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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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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:

l. 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.

<u>Soils</u>

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

Upland Land Use and Land Cover Types

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:

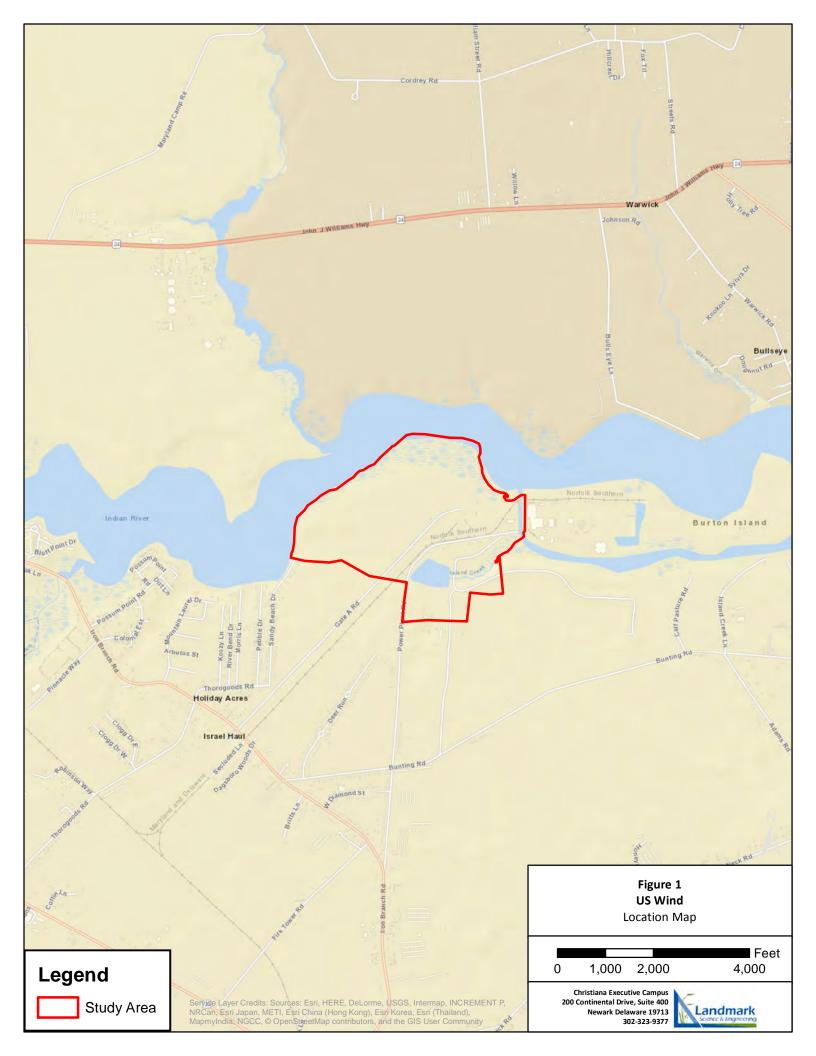
- replace or relocate a water of the U.S., or
- connect a water of the U.S. to another water of the U.S., or
- provide relatively permanent flow to a water of the U.S.

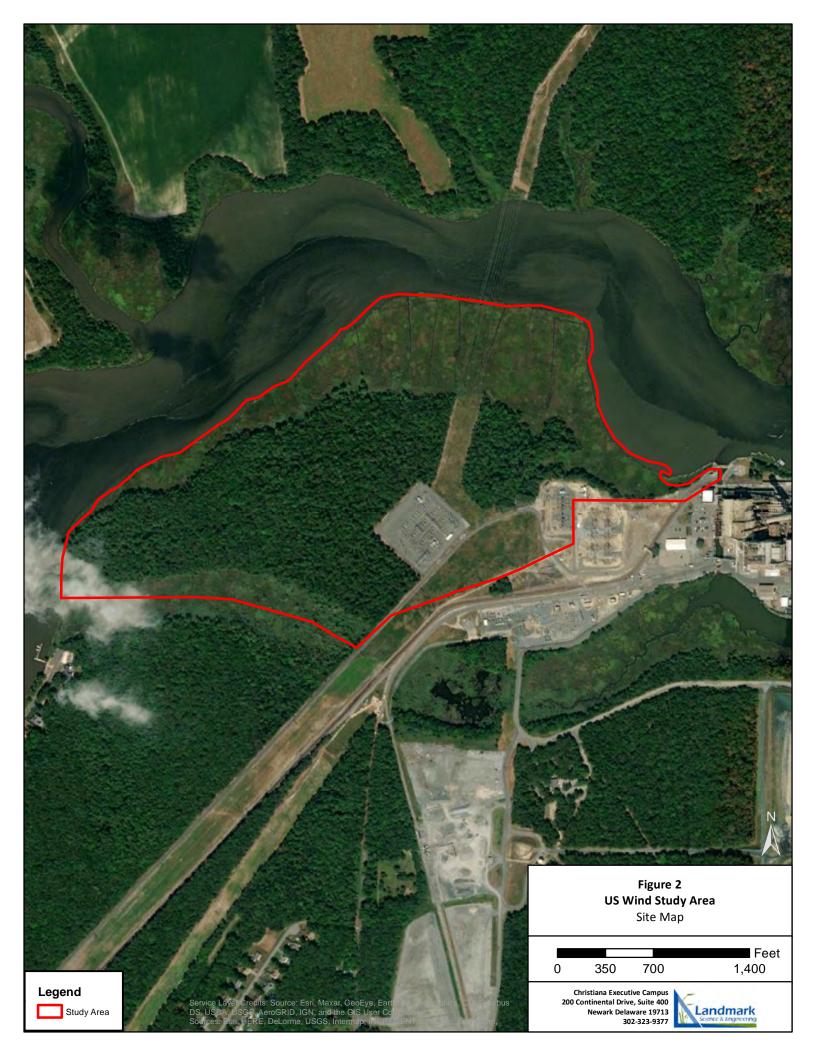
Certain geographic features generally are not jurisdictional waters:

- 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)

APPENDIX

FIGURES





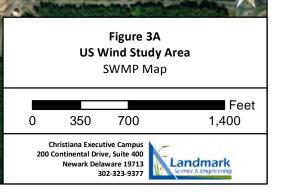
Legend

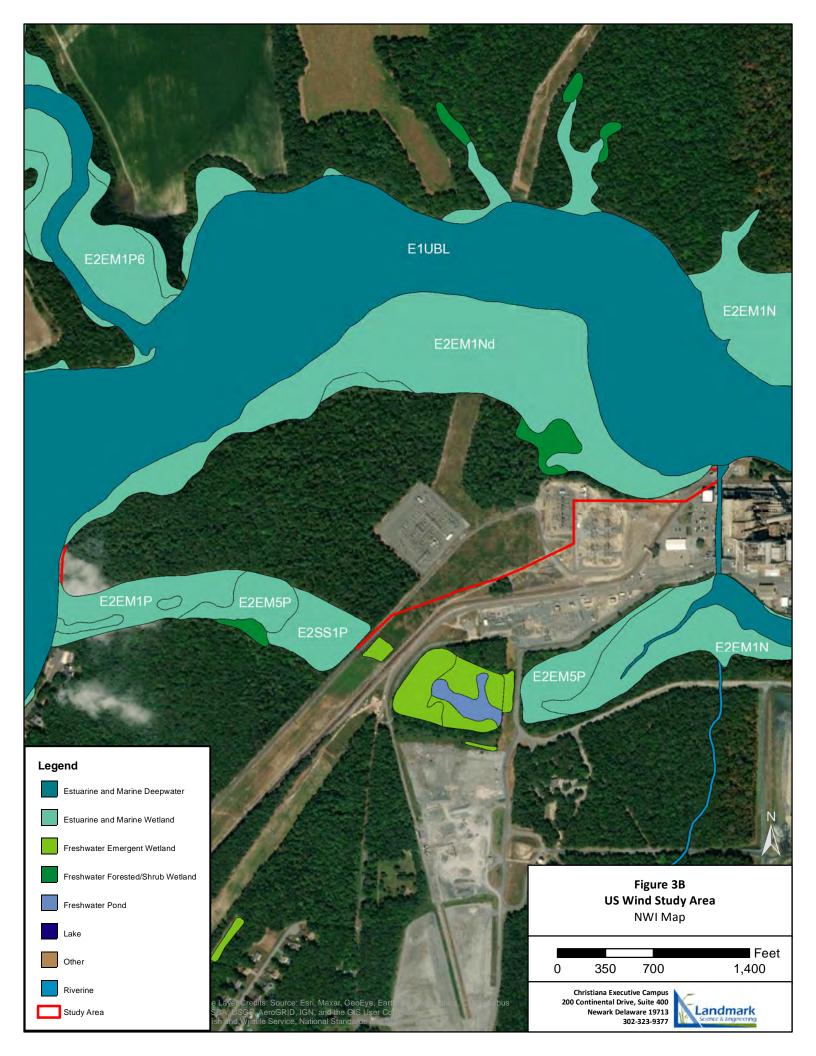
Study Area

CATEGORY

Agriculture
Estuarine Non-Vegetated
Estuarine Vegetated
Lacustrine
Marine Non-vegetated
Palustrine Emergent
Palustrine Forested
Palustrine Forested Deciduous
Palustrine Forested Evergreen
Palustrine Open Water/ Flats
Palustrine Open Water/Flats
Palustrine Scrub/Shrub
Palustrine Scrub/shrub
Palustrine Tidal Emergent
Palustrine Tidal Forested
Palustrine Tidal Forested
Palustrine Tidal Scrub/Shrub
Riverine Non-vegetated
Riverine Vegetated

