Indicators of hydrophytic vegetation			
Sandy	redox (S5)		Piedmont floodplain	soils (F19)(N	ILRA 14	19A)	and wetland hydrology must be				
☐ Stripp	ed matrix (S6)		Anomalous bright lo	amy soils (F2	0)		present, unless disturbed or				
☐ Dark s	surface (S7)(LRR P, S, T, U	)	(MLRA 149A, 153C, 1	L53D)			problematic.				
Restrictive	Layer (if observed):						Is Hydric Soil Present?				
	Type:						Yes				
	Depth (inches):							No 🗸			
Remarks:							-				

WETLAND D	DETERI	MINATION	I DAT	A FOR	M - Atlantic	and Gulf C	oastal F	Plain R	egion	
Project/Site: Proposed 230kV USW Sub	ostation	Site	City/C	County: S	Sussex County		Sampling	Date: 05	i-04-21	
Applicant/Owner: US Wind		0.10	0.077		State: Delaware Sampling					
Investigators: Craig Smith					Section/Townsh		oap8		. 10	
Landform: Plain					Local relief: Flat	·				
Subregion:MLRA 153D	- 1	Lat: 38.5846°N	ı		Long: -75.2458°		Datum:	2-3/0		
Soil Map Unit Name: Henlopen loamy sand (HpB)							NWI Class	ification	· IIDI	
Are climatic/hydrologic conditions on t		Yes 🗸	No [	1						
Is vegetation soil or hydrolo	Are "Normal (			cont2						
		significantly di				Ale Norman			1	
Is vegetation soil or hydrolo		naturally prob				losotions to		No L	unt footuuros oto	
SUMMARY OF FIND			No No	Towing :	sampling point	Is the Samp				
Hydrophytic vegetation present?		Yes	No	7		is the Samp	Yes		i wellanu:	
Hydric soil present?			+ -	7						
Wetland Hydrology present?  Remarks:	`	Yes 🔲	No	<u> </u>			No	<b>✓</b>		
HYDROLOGY										
Wetland Hydrology Indicators:						Ι		, .		
Primary indicators (minimum of one is						Second			imum of two required)	
Surface water (A1)		Water-stained		(B9)			Surface so			
High water table (A2)		Aquatic fauna	. ,			Sparsely vegetated concave surface (B8)				
Saturation (A3)		Marl deposits				Drainage patterns (B10)				
Water marks (B1)		Hydrogen sulfi			(62)	Moss trim lines (B16)				
Sediment deposits (B2)		Oxidized rhizo			g roots (C3)	Dry-season water table (C2)				
Drift deposits (B3)		Presence of re		, ,			Crayfish b	,	•	
Algal mat or crust (B4)		Recent iron re			soils (C4)				on aerial photos (C9)	
Iron deposits (B5)		Thick muck su					Geomorp			
Inundation visible on		Other (explain	in rema	arks)			Shallow a		,	
aerial photos (B7)							FAC-neuti	ral test ([	05)	
Field Observations:			Ι							
Surface water present? Yes		No 🗸		(inches)		ļ '		d Hydro	ology Present?	
Water table present? Yes		No 🔽	1	(inches)			Yes		J 	
Saturation present? Yes		No 🗹	Depth	(inches)			No	~		
(includes capillary fringe)						<u> </u>				
Describe recorded data (stream gage, I	monitori	ing well, aerial	photos	, previou	s inspections) if a	vailable:				
Remarks: Forested upland adjacent to	emerger	nt tidal wetlan	d							

<b>VEGETATION</b> - U	se scientific names	Absolute	Dominant	Indicator	or Sampling Point: DP15					
Tree Stratum	Plot size:	% Cover	Species?	Status	Dominance Test Worksheet					
Quercus velutina		30	Υ	UPL	Number of OBL, FACW and FAC species:			2		
Pinus taeda		15	Υ	FAC	Total number of a	all dominant sp	ecies:	5		
Quercus coccinea		10	N	UPL	% of OBL, FACW	and FAC domin	ant species:	40		
Quercus alba		10	N	FACU	Prevalence Ind	ex Workshee	t			
					Total % cover		Multiplier	B-value		
					OBL species	0	-	1 0		
					FACW species	0	2	2 0		
		65	Total Cover		FAC species 45 3			3 135		
Sapling Stratum	Plot size:		4		FACU species	105	4	420		
Sassafras albidum		15	Υ	FACU	UPL species	60	Į.	300		
Carya tomentosa		10	N	UPL	Column total	210		855		
Pinus taeda		10	N	FAC	Prevalence Index	::		4.07		
Diospyros virginiana		10	N	FAC	Hydrophytic Ve	egetation Ind	icators	•		
Pinus virginiana		10	N	UPL		Dominance tes				
Carya cordiformis		5	N	FAC	Prevalence index is ≤ 3					
Quercus alba		5	N	FACU	][		drophytic vege	tation		
		65	Total Cover		Explanantion of problematic vegetation:					
Shrub Stratum	Plot size:				Area is maintained as a power line easement					
Ilex opaca	. 100 3.201	5	Y	FAC	Definitions of v					
пех ориси		1	TAC	Tree - Woody pla			nrox			
					1	_				
					1	20 feet (6 m) or more in height and 3 inches (7.6 cm) or larger in diameter at breast height (DBH).				