fits: Source: Esri, Maxar, GeoEye, E AeroGRID, IGN, and the GIS User RE, DeLorme, USGS, Intermap, INC









SITE PHOTOGRAPHS



LOOKING NORTH 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



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



LOOKING NORTHEAST 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.



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



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



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



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



UPLAND MIXED FOREST IN EAST CENTRAL PORTION OF STUDY AREA.



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



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



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



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



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



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



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.



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.



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.



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

DATA SHEETS

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region											
Project/Site: Proposed 230kV USW Substation Site City/County: Si							ussex County		Sampling Date: 05-03-21		
Applicant/Owner: US Wind					State: Delaware	9	Sampling Point: DP1				
Investigators: Craig Smith											
									% Slope: 1%		
Subregion:MLRA 153D			Lat: 38.	5868°N	J			Long: -75.2363°		Datum:	
Soil Map Unit Name: Brockat	onorton-	Urban						201181 / 012000	NWI Classification: UPL		
· · ·						fvear	2				
Are climatic/hydrologic conditions on the site typical for this time of year? Yes No Is vegetation soil or hydrology significantly disturbed? Are "Normal Circumstances" present?											
	r hydrolo	_	natural						Are Norman	Yes V No	
							ing	ampling point	locations t	ransects, important features, etc.	
Hydrophytic vegetation prese		NUS	Yes		No					bled Area within a Wetland?	
Hydric soil present?			Yes		No	[√	_	-	is the same	Yes	
						 ✓ 	_	-			
Wetland Hydrology present? Remarks: Area appeared t			Yes		No					No	
				, 010		= *					
HYDROLOGY											
Wetland Hydrology Indica	ators:										
Primary indicators (minimum	of one is	require	ed; checl	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)			Marl de	eposits	(B15) (I	LRR U)			Drainage patterns (B10)	
Water marks (B1)			Hydrog	en sulfi	ide odo	or (C1))			 Moss trim lines (B16)	
Sediment deposits (B2)			Oxidize	d rhizo	spheres	s on li	iving	roots (C3)		_] Dry-season water table (C2)	
Drift deposits (B3)			Presend	ce of re	duced i	iron ((C4)			_ Crayfish burrows (C8)	
Algal mat or crust (B4)			Recent	iron re	duction	n in til	led	soils (C4)		Saturation visible on aerial photos (C9)	
Iron deposits (B5)								()		Geomorphic position (D2)	
Inundation visible on											
aerial photos (B7)	FAC-neutral test (D5)										
Field Observations:											
Surface water present?	Yes		No	\checkmark	Dept	h (incl	hes)			Is Wetland Hydrology Present?	
Water table present?	Yes		No	<u> </u>		h (incl				Yes	
Saturation present?	Yes	\Box	No			h (incl	-			No 🗸	
(includes capillary fringe)	103		NO		Depti		nesj				
	m gago y	monito	ring woll	l aorial	nhotor	c prov	viou	s inspections) if a	vailablo:		
Describe recorded data (stream gage, monitoring well, aerial photos, previous inspections) if available:											
Remarks: Area is a narrow scrub-shrub upland between stone-paved areas and tidal emergent wetlands											

VEGETATION - Use scientific names		Absolute	Dominant	Indicator	Sampling Point: DP1					
<u>Tree Stratum</u>	Plot size:	% Cover	Species?	Status	Dominance Test Worksheet			1		
Quercus nigra		20	Y	FAC	Number of OBL, FACW and FAC species:					
Acer rubrum	cer rubrum			FAC	Total number of	all dominant sp	ecies:	8		
					% of OBL, FACW	75				
					Prevalence Inc	Prevalence Index Worksheet				
					Total % cover	-	Multiplier	B-value		
					OBL species	0	1	. (
					FACW species	1	. 2	2 2		
		40	Total Cover		FAC species	97	3	291		
Sapling Stratum	Plot size:		•		FACU species	36	5 4	144		
Quercus nigra		30	Y	FAC	UPL species	0	5	; (
Quercus falcata		20	Y	FACU	Column total 134			437		
Pinus taeda		5	N	FAC	Prevalence Index:					
					Hydrophytic Vegetation Indicators					
					Dominance test is > 50%					
					$\square Prevalence index is \le 3.0$					
			Problematic hydrophytic							
		55	Total Cover			-				
Chault Charton	Plot size:	55	Total Cover		Explanantion of problematic vegetation:					
<u>Shrub Stratum</u>	PIOL SIZE.				Area is maintained as a power line easement					
Ilex opaca	5	Y	FAC	Definitions of vegetation strata:						
Baccharis halimifolia		5	Y	FAC	Tree - Woody plants, excluding woody vines, approx.					
					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.					
		10	Total Cover		Shrub - Woody plants, excluding woody vines, approx			pprox.		
<u>Herb Stratum</u>	Plot size:				3 to 20 feet (1 to	o 6 m) in height.				
Festuca rubra	10	Y	FACU	Herb - All herbaceous (non-woody) plants, including						
Andropogon virginicı	IS	10	Y	FAC	herbaceous vines, regardless of size. Includes woody					
Prunus serotina		5	Ν	FACU	plants, except woody vines, less than approximately					
Panicum clandestinu	т	1	N	FACW	3 feet (1 m) in height.					
Juncus tenuis		1	N	FAC	Woody Vine - All woody vines, regardless of height.					
Smilax rotundifolia		1	N	FAC	Remarks: (If observed, list morphological adaptations)					
Parthenocissus quinq	uefolia	1	N	FACU						
	-				1					
					1					
					1					
l		29	Total cover	L	4					
		23								
Woody Vine Stratum	Plot size:				4					
					IS H		egetation Pres	sent?		
					4	Yes				
		0	Total cover			\checkmark				

SOIL								Sampling Point: DP1			
Profile De	escription: (Describe t	o the dept	h needed to documer	nt the indica	tor or	conf	irm the a	bsence of indicators)			
Depth Matrix		Redox	Features								
(inches)	Color (moist)	%	Color (moist)	%	Туре	Loc	Texture	Remarks			
0-3	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-reduc	ed matrix, CS covered or o	coated sand g	rains.			Locations: PL-pore lining, M-matrix			
Hydric So	il Indicators:						Indicators for Problematic Hydric Soils:				
Histos	sol (A1)		Polyvalue below sur	face (S8)(LRR	S, T, U)	1 cm muck (A9)(LRR O)				
Histic	epipedon (A2)		Thin dark surface (S	9)(LRR S, T, U)			2 cm muck (A10)(LRR S)			
Black	histic (A3)		Loamy mucky miner	ral (F1)(LRR O)			Reduced vertic (F18)			
Hydro	ogen sulfide (A4)		Loamy gleyed matri	x (F2)				(outside MLRA 150A, B)			
Strati	fied layers (A5)		Depleted matrix (F3	;)				Piedmont floodplain soils (F19)			
🗌 Organ	nic bodies (A6)(LRR P, T, U	I)	Redox dark surface	(F6)				(LRR P, S, T)			
🗌 5 cm i	mucky mineral (A7)(LRR L	1)	Depleted dark surfa	ce (F7)				Anomalous bright loamy soils (F20)			
Muck	presence (A8)(LRR U)		Redox depressions ((F8)				(MLRA 153B)			
🗌 1 cm i	muck (A9) (LRR P, T)		Marl (F10)(LRR U)					Red parent material (TF2)			
Deple	ted below dark surface (A	411)	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)(MLR	A 150A)	Umbric surface (F13	3)(LRR P, T, U)				Other (explain in remarks)			
Sandy	v mucky mineral (S1)(LRR	O, S)	Delta ochric (F17)(N	/ILRA 151)							
Sandy	gleyed matrix (S4)		Reduced vertic (F18)(MLRA 150A	, 150B)		Indicators of hydrophytic vegetation				
Sandy	redox (S5)		Piedmont floodplain	n soils (F19)(N	1LRA 14	49A)	and wetland hydrology must be				
Stripp	Stripped matrix (S6) Anomalous bright loamy soils (F20)							present, unless disturbed or			
	surface (S7)(LRR P, S, T, U)	(MLRA 149A, 153C,	153D)			problematic.				
Restrictive	Layer (if observed):						ls Hydric Soil Present?				
	Туре:						Yes				
	Depth (inches):							No			
Remarks:	Remarks: Soil appeared to have been historically disturbed and may have been old fill										

WETI	WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region											
Project/Site: Proposed 230kV	USW Sub	ostation	n Site		City/C	ounty: S	Sussex County		Sampling Da	te: 05-03-21		
Applicant/Owner: US Wind							State: Delaware	5	Sampling Po			
Investigators: Craig Smith							Section/Townsh	ip:				
Landform: Plain							Local relief: Flat	-	% Slope: 2-3	%		
Subregion:MLRA 153D			Lat: 38	.5867°N	J		Long: -75.2405°		Datum:			
Soil Map Unit Name: Brockat	onorton-	Urban	<u>I</u>				8	NWI Classification: UPL				
Are climatic/hydrologic condi						vear?		Yes 🗸 No 🗌				
	r hydrolo				isturbed			Are "Normal Circumstances" present?				
	r hydrolo		-							No		
Is vegetation soil or hydrology naturally problematic? Yes No SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.												
Hydrophytic vegetation prese		105	Yes		No					thin a Wetland?		
Hydric soil present?			Yes		No	· ·	-	is the sump	Yes			
						- -	_		No			
Wetland Hydrology present? Remarks:			Yes		No		1		140			
HYDROLOGY												
Wetland Hydrology Indicators:												
Primary indicators (minimum	of one is	require	ed; chec	k all tha	at apply)			Second	1	s (minimum of two required)		
Surface water (A1)	Surface water (A1) Water-stained leaves (B9)								Surface soil o	. ,		
High water table (A2)			Aquatio	c fauna	(B13)				Sparsely veg	etated concave surface (B8)		
Saturation (A3)					(B15) (L				Drainage pat	tterns (B10)		
Water marks (B1)			Hydrog	gen sulfi	ide odor	· (C1)] Moss trim lir	nes (B16)		
Sediment deposits (B2)			Oxidize	ed rhizo	spheres	on livin	roots (C3) Dry-season water table (C2)					
Drift deposits (B3)			Presen	ce of re	duced in	ron (C4)	Crayfish burrows (C8)					
Algal mat or crust (B4)			Recent	iron re	duction	in tilled	soils (C4) Saturation visible on aerial photos (C9)					
Iron deposits (B5)			Thick n	nuck su	rface (C	7)	Geomorphic position (D2)					
Inundation visible on			Other ((explain	in rema	arks)] Shallow aqui	itard (D3)		
aerial photos (B7)] FAC-neutral	test (D5)		
Field Observations:	-		-		-			-				
Surface water present?	Yes		No	\checkmark	Depth	(inches			Is Wetland H	Hydrology Present?		
Water table present?	Yes		No	\checkmark	Depth	(inches			Yes			
Saturation present?	Yes		No	\checkmark	Depth	(inches			No	\checkmark		
(includes capillary fringe)												
Describe recorded data (stream gage, monitoring well, aerial photos, previous inspections) if available: Remarks: Area is a forested upland adjacent to a non-tidal emergent and scrub-shrub wetland												

VEGETATION	- Use scientific names	Absolute	Dominant	Indicator			Samplin	g Point: DP2	
<u>Tree Stratum</u>	Plot size:	% Cover	Species?	Status	Dominance Te	st Worksheet			
Pinus taeda		30	Y	FAC	Number of OBL,	FACW and FAC	species:	6	
Quercus nigra		10	Y	FAC	Total number of	all dominant sp	ecies:	8	
Quercus alba		10	Y	FACU	% of OBL, FACW	and FAC domin	ant species:	75	
Quercus falcata		5	N	FACU	Prevalence Inc	dex Workshee	et		
Quercus velutina		5	Ν	UPL	PL Total % cover Multiplier B-				
Pinus virginiana		5	Ν	UPL	OBL species	0	1	. (
					FACW species	0	2	. (
		65	Total Cover		FAC species	118	3	354	
Sapling Stratum	Plot size:		•		FACU species	25	4	100	
Prunus serotina	•	10	Y	FACU	UPL species	10	5	50	
Acer rubrum		10	Y	FAC	Column total	153		504	
Pinus taeda		5	N	FAC	Prevalence Inde	x:	•	3.29	
					Hydrophytic V	egetation Ind	licators		
					✓ ✓	Dominance tes			
						Prevalence inde	ex is ≤ 3.0		
						Problematic hy	drophytic veget	ation	
		25	Total Cover		Explanantion of	problematic veg	etation:		
Shrub Stratum	Plot size:				Area is maintained as a power line easement				
					Definitions of				
					Tree - Woody pla	prox.			
					20 feet (6 m) or	5 cm) or			
					larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, app				
					20 feet (6 m) or	more in height a	and less than 3 i	nches	
					(7.6 cm) DBH.				
		0	Total Cover		Shrub - Woody p	olants, excluding	g woody vines, a	pprox.	
Herb Stratum	Plot size:				3 to 20 feet (1 to	o 6 m) in height.			
Smilax rotundifolia		35	Y	FAC	Herb - All herbad	ceous (non-woo	dy) plants, inclu	ding	
Quercus nigra		1	Y	FAC	herbaceous vine	s, regardless of	size. Includes we	oody	
Acer rubrum		1	N	FAC	plants, except w	oody vines, less	than approxima	itely	
llex opaca		1	N	FAC	3 feet (1 m) in he	eight.			
					Woody Vine - Al	l woody vines, r	egardless of hei	ght.	
					Remarks: (If obs	erved, list morpl	hological adapta	ations)	
					1				
		38	Total cover		t				
Woody Vine Stratu	m Plot size:								
Smilax rotundifolia		25	Y	FAC					
					ls H	ydrophytic Ve	egetation Pre-	sent?	
					Yes				
	25	Total cover		1		No 🗸			

SOIL								Sampling Point: DP2			
Profile De	escription: (Describe to	the dept	h 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			
0-1	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-concentration, D-depletion, RM-reduced matrix, CS covered or coated sand grains. Locations: PL-pore lining, M-matrix											
	il Indicators:						Indicato	rs for Problematic Hydric Soils:			
Histos	ol (A1)		Polyvalue below sur	face (S8)(LRR	S, T, U)		1 cm muck (A9)(LRR O)			
	epipedon (A2)		Thin dark surface (SS	9)(LRR S. T. U)			2 cm muck (A10)(LRR S)			
	histic (A3)		Loamy mucky miner					Reduced vertic (F18)			
	ogen sulfide (A4)		Loamy gleyed matrix					(outside MLRA 150A, B)			
	fied layers (A5)		Depleted matrix (F3)					Piedmont floodplain soils (F19)			
	ic bodies (A6)(LRR P, T, U)	Redox dark surface ((LRR P, S, T)			
	mucky mineral (A7)(LRR U		Depleted dark surfac					Anomalous bright loamy soils (F20)			
		1									
	presence (A8)(LRR U)		Redox depressions (F8)				(MLRA 153B)			
	muck (A9) (LRR P, T)	11)	Marl (F10)(LRR U)					Red parent material (TF2)			
	ted below dark surface (A dark surface (A12)	.11)	Depleted ochric (F11 Fe-Mn masses (F12)					Very shallow dark surface (TF12) (LRR T, U)			
		1504)									
	prairie redox (A16)(MLRA mucky mineral (S1)(LRR (Umbric surface (F13 Delta ochric (F17)(M					Other (explain in remarks)			
	gleyed matrix (S4)	5, 5)	Reduced vertic (F18)	-	1500)			Indicators of hydrophytic vegetation			
	redox (S5)		Piedmont floodplain			49A)	and wetland hydrology must be				
	ed matrix (S6)		Anomalous bright lo		0)		present, unless disturbed or				
	surface (S7)(LRR P, S, T, U)		(MLRA 149A, 153C, 1	153D)				problematic.			
Restrictive	Layer (if observed):							Is Hydric Soil Present?			
	Type:							Yes			
Demenden	Depth (inches):						ļ	No 🗸			
Remarks:											