					Sapling - Woody plants, excluding woody vines, approx.					
					20 feet (6 m) or more in height and less than 3 inche					
					(7.6 cm) DBH.	nore in neight t	ina iess tilali s	inches		
		5	Total Cover		Shrub - Woody pl	lants, excluding	woody vines. a	ipprox.		
Harb Stratum	Diet size.	3	Total Cover							
Herb Stratum  Vaccinium angustifoliu	Plot size:	7.5	V	FACU	3 to 20 feet (1 to Herb - All herbace			uding		
vaccinium angustijona	m	75	Y	FACU	4	•		=		
					herbaceous vines					
					plants, except wo	•	tnan approxima	ately		
					3 feet (1 m) in he Woody Vine - All		egardless of he	ight		
					Remarks: (If obse	rved, list morpl	hological adapt	ations)		
					_					
					_					
					_					
					_					
<u></u>		75	Total cover							
Woody Vine Stratum	Plot size:									
					Is Hy	ydrophytic Ve	egetation Pre	sent?		
					]	Yes				
		0	Total cover			No	<b>✓</b>			

SOIL	SOIL Sampling Point: DP15										
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)											
Depth	Matrix	<u> </u>			·						
(inches)	Color (moist)	%	Color (moist)	%	Туре	Loc	Texture	Remarks			
0-2	10YR 3/2	100					Sd Lo	High organic content			
2-8	10YR 5/2	85	10YR 6/1 & 5/4	15	С	М	Lo Sd				
8-12	10YR 6/2	85	10YR 6/1 & 5/4	15	С	М	Lo Sd				
12-18	10YR 5/4	85	10YR 6/6 & 5/1	15	С	М	Lo Sd				
Types: C-concentration, D-depletion, RM-reduced matrix, CS covered or coated sand grains.  Locations: PL-pore lining, M-matrix											
Hydric Soil Indicators: Indicators for Problematic Hydric Soils:											
Histos	sol (A1)		Polyvalue below surf	ace (S8)(LRR	S, T, U	)		1 cm muck (A9)(LRR O)			
Histic	epipedon (A2)		Thin dark surface (SS	)(LRR S, T, U	)			2 cm muck (A10)(LRR S)			
Black	histic (A3)		Loamy mucky minera	al (F1)(LRR O	)			Reduced vertic (F18)			
Hydro	ogen sulfide (A4)		Loamy gleyed matrix	(F2)				(outside MLRA 150A, B)			
Strati	fied layers (A5)		Depleted matrix (F3)					Piedmont floodplain soils (F19)			
Organ	nic bodies (A6)(LRR P, T, U	)	Redox dark surface (	F6)				(LRR P, S, T)			
5 cm i	mucky mineral (A7)(LRR U	I)		Anomalous bright loamy soils (F20)							
☐ Muck	presence (A8)(LRR U)			(MLRA 153B)							
	muck (A9) (LRR P, T)		Marl (F10)(LRR U)					Red parent material (TF2)			
☐ Deple	ted below dark surface (A	11)	Depleted ochric (F11	.)(MLRA 151)				Very shallow dark surface (TF12)			
☐ Thick	dark surface (A12)		Fe-Mn masses (F12)	(LRR O, P, T)				(LRR T, U)			
Coast	prairie redox (A16)(MLRA	A 150A)	Umbric surface (F13)	(LRR P, T, U)				Other (explain in remarks)			
Sandy	mucky mineral (S1)(LRR	O, S)	Delta ochric (F17)(M	LRA 151)							
Sandy	gleyed matrix (S4)		Reduced vertic (F18)	(MLRA 150A	150B)			Indicators of hydrophytic vegetation			
Sandy	redox (S5)		Piedmont floodplain	soils (F19)(N	ILRA 14	49A)	and wetland hydrology must be				
☐ Stripp	ed matrix (S6)		Anomalous bright lo	amy soils (F2	0)		present, unless disturbed or				
☐ Dark s	surface (S7)(LRR P, S, T, U	)	(MLRA 149A, 153C, 1	L53D)			problematic.				
Restrictive	Layer (if observed):						Is Hydric Soil Present?				