WETI	WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region												
Project/Site: Proposed 230kV	USW Si	Ibstatic	on Site		City/C	County:	Sussex County		Sampling Da	ate: 05-03-21			
Applicant/Owner: US Wind							State: Delawar	e	Sampling Po	pint: DP3			
Investigators: Craig Smith							Section/Townsh	nip:					
Landform: Plain							Local relief: Flat		% Slope: 0%	,			
Subregion:MLRA 153D			Lat: 38	8.5869°I	N		Long: -75.2405°	.ong: -75.2405°W Datum:					
Soil Map Unit Name: Runclin	t loamy	sand (R	luA)				<u> </u>	NWI Classification: PEM/PSS					
Are climatic/hydrologic condi			-	for this	time of	year?		Yes 🗸 No					
Is vegetation 🗌 soil 🗌 c	or hydrol	ogy 🗌	signific	cantly d	listurbed	1?		Are "Normal Circumstances" present?					
Is vegetation soil c	or hydrol	ogy	natura	ally prob	olematic	?			Yes 🗸	No			
							sampling point	locations, t	ransects, im	nportant features, etc.			
Hydrophytic vegetation prese			Yes	\checkmark	No					ithin a Wetland?			
Hydric soil present?			Yes		No				Yes	J			
Wetland Hydrology present?			Yes	1	No				No				
Remarks: HYDROLOGY													
Wetland Hydrology Indic	ators:												
Primary indicators (minimum		s requi	red; cheo	ck all th	at apply)		Second	dary indicator	rs (minimum of two required)			
Surface water (A1) Water-stained leaves (B9)] Surface soil	cracks (B6)				
✓ High water table (A2)	ligh water table (A2) Aquatic fauna (B13)								Sparsely veg	getated concave surface (B8)			
✓ Saturation (A3)] Marl d	leposits	(B15) (L	.RR U)			_] Drainage pa	itterns (B10)			
Water marks (B1)			Hydrog	gen sulf	fide odo	r (C1)		Moss trim lines (B16)					
Sediment deposits (B2)			Oxidize	ed rhizo	ospheres	s on livin	g roots (C3)) Dry-season water table (C2)					
Drift deposits (B3)			Presen	nce of re	educed i	ron (C4)			Crayfish burrows (C8)				
Algal mat or crust (B4)		Г	Recent	t iron re	eduction	in tilled	soils (C4)] Saturation v	visible on aerial photos (C9)			
Iron deposits (B5)			Thick r	nuck su	urface (C	:7)		1	Geomorphi	c position (D2)			
Inundation visible on			Other	(explair	n in rema	arks)] Shallow aqu	uitard (D3)			
aerial photos (B7)								~] FAC-neutral	test (D5)			
Field Observations:													
Surface water present?	Yes		No	\checkmark	Depth	n (inches)		Is Wetland	Hydrology Present?			
Water table present?	Yes	\checkmark	No		Depth	n (inches) 2		Yes	\checkmark			
Saturation present?	Yes	\checkmark	No		Depth	n (inches) 16		No				
(includes capillary fringe)													
Describe recorded data (stream gage, monitoring well, aerial photos, previous inspections) if available:													
Remarks: Area is a shallow de	Remarks: Area is a shallow depression between two upland forested areas, adjacent to a large tidal marsh												

	Jse scientific names	Absolute	Dominant	Indicator			-	g Point: DP3		
<u>Tree Stratum</u>	Plot size:	% Cover	Species?	Status	Dominance Te	st Worksheet				
Pinus taeda		25	Y	FAC	Number of OBL,	FACW and FAC	species:	6		
Nyssa sylvatica		5	N	FAC	Total number of	6				
					% of OBL, FACW	and FAC domin	ant species:	100		
					Prevalence Inc	dex Workshee	et			
					Total % cover	-	Multiplier	B-value		
					OBL species	0	1	. (
					FACW species	65	2	130		
		30	Total Cover		FAC species	66	3	198		
Sapling Stratum	Plot size:				FACU species	0	4	. (
Acer rubrum	•	5	Y	FAC	UPL species	0	5	5 (
Nyssa sylvatica	lyssa sylvatica		Y	FAC	Column total	131		328		
					Prevalence Inde	x:		2.50		
					Hydrophytic V	egetation Ind	icators			
					√	Dominance tes				
				-		Prevalence ind				
							drophytic veget	ation		
		10	Total Cover		Explanantion of I					
<u>Shrub Stratum</u>	Plot size:	10			Explanantion of problematic vegetation: Area is maintained as a power line easement					
	1100 3120.	20	V	FAC						
Baccharis halimifolia		20	Y	FAC	Definitions of vegetation strata: Tree - Woody plants, excluding woody vines, approx.					
				-	20 feet (6 m) or i	-		5 cm) or		
					larger in diamete	-				
					Sapling - Woody					
					20 feet (6 m) or i	more in height a	and less than 3 i	nches		
					(7.6 cm) DBH.					
	-	20	Total Cover		Shrub - Woody p	olants, excluding	g woody vines, a	pprox.		
<u>Herb Stratum</u>	Plot size:				3 to 20 feet (1 to	o 6 m) in height.				
Phragmites australis		35	Y	FACW	Herb - All herbad	ceous (non-woo	dy) plants, inclu	ding		
Teucrium canadense		30	Y	FACW	herbaceous vine	s, regardless of	size. Includes w	oody		
Smilax rotundifolia		5	N	FAC	plants, except we	oody vines, less	than approxima	itely		
Toxicodendron radica	15	1	N	FAC	3 feet (1 m) in he	-				
					Woody Vine - Al	l woody vines, r	egardless of hei	ght.		
					Remarks: (If obse	erved, list morp	hological adapta	ations)		
]					
		71	Total cover							
	Plot size:									
Woody Vine Stratum					1					
Woody Vine Stratum										
Woody Vine Stratum					le 11	vdronhytic V	agetation Bro	sont?		
Woody Vine Stratum	·				ls H	ydrophytic Vo Yes	egetation Pres	sent?		

SOIL								Sampling Point: DP3			
Profile De	escription: (Describe to	o the dept	h 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			
0-1	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		Locations: PL-pore lining, M-matrix							
	il Indicators:	,		Indicato	rs for Problematic Hydric Soils:						
Histos	sol (A1)		Polyvalue below sur	face (S8)(LRR	S, T, U)		1 cm muck (A9)(LRR O)			
_	epipedon (A2)		Thin dark surface (S					2 cm muck (A10)(LRR S)			
	histic (A3)		Loamy mucky miner					Reduced vertic (F18)			
	ogen sulfide (A4)		Loamy gleyed matrix		,			(outside MLRA 150A, B)			
	fied layers (A5)		Depleted matrix (F3					Piedmont floodplain soils (F19)			
	nic bodies (A6)(LRR P, T, U)	Redox dark surface ((LRR P, S, T)			
	mucky mineral (A7)(LRR U		Depleted dark surface					Anomalous bright loamy soils (F20)			
		,									
	presence (A8)(LRR U) muck (A9) (LRR P, T)		 Redox depressions (Marl (F10)(LRR U) 	rð)				(MLRA 153B) Red parent material (TF2)			
		11)		I)/N/I DA 1E1)							
	ted below dark surface (A dark surface (A12)	(11)	Depleted ochric (F11					Very shallow dark surface (TF12)			
		1504)	Fe-Mn masses (F12)					(LRR T, U)			
	prairie redox (A16)(MLRA		Umbric surface (F13					Other (explain in remarks)			
	v mucky mineral (S1)(LRR (v gleyed matrix (S4)	0, 3)	Delta ochric (F17)(N Reduced vertic (F18)		1500)		Indicators of hydrophytic vegetation				
	redox (S5)		Piedmont floodplain			49A)	and wetland hydrology must be				
	ed matrix (S6)		Anomalous bright lo		0)		present, unless disturbed or				
	surface (S7)(LRR P, S, T, U))	(MLRA 149A, 153C,	153D)				problematic.			
Restrictive	Layer (if observed):							Is Hydric Soil Present?			
	Type:							Yes 🗸			
Deveenleer	Depth (inches):						ļ	No			
Remarks:											

WETLAND DETERMINATION DATA FOR	M - Atlantic and Gulf Coastal Plain Region							
Project/Site: Proposed 230kV USW Substation Site City/County: Si	ssex County Sampling Date: 05-03-21							
Applicant/Owner: US Wind	State: Delaware Sampling Point: DP4							
Investigators: Craig Smith	Section/Township:							
Landform: Plain	Local relief: Flat % Slope: 1%							
Subregion:MLRA 153D Lat: 38.5867°N	Long: -75.2419°W Datum:							
Soil Map Unit Name: Henlopen loamy sand (HpA)	NWI Classification: UPL							
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes V No							
Is vegetation soil or hydrology significantly disturbed?	Are "Normal Circumstances" present?							
Is vegetation is soil in or hydrology in naturally problematic?	Yes V No							
	ampling point locations, transects, important features, etc.							
Hydrophytic vegetation present? Yes No	Is the Sampled Area within a Wetland?							
Hydric soil present? Yes No 🗸	Yes							
	No 🗸							
Wetland Hydrology present? Yes No Remarks:								
HYDROLOGY								
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)	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	roots (C3) Dry-season water table (C2)							
Drift deposits (B3)								
Algal mat or crust (B4) Recent iron reduction in tilled s								
□ 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)	Is Wetland Hydrology Present?							
Water table present? Yes No 🗹 Depth (inches)	Yes							
Saturation present? Yes No I Depth (inches)	No							
(includes capillary fringe)								
Describe recorded data (stream gage, monitoring well, aerial photos, previous	inspections) if available:							
Remarks:								

VEGETATION -	Use scientific names	Absolute	Dominant	Indicator			Samplin	g Point: DP4		
Tree Stratum	Plot size:	% Cover	Species?	Status	Dominance Te	est Worksheet	:			
Pinus taeda		60	Y	FAC	Number of OBL,	FACW and FAC	species:	3		
Quercus nigra		8	Ν	FAC	Total number of	all dominant sp	ecies:	4		
Quercus falcata		8	Ν	FACU	% of OBL, FACW	and FAC domin	ant species:	75		
Acer rubrum		8	Ν	FAC	Prevalence Inc	dex Workshee	et			
Pinus virginiana		4	Ν	UPL	Total % cover	B-value				
					OBL species	0	1	0		
					FACW species	4	2	8		
		88	Total Cover	1	FAC species	98	3	294		
Sapling Stratum	Plot size:				FACU species	18	4	72		
Acer rubrum		15	Y	FAC	UPL species	4	5	20		
Sassafras albidum		6	Y	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	√ 	Dominance tes				
						Prevalence ind				
						Problematic hv	drophytic veget	ation		
		30	Total Cover		Explanantion of problematic vegetation:					
Shrub Stratum	Plot size:				Area is maintained as a power line easement					
Vaccinium corymbosı	3	Y	FACW	Definitions of						
vacennam corymbose			•	TACW			ng woody vines, approx.			
					20 feet (6 m) or more in height and 3 inches (7					
					larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, app					
					20 feet (6 m) or					
					(7.6 cm) DBH.			inches .		
		3	Total Cover	l	Shrub - Woody p	plants, excluding	woody vines, a	pprox.		
Herb Stratum	Plot size:	5	Total cover		3 to 20 feet (1 to					
Sassafras albidum	FIOT 312E.	1	N	FACU	Herb - All herbad		dv) plants, inclu	ding		
Quercus nigra		1	N	FAC	herbaceous vine			-		
Vaccinium corymbosi	Im	1	N	FACW	plants, except w	-		-		
vacciniani corymoosi		-		TACW	3 feet (1 m) in he	-		licity		
					Woody Vine - Al	-	egardless of hei	ght.		
					Remarks: (If obs					
						erved, list morp	nological adapta	itions)		
					-					
					4					
					1					
		3	Total cover		4					
Woody Vice Chest		3	rotal cover							
Woody Vine Stratum	Plot size:				4					
						و د الدر با مرموان ا	antation Dr			
					IS H	lydrophytic Vo		sentr		
	_		Yes							
		0	Total cover			No	\checkmark			

SOIL								Sampling Point: DP4			
Profile De	escription: (Describe to	o the dept	h needed to docume	nt the indica	ntor or	r conf	irm the a	bsence of indicators)			
Depth	Matrix		Redox	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		Locations: PL-pore lining, M-matrix							
Hydric So	il Indicators:			Indicato	rs for Problematic Hydric Soils:						
Histos	sol (A1)		Polyvalue below sur	face (S8)(LRR	S, T, U)		1 cm muck (A9)(LRR O)			
Histic	epipedon (A2)		Thin dark surface (S	9)(LRR S, T, U)			2 cm muck (A10)(LRR S)			
Black	histic (A3)		Loamy mucky mine	ral (F1)(LRR O)			Reduced vertic (F18)			
Hydro	ogen sulfide (A4)		Loamy gleyed matri	x (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 L	I)	Depleted dark surfa	ce (F7)				Anomalous bright loamy soils (F20)			
Muck	presence (A8)(LRR U)		Redox depressions	(F8)			(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 (F1	1)(MLRA 151)	1			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	8)(LRR P, T, U)				Other (explain in remarks)			
Sandy	mucky mineral (S1)(LRR	O, S)	Delta ochric (F17)(N	/ILRA 151)							
Sandy	gleyed matrix (S4)		Reduced vertic (F18)(MLRA 150A	, 150B)		Indicators of hydrophytic vegetation				
Sandy	redox (S5)		Piedmont floodplai	n soils (F19)(N	ILRA 14	49A)	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?			
	Туре:							Yes			
	Depth (inches):							No 🗸			
Remarks:											

WETI	AND D	DETER	RMIN	ΑΤΙΟΙ	WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region									
Project/Site: Proposed 230kV	' USW Sub	ostatio	n Site		City/C	County:	Sussex County		Sampling Date: 05-03-21					
Applicant/Owner: US Wind							State: Delaware	9	Sampling Point: DP5					
Investigators: Craig Smith							Section/Townsh	ip:	•					
Landform: Plain							Local relief: Flat		% Slope: 0%					
Subregion:MLRA 153D			Lat: 38	8.5867°N	N		Long: -75.2410°	W	Datum:					
Soil Map Unit Name: Runclin	t loamy sa	and (Ri	JA)				4	NWI Classification: PSS/PFO						
Are climatic/hydrologic condi				for this	time of	year?		Yes 🗸 No						
Is vegetation soil o	or hydrolo	gy 🗌	signific	cantly d	isturbed	!?	Are "Normal Circumstances" present?							
	or hydrolo		-	-	lematic				Yes 🗸 No					
, 1	-						sampling point	locations, tr	ansects, important features, etc.					
Hydrophytic vegetation prese			Yes	1	No				led Area within a Wetland?					
Hydric soil present?			Yes	✓	No				Yes 🗸					
Wetland Hydrology present?	Hydrology present? Yes V								No 🗌					
Remarks:			1.20		1		1							
HYDROLOGY														
Wetland Hydrology Indicators:														
Primary indicators (minimum	of one is	requir	ed; chec	ck all tha	at apply)		Second	lary indicators (minimum of two required)					
Surface water (A1) Water-stained leaves (B9)								Surface soil cracks (B6)						
High water table (A2)			Aquati	c fauna	(B13)				Sparsely vegetated concave surface (B8)					
Saturation (A3)			Marl d	eposits	(B15) (L	.RR U)			Drainage patterns (B10)					
Water marks (B1)			Hydrog	gen sulf	ide odoı	r (C1)			Moss trim lines (B16)					
Sediment deposits (B2)			Oxidize	ed rhizo	spheres	on livin	g roots (C3) Dry-season water table (C2)							
Drift deposits (B3)			Presen	ice of re	educed i	ron (C4)	Crayfish burrows (C8)							
Algal mat or crust (B4)			Recent	t iron re	duction	in tilled	soils (C4) Saturation visible on aerial photos (C9)							
Iron deposits (B5)] Thick r	nuck su	rface (C	7)		✓	Geomorphic position (D2)					
Inundation visible on			Other	(explair	n in rema	arks)	Shallow aquitard (D3)							
aerial photos (B7)								✓	FAC-neutral test (D5)					
Field Observations:	1		1		-1									
Surface water present?	Yes		No	\checkmark	Depth	i (inches)		s Wetland Hydrology Present?					
Water table present?	Yes		No	\checkmark	Depth	i (inches)		Yes 🗸					
Saturation present?	Yes		No	\checkmark	Depth	i (inches)		Νο					
(includes capillary fringe)														
Describe recorded data (stream gage, monitoring well, aerial photos, previous inspections) if available: Remarks: Area is a shallow depression between two upland forested areas														