	Type:						Yes				
	Depth (inches):							No 🗸			
Remarks:							-				

WETLAND DI	ETERMINATIO	N DATA FOR	RM - Atlantic	and Gulf C	oastal Plai	n Region		
Project/Site: Proposed 230kV USW Subs	tation Site	City/County: 9	Sussex County		Sampling Date	: 05-04-21		
Applicant/Owner: US Wind		oney, country.	State: Delaware Sampling					
Investigators: Craig Smith			Section/Townsh		JabB. J. J			
Landform: Plain			Local relief: Flat	<u>·</u>				
Subregion:MLRA 153D	Lat: 38.5843°	M	Long: -75.2446°		Datum:			
Soil Map Unit Name: Henlopen loamy s		vv	NWI Classifica	tion: LIDI				
Are climatic/hydrologic conditions on th			Yes V No					
Is vegetation soil or hydrologic		Aro "Normal (	Circumstances"					
		Are Norman						
Is vegetation soil or hydrolog  SUMMARY OF FINDIN			compling point	locations to				
		No 🗸	Sampling point			in a Wetland?		
Hydrophytic vegetation present?	Yes	No 🗸	_	is the Samp	Yes [			
Hydric soil present?			4		l I	<b>□</b> ¬		
Wetland Hydrology present? Remarks:	Yes	No 🖳			No [	<u> </u>		
HYDROLOGY								
Wetland Hydrology Indicators:				1				
Primary indicators (minimum of one is re				Second		minimum of two required)		
Surface water (A1)	☐ Water-stained	• •			Surface soil cra			
High water table (A2)	Aquatic fauna	` '		Sparsely vegetated concave surface (B8)				
Saturation (A3)		(B15) (LRR U)		Drainage patterns (B10)				
Water marks (B1)	Hydrogen sulf		. (22)	Moss trim lines (B16)				
Sediment deposits (B2)	_	ospheres on living	g roots (C3)	Dry-season water table (C2)				
Drift deposits (B3)		educed iron (C4)			Crayfish burro	, ,		
Algal mat or crust (B4)	=	eduction in tilled	soils (C4)			ble on aerial photos (C9)		
Iron deposits (B5)	Thick muck su				Geomorphic p			
Inundation visible on	Other (explain	n in remarks)			Shallow aquita	, ,		
aerial photos (B7)					FAC-neutral te	st (D5)		
Field Observations:		T		1				
Surface water present? Yes	No 🗸	Depth (inches)	)	 	s Wetland Hy	rdrology Present?		
Water table present? Yes	No 🗸	Depth (inches)	)		Yes			
Saturation present? Yes	□ No □	Depth (inches)	)		No	<b>✓</b>		
(includes capillary fringe)								
Describe recorded data (stream gage, m	onitoring well, aeria	l photos, previou	us inspections) if a	vailable:				
Remarks: Forested upland adjacent to e	mergent tidal wetla	nd						

<b>VEGETATION</b> - Us	se scientific names	Absolute	Dominant	Indicator	or Sampling Point: DP15				
Tree Stratum	Plot size:	% Cover	Species?	Status	Dominance Test Worksheet				
Pinus taeda		20	Υ	FAC	Number of OBL, FACW and FAC species:			1	
Carya tomentosa		15	Υ	UPL	Total number of	all dominant sp	ecies:	6	
Quercus alba		10	N	FACU	% of OBL, FACW	and FAC domin	ant species:	17	
Pinus virginiana		10	N	UPL	Prevalence Inc	dex Workshee	t		
Sassafras albidum		5	N	FACU	Total % cover Multipli			B-value	
Quercus falcata		5	N	FACU	OBL species	0	1	. 0	
					FACW species	0	2	2 0	
		65	Total Cover	•	FAC species 29 3				
Sapling Stratum	Plot size:				FACU species	91	4	364	
Carya tomentosa		35	Υ	UPL	UPL species	63	5	315	
Cornus florida		15	Υ	FACU	Column total	183		766	
Sassafras albidum		10	N	FACU	Prevalence Inde	x:		4.19	
Acer rubrum		5	N	FAC	Hydrophytic V	egetation Ind	icators		
Diospyros virginiana		3	N	FAC		Dominance tes	t is > 50%		
Pinus taeda		3	N	UPL		Prevalence inde	ex is ≤ 3.0		
						Problematic hy	drophytic veget	ation	
		71	Total Cover		Explanantion of problematic vegetation:				
Shrub Stratum	Plot size:		4		Area is maintain	ne easement			
Hammamelis virginiand	20	Υ	FACU	Definitions of	vegetation st	rata:			
					Tree - Woody pla			prox.	
					20 feet (6 m) or more in height and 3 inche		and 3 inches (7.6	(7.6 cm) or	
					larger in diamete	=	·	•	
					Sapling - Woody	approx.			