VEGETATION - U	Jse scientific names	Absolute	Dominant	Indicator			Samplin	g Point: DP5	
<u>Tree Stratum</u>	Plot size:	% Cover	Species?	Status	Dominance Te	est Worksheet			
Pinus taeda		35	Y	FAC	Number of OBL,	FACW and FAC	species:	5	
Acer rubrum		15	Y	FAC	Total number of	all dominant sp	ecies:	5	
Prunus serotina		5	Ν	FACU	% of OBL, FACW	and FAC domin	ant species:	100	
Nyssa sylvatica		5	Ν	FAC	Prevalence Inc	dex Workshee	et		
Quercus nigra		5	Ν	FAC	Total % cover		Multiplier	B-value	
					OBL species	0	1	. (
					FACW species	10	2	20	
		65	Total Cover		FAC species	66	3	198	
Sapling Stratum	Plot size:		-		FACU species	5	4	20	
Acer rubrum		20	Y	FAC	UPL species	0	5	5 (
Nyssa sylvatica		15	Y	FAC	Column total	81		238	
Magnolia virginiana		5	N	FACW	Prevalence Inde	x:	•	2.94	
					Hydrophytic V	egetation Ind	licators		
					✓ ✓	Dominance tes			
					~	Prevalence ind	ex is ≤ 3.0		
						Problematic hy	drophytic veget	ation	
		40	Total Cover		Explanantion of	problematic veg	etation:		
Shrub Stratum	Plot size:				Area is maintained as a power line easement				
Vaccinium corymbosu		5	Y	FACW	Definitions of				
			-		Tree - Woody pla			prox.	
					20 feet (6 m) or				
					larger in diameter at breast height (DBH).				
					Sapling - Woody			approx.	
					20 feet (6 m) or	more in height a	and less than 3 i	nches	
					(7.6 cm) DBH.	0			
		5	Total Cover	I	Shrub - Woody p	plants, excluding	woody vines, a	pprox.	
Herb Stratum	Plot size:	-			3 to 20 feet (1 to	6 m) in height			
	1100 5120.				Herb - All herbad		dy) plants, inclu	ding	
					herbaceous vine				
					plants, except w				
					3 feet (1 m) in he				
					Woody Vine - Al	<u> </u>	egardless of hei	ght.	
					Remarks: (If obs				
					No herbaceous v			itionsj	
					NO HEIDACEOUS V		inity.		
					1				
					1				
		0	Total cover	<u> </u>	+				
		U	i otal cover						
Woody Vine Stratum	Plot size:				4				
						hadaa haataa ta			
					IS H	lydrophytic Vo		sent?	
		_			4	Yes			
		0	Total cover			No			

SOIL								Sampling Point: DP5			
Profile De	escription: (Describe to	o the dept	h 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			
0-2	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 c	oated sand g	rains.			Locations: PL-pore lining, M-matrix			
Hydric So	il Indicators:						Indicato	rs for Problematic Hydric Soils:			
Histos	sol (A1)		Polyvalue below sur	face (S8)(LRR	S, T, U)		1 cm muck (A9)(LRR O)			
Histic	epipedon (A2)		Thin dark surface (S	9)(LRR S, T, U)			2 cm muck (A10)(LRR S)			
Black	histic (A3)		Loamy mucky miner	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 L	I)	Depleted dark surface	ce (F7)				Anomalous bright loamy soils (F20)			
Muck	presence (A8)(LRR U)		Redox depressions (F8)				(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	l)(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	oed 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?			
	Туре:							Yes 🗸			
	Depth (inches):							No			
Remarks:							-				

WETLAND DETERMINATION DATA FORM	1 - Atlantic and Gulf Coastal Plain Region							
Project/Site: Proposed 230kV USW Substation Site City/County: Su	ssex County Sampling Date: 05-03-21							
	State: Delaware Sampling Point: DP6							
Investigators: Craig Smith	Section/Township:							
Landform: Plain	Local relief: Flat % Slope: 1%							
	Long: -75.2418°W Datum:							
Soil Map Unit Name: Runclint loamy sand (RuA)	NWI Classification: UPL							
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes V No							
Is vegetation soil or hydrology significantly disturbed?	Are "Normal Circumstances" present?							
Is vegetation is soil in or hydrology in aturally problematic?	Yes V No							
SUMMARY OF FINDINGS - Attach site map showing sa								
Hydrophytic vegetation present? Yes No 🗸	Is the Sampled Area within a Wetland?							
Hydric soil present? Yes No 🗸	Yes							
	No 🗸							
Wetland Hydrology present? Yes I No I Remarks:								
HYDROLOGY								
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)	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)	oots (C3) Dry-season water table (C2)							
Drift deposits (B3)	Crayfish burrows (C8)							
Algal mat or crust (B4)								
□ 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 V Depth (inches)	Is 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, monitoring well, aerial photos, previous	inspections) if available:							
Remarks:								

VEGETATION - U	Jse scientific names	Absolute	Dominant	Indicator			Samplin	g Point: DP6
<u>Tree Stratum</u>	Plot size:	% Cover	Species?	Status	Dominance Test Worksheet			•
Pinus taeda		20	Y	FAC	Number of OBL, FACW and FAC species:			
Acer rubrum		20	Y	FAC	Total number of all dominant species:			
Quercus nigra		15	Y	FAC	% of OBL, FACW and FAC dominant species:			
Quercus alba		10	Ν	FACU	Prevalence Index Worksheet			
Prunus serotina		5	Ν	FACU	Total % cover		Multiplier	B-value
					OBL species	0	1	. C
					FACW species	4	2	. 8
		70	Total Cover		FAC species	116	3	348
Sapling Stratum	Plot size:		•		FACU species	24	4	96
Acer rubrum		20	Y	FAC	UPL species	0	5	
Diospyros virginiana		20	Y	FAC	Column total	144		452
Sassafras albidum		4	N	FACU	Prevalence Inde	x:	•	3.14
					Hydrophytic V	egetation Ind	licators	
						Dominance tes		
						Prevalence ind		
						Problematic hv	drophytic veget	ation
		44	Total Cover		Explanantion of	-		
Shrub Stratum	Plot size:							
Ilex opaca	1100 3120.	10	Y	FAC	Area is maintained as a power line easement			
Vaccinium corymbosu	m	4	N	FACW	Definitions of vegetation strata: Tree - Woody plants, excluding woody vines, approx.			
vacciniani corymbosa		4	IN	FACW	-	_		
					20 feet (6 m) or more in height and 3 inches (7.6 cm) or larger in diameter at breast height (DBH).			
					Sapling - Woody			annrox
					20 feet (6 m) or			
					(7.6 cm) DBH.			licites
		14	Tatal Causer		Shrub - Woody p	lants excluding	woody vines a	nnrox
		14	Total Cover				, woody vince, a	pprox.
Herb Stratum	Plot size:			510	3 to 20 feet (1 to		du) planta inclu	dina
Smilax rotundifolia		10	Y	FAC	Herb - All herbad	-		-
Vaccinium angustifoli	um	5	Y	FACU	herbaceous vine			
Pinus taeda		1	N	FAC	plants, except w		than approxima	itely
					3 feet (1 m) in he Woody Vine - Al	<u> </u>	ogardloss of hoi	aht
					Remarks: (If obs	erved, list morp	hological adapta	itions)
					-			
					4			
		_			4			
	-	16	Total cover					
Woody Vine Stratum	Plot size:				4			
					ls H	lydrophytic V	egetation Pres	sent?
						Yes		
		0	Total cover]	No	\checkmark	

SOIL								Sampling Point: DP6			
Profile De	escription: (Describe to	o the dept	h needed to documer	nt the indica	tor or	· conf	irm the a	bsence of indicators)			
Depth	Matrix		Redox	Features							
(inches)	Color (moist)	%	Color (moist)	%	Туре	Loc	Texture	Remarks			
0-1	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-cc	oncentration, D-depletion	, RM-reduce	ed matrix, CS covered or o	coated sand g	rains.			Locations: PL-pore lining, M-matrix			
Hydric So	il Indicators:						Indicato	rs for Problematic Hydric Soils:			
Histos	sol (A1)		Polyvalue below sur	face (S8)(LRR	S, T, U)		1 cm muck (A9)(LRR O)			
Histic	epipedon (A2)		Thin dark surface (S	9)(LRR S, T, U)			2 cm muck (A10)(LRR S)			
Black	histic (A3)		Loamy mucky miner	al (F1)(LRR O)			Reduced vertic (F18)			
Hydro	ogen sulfide (A4)		Loamy gleyed matri	x (F2)				(outside MLRA 150A, B)			
	fied layers (A5)		Depleted matrix (F3)				Piedmont floodplain soils (F19)			
	ic bodies (A6)(LRR P, T, U)	Redox dark surface					(LRR P, S, T)			
	mucky mineral (A7)(LRR L		Depleted dark surfa					Anomalous bright loamy soils (F20)			
	presence (A8)(LRR U)		Redox depressions (F8)			(MLRA 153B)				
	muck (A9) (LRR P, T)		Marl (F10)(LRR U)					Red parent material (TF2)			
	ted below dark surface (A	11)	Depleted ochric (F1)	1)(MLRA 151)				Very shallow dark surface (TF12)			
	dark surface (A12)	·	Fe-Mn masses (F12)				(LRR T, U)				
	prairie redox (A16)(MLRA	A 150A)	Umbric surface (F13				Other (explain in remarks)				
	mucky mineral (S1)(LRR	-	Delta ochric (F17)(N								
	gleyed matrix (S4)		Reduced vertic (F18		, 150B)		Indicators of hydrophytic vegetation				
Sandy	redox (S5)		Piedmont floodplair	n soils (F19)(N	1LRA 14	49A)	and wetland hydrology must be				
	ed matrix (S6)		Anomalous bright lo	bamy soils (F2	0)			present, unless disturbed or			
	surface (S7)(LRR P, S, T, U)	(MLRA 149A, 153C,		,		problematic.				
	Layer (if observed):	-						Is Hydric Soil Present?			
	Туре:							Yes			
	Depth (inches):							No			
Remarks:							•				

WETLAND DETERMINATION DATA FORM	M - Atlantic and Gulf Coastal Plain Region							
Project/Site: Proposed 230kV USW Substation Site City/County: Su	Issex County Sampling Date: 05-04-21							
Applicant/Owner: US Wind	State: Delaware Sampling Point: DP7							
	Section/Township:							
Landform: Plain	Local relief: Flat % Slope: 1%							
Subregion:MLRA 153D Lat: 38.5874°N	Long: -75.2438°W Datum:							
Soil Map Unit Name: Henlopen loamy sand (HpA)	NWI Classification: UPL							
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes 🗸 No							
Is vegetation soil or hydrology significantly disturbed?	Are "Normal Circumstances" present?							
Is vegetation soil or hydrology naturally problematic?	Yes 🗸 No							
	ampling point locations, transects, important features, etc.							
Hydrophytic vegetation present? Yes No 🗸	Is the Sampled Area within a Wetland?							
Hydric soil present? Yes No 🗸	Yes							
Wetland Hydrology present? Yes No	No 🔽							
Remarks:	···• L							
HYDROLOGY								
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)	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	roots (C3)							
Drift deposits (B3) Presence of reduced iron (C4)	Crayfish burrows (C8)							
Algal mat or crust (B4)	pils (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)	Is Wetland Hydrology Present?							
Water table present? Yes No Z Depth (inches)	Yes							
Saturation present? Yes No I Depth (inches)	No 🗸							
(includes capillary fringe)								
Describe recorded data (stream gage, monitoring well, aerial photos, previous	inspections) if available:							
Remarks:								

VEGETATION - Use scientific name	es Absolute	Dominant	Indicator			Samplin	g Point: DP7
Tree Stratum Plot size:	% Cover	Species?	Status	Dominance Test Worksheet			-
Quercus falcata	20	Y	FACU	Number of OBL,	FACW and FAC	species:	2
Carya tomentosa	20	Y	UPL	Total number of all dominant species:			
Pinus taeda	15	Y	FAC	% of OBL, FACW	and FAC domin	ant species:	29
Quercus velutina	5	Ν	UPL	Prevalence Index Worksheet			
Pinus virginiana	5	Ν	UPL	Total % cover		Multiplier	B-value
Sassafras albidum	5	Ν	FACU	OBL species	0	1	. (
				FACW species	0	2	. (
	70	Total Cover		FAC species	35	3	105
Sapling Stratum Plot size:		-		FACU species	86	4	. 344
Diospyros virginiana	15	Y	FAC	UPL species	45	5	225
Carya tomentosa	10	Y	UPL	Column total	166		674
Sassafras albidum	10	Y	FACU	Prevalence Inde	x:		4.06
Pinus virginiana	5	N	UPL	Hydrophytic V	egetation Ind	licators	
					Dominance tes	t is > 50%	
					Prevalence ind	ex is ≤ 3.0	
					Problematic hy	drophytic veget	ation
	40	Total Cover	1	Explanantion of	problematic veg	etation:	
Shrub Stratum Plot size:				Area is maintain	ed as a power li	ne easement	
				Definitions of	vegetation st	rata:	
				Tree - Woody plants, excluding woody vines, approx.			prox.
				20 feet (6 m) or more in height and 3 inches (7.6 cm) or			5 cm) or
				larger in diameter at breast height (DBH).			
				Sapling - Woody	plants, excludir	ng woody vines,	approx.
				20 feet (6 m) or	more in height a	and less than 3 i	nches
				(7.6 cm) DBH.			
	0	Total Cover		Shrub - Woody p	plants, excluding	g woody vines, a	pprox.
Herb Stratum Plot size:				3 to 20 feet (1 to	o 6 m) in height.		
Vaccinium angustifolium	50	Y	FACU	Herb - All herba	ceous (non-woo	dy) plants, inclu	ding
Dichanthelium sphaerocarpon	1	N	FACU	herbaceous vine	s, regardless of	size. Includes we	oody
Smilax rotundifolia	1	N	FAC	plants, except w	oody vines, less	than approxima	itely
Quercus nigra	1	N	FAC	3 feet (1 m) in he	eight.		
Acer rubrum	1	N	FAC	Woody Vine - A	ll woody vines, r	egardless of hei	ght.
llex opaca	1	N	FAC	Remarks: (If obs	erved, list morp	hological adapta	itions)
Pinus taeda	1	N	FAC				
]			
	56	Total cover]			
Woody Vine Stratum Plot size:		•					
-				1			
				Is H	lydrophytic V	egetation Pres	sent?
				1	Yes		
	0	Total cover		1	No	✓	

SOIL								Sampling Point: DP7		
Profile De	escription: (Describe to	o the dept	h needed to docume	nt the indica	tor or	conf	irm the a	bsence of indicators)		
Depth	Matrix		Redox	Features						
(inches)	Color (moist)	%	Color (moist)	%	Туре	Loc	Texture	Remarks		
0-1	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	Different concentration, D-depletion	, RM-reduce	ed matrix, CS covered or	coated sand g	rains.			Locations: PL-pore lining, M-matrix		
	il Indicators:	-					Indicato	rs for Problematic Hydric Soils:		
Histos	sol (A1)		Polyvalue below su	rface (S8)(LRR	S, T, U)		1 cm muck (A9)(LRR O)		
Histic	epipedon (A2)		Thin dark surface (S	9)(LRR S. T. U)			2 cm muck (A10)(LRR S)		
	histic (A3)		Loamy mucky mine					Reduced vertic (F18)		
	ogen sulfide (A4)		Loamy gleyed matri					(outside MLRA 150A, B)		
	fied layers (A5)		Depleted matrix (F3					Piedmont floodplain soils (F19)		
	nic bodies (A6)(LRR P, T, U)	Redox dark surface					(LRR P, S, T)		
	mucky mineral (A7)(LRR L		Depleted dark surfa					Anomalous bright loamy soils (F20)		
	presence (A8)(LRR U)	,	Redox depressions							
	muck (A9) (LRR P, T)		Marl (F10)(LRR U)	(FO)			(MLRA 153B) Red parent material (TF2)			
	ted below dark surface (A	(11)	Depleted ochric (F1	1)/MIDA 1E1)				Very shallow dark surface (TF12)		
	dark surface (A12)	(11)	Fe-Mn masses (F12				(LRR T, U)			
	prairie redox (A16)(MLRA	1504)	Umbric surface (F13				Other (explain in remarks)			
	mucky mineral (S1)(LRR	-	Delta ochric (F17)(N							
	gleyed matrix (S4)	0, 3)	Reduced vertic (F18		150B)			Indicators of hydrophytic vegetation		
	redox (S5)		Piedmont floodplai				, , , , ,			
						49A)		and wetland hydrology must be		
_	ed matrix (S6)	,	Anomalous bright lo		0)		present, unless disturbed or			
	surface (S7)(LRR P, S, T, U)	(MLRA 149A, 153C,	153D)				problematic. Is Hydric Soil Present?		
Restrictive	Layer (if observed):							Yes		
	Type: Depth (inches):							No 🗸		
Pomarke:	Depth (inches):							NO 🗠		
Remarks:										