					20 feet (6 m) or more in height and less than 3 inches				
					(7.6 cm) DBH.				
1		20	Total Cover		Shrub - Woody p	lants, excluding	woody vines, a	pprox.	
Herb Stratum	Plot size:				3 to 20 feet (1 to	6 m) in height.			
Vaccinium angustifoliui	m	25	Υ	FACU	Herb - All herba		dy) plants, inclu	ding	
Acer rubrum		1	N	FAC	herbaceous vines, regardless of size. Includes woody				
Hammamelis virginiand		1	N	FACU	plants, except woody vines, less than approximately				
					3 feet (1 m) in he	•		•	
					Woody Vine - Al	l woody vines, r	egardless of hei	ght.	
					Remarks: (If obs	erved. list morp	nological adapta	ations)	
					1	, ,		,	
					1				
					1				
		1			1				
		27	Total cover	<u> </u>	<del> </del>				
Woody Vine Stratum	Plot size:	<del> </del>	1						
	100 5/20.	†			1				
		1			Ic H	ydrophytic Ve	egetation Pre	sent?	
		1			-	Yes			
<u> </u>		0	Total cover	<u>I</u>	†	No			
		_ ~							

SOIL								Sampling Point: DP15		
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)										
Depth	Matrix		Redox I	eatures						
(inches)	Color (moist)	%	Color (moist)	%	Туре	Loc	Texture	Remarks		
0-1	10YR 3/3	100					Sd Lo	High organic content		
1-2	10YR 5/2	100					Lo Sd			
2-4	10YR 5/3	90	10YR 5/2	10	С	М	Lo Sd			
4-12	10YR 6/4	85	10YR 6/2 & 6/6	15	С	М	Lo Sd			
12-18	10YR 6/4	90	10YR 6/3	10	С	М	Lo Sd			
Types: C-concentration, D-depletion, RM-reduced matrix, CS covered or coated sand grains.  Locations: PL-pore lining, M-matrix										
Hydric So	oil Indicators:		Indicato	rs for Problematic Hydric Soils:						
Histo	sol (A1)		Polyvalue below surf	ace (S8)(LRR	S, T, U	)		1 cm muck (A9)(LRR O)		
Histic	epipedon (A2)		Thin dark surface (SS	)(LRR S, T, U	)			2 cm muck (A10)(LRR S)		
Black	histic (A3)		Loamy mucky minera	al (F1)(LRR O)	)			Reduced vertic (F18)		
Hydr	ogen sulfide (A4)		Loamy gleyed matrix	(F2)				(outside MLRA 150A, B)		
Strati	fied layers (A5)		Depleted matrix (F3)					Piedmont floodplain soils (F19)		
Organ	nic bodies (A6)(LRR P, T, U	)	Redox dark surface (	F6)				(LRR P, S, T)		
5 cm	mucky mineral (A7)(LRR U	J)		Anomalous bright loamy soils (F20)						
☐ Muck	presence (A8)(LRR U)		Redox depressions (F	-8)				(MLRA 153B)		
	muck (A9) (LRR P, T)		Marl (F10)(LRR U)					Red parent material (TF2)		
Depleted below dark surface (A11)  Depleted ochric (F11)(MLRA 151)								Very shallow dark surface (TF12)		
☐ Thick	dark surface (A12)		Fe-Mn masses (F12)(	LRR O, P, T)				(LRR T, U)		
☐ Coast	prairie redox (A16)(MLRA	A 150A)	Umbric surface (F13)	(LRR P, T, U)				Other (explain in remarks)		
Sandy	/ mucky mineral (S1)(LRR	O, S)	Delta ochric (F17)(M	LRA 151)						
Sandy	gleyed matrix (S4)		Reduced vertic (F18)	(MLRA 150A,	150B)			Indicators of hydrophytic vegetation		
			Piedmont floodplain	soils (F19)(N	ILRA 14	49A)	and wetland hydrology must be			
							present, unless disturbed or			
		)	_		-,		, ,			
	Layer (if observed):			· ·						
	Type:						Yes			
	Depth (inches):							No 🗸		
Remarks:							<u>.</u>			
Coast Sandy Sandy Stripp Dark:	prairie redox (A16)(MLRA y mucky mineral (S1)(LRR y gleyed matrix (S4) y redox (S5) ped matrix (S6) surface (S7)(LRR P, S, T, U Layer (if observed):	O, S)	Umbric surface (F13)  Delta ochric (F17)(M	(LRR P, T, U) LRA 151) (MLRA 150A, soils (F19)(M amy soils (F2	ILRA 14			Other (explain in remarks)  Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Is Hydric Soil Present?  Yes		