WETLAND DETERMINATION DATA FO	RM - Atlantic and	I Gulf Coastal Plain Region						
Project/Site: Proposed 230kV USW Substation Site City/County:	Sussex County	Sampling Date: 05-04-21						
Applicant/Owner: US Wind	State: Delaware	Sampling Point: DP8						
Investigators: Craig Smith	Section/Township:							
Landform: Plain	Local relief: Flat	% Slope: 1%						
Subregion:MLRA 153D Lat: 38.5865°N	Long: -75.2446°W	Datum:						
Soil Map Unit Name: Henlopen loamy sand (HpA)	1011.81 / 012 110 11	NWI Classification: UPL						
Are climatic/hydrologic conditions on the site typical for this time of year?		Yes V No						
Is vegetation soil or hydrology significantly disturbed?	Are	"Normal Circumstances" present?						
Is vegetation is soil in or hydrology in aturally problematic?		Yes V No						
SUMMARY OF FINDINGS - Attach site map showing	sampling point loca							
Hydrophytic vegetation present? Yes No 🗸		ne Sampled Area within a Wetland?						
Hydric soil present? Yes No 🗸		Yes						
Wetland Hydrology present? Yes No	_	No 🔽						
Remarks:		🗀						
HYDROLOGY								
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)						
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 livir	ng roots (C3)	Dry-season water table (C2)						
Drift deposits (B3) Presence of reduced iron (C4)	Crayfish burrows (C8)						
Algal mat or crust (B4)	d 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 (inche	s)	Is Wetland Hydrology Present?						
Water table present? Yes 🗌 No 🗹 Depth (inches	s)	Yes						
Saturation present? Yes No 🗹 Depth (inche	s)	No						
(includes capillary fringe)								
Describe recorded data (stream gage, monitoring well, aerial photos, previc	us inspections) if availal	ble:						
Remarks:								

VEGETATION - Use scientif	ic names Absolute	Dominant	Indicator			Samplin	g Point: DP8
Tree Stratum Plot size:	% Cover	Species?	Status	Dominance Test Worksheet			-
Pinus virginiana	30	Y	UPL	Number of OBL,	FACW and FAC	species:	4
Quercus falcata	20	Y	FACU	Total number of	all dominant sp	ecies:	8
Pinus taeda	10	Ν	FAC	% of OBL, FACW	and FAC domin	ant species:	50
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	
				FACW species	10	2	20
	80	Total Cover		FAC species	49	3	147
Sapling Stratum Plot size:				FACU species	104	4	416
Sassafras albidum	20	Y	FACU	UPL species	35	5	175
Diospyros virginiana	10	Y	FAC	Column total	198		758
Nyssa sylvatica	10	Y	FAC	Prevalence Inde	x:		3.83
Acer rubrum	5	N	FAC	Hydrophytic V	egetation Ind	licators	
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	ation
	49	Total Cover		Explanantion of	problematic veg	etation:	
Shrub Stratum Plot size:				Area is maintain	ed as a power li	ne easement	
Vaccinium corymbosum	10	Y	FACW	Definitions of vegetation strata:			
llex opaca	4	Y	FAC	Tree - Woody pl	ants, excluding v	woody vines, ap	prox.
				20 feet (6 m) or more in height and 3 inches (7.6 cm) or			5 cm) or
				larger in diameter at breast height (DBH).			
				Sapling - Woody plants, excluding woody vines, approx.			approx.
				20 feet (6 m) or	more in height a	and less than 3 i	nches
				(7.6 cm) DBH.			
	14	Total Cover		Shrub - Woody p	plants, excluding	g woody vines, a	pprox.
Herb Stratum Plot size:				3 to 20 feet (1 to	o 6 m) in height.		
Vaccinium angustifolium	50	Y	FACU	Herb - All herba	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 w	oody vines, less	than approxima	itely
Quercus falcata	1	Ν	FACU	3 feet (1 m) in h	eight.		
Sassafras albidum	1	N	FACU	Woody Vine - A	ll woody vines, r	egardless of hei	ght.
llex opaca	1	N	FAC	Remarks: (If obs	erved, list morpl	hological adapta	ations)
				1			
]			
	55	Total cover		1			
Woody Vine Stratum Plot size:		4					
				1			
		1		ls H	lydrophytic Ve	egetation Pres	sent?
				1	Yes		
L	0	Total cover	I	1	No		

SOIL								Sampling Point: DP8			
Profile De	escription: (Describe to	o the dept	h 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			
0-1	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	ncentration. D-depletion	. RM-reduce	ed matrix, CS covered or c	oated sand g	rains.			Locations: PL-pore lining, M-matrix			
	il Indicators:	,	· · · · · · · · · · · · · · · · · · ·				Indicato	rs for Problematic Hydric Soils:			
·	sol (A1)		Polyvalue below surf	face (S8)(LRR	S, T, U)		1 cm muck (A9)(LRR O)			
	epipedon (A2)		Thin dark surface (SS			,		2 cm muck (A10)(LRR S)			
	histic (A3)		Loamy mucky miner					Reduced vertic (F18)			
	ogen sulfide (A4)		Loamy gleyed matrix					(outside MLRA 150A, B)			
	fied layers (A5)		Depleted matrix (F3)					Piedmont floodplain soils (F19)			
	ic bodies (A6)(LRR P, T, U	`	Redox dark surface ((LRR P, S, T)			
	mucky mineral (A7)(LRR U	')	Depleted dark surfac				Anomalous bright loamy soils (F20)				
	presence (A8)(LRR U)		Redox depressions (I	F8)			(MLRA 153B)				
	muck (A9) (LRR P, T)		Marl (F10)(LRR U)					Red parent material (TF2)			
	ted below dark surface (A	(11)	Depleted ochric (F11				Very shallow dark surface (TF12)				
	dark surface (A12)		Fe-Mn masses (F12)				(LRR T, U)				
	prairie redox (A16)(MLRA		Umbric surface (F13				Other (explain in remarks)				
	mucky mineral (S1)(LRR (O, S)	Delta ochric (F17)(M								
	gleyed matrix (S4)		Reduced vertic (F18)				Indicators of hydrophytic vegetation				
Sandy	redox (S5)		Piedmont floodplain	soils (F19)(N	ILRA 14	19A)		and wetland hydrology must be			
	ed matrix (S6)		Anomalous bright lo		0)			present, unless disturbed or			
	surface (S7)(LRR P, S, T, U))	(MLRA 149A, 153C, 1	153D)				problematic.			
Restrictive	Layer (if observed):							Is Hydric Soil Present?			
	Туре:							Yes			
	Depth (inches):							No			
Remarks:											

WETLAND DETERMINATION DATA FORM -	Atlantic and Gulf Coastal Plain Region							
Project/Site: Proposed 230kV USW Substation Site City/County: Susse	x County Sampling Date: 05-04-21							
	te: Delaware Sampling Point: DP9							
	Section/Township:							
Landform: Plain Loc	al relief: Flat % Slope: 1-2%							
	ng: -75.2460°W Datum:							
Soil Map Unit Name: Henlopen loamy sand (HpA)	NWI Classification: UPL							
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes V No							
Is vegetation soil or hydrology significantly disturbed?	Are "Normal Circumstances" present?							
Is vegetation is soil in or hydrology in naturally problematic?	Yes 🗸 No 🗌							
SUMMARY OF FINDINGS - Attach site map showing sam								
Hydrophytic vegetation present? Yes No 🗸	Is the Sampled Area within a Wetland?							
Hydric soil present? Yes No	Yes							
Wetland Hydrology present? Yes No	No 🔽							
Remarks:	···· L							
HYDROLOGY								
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)	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 roo	ts (C3) Dry-season water table (C2)							
Drift deposits (B3)	Crayfish burrows (C8)							
Algal mat or crust (B4)								
□ 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 V Depth (inches)	Is 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, monitoring well, aerial photos, previous ins	pections) if available:							
Remarks:								

VEGETATION -	Use scientific names	Absolute	Dominant	Indicator			Samplin	g Point: DP9
<u>Tree Stratum</u>	Plot size:	% Cover	Species?	Status	Dominance Test Worksheet			
Pinus taeda		30	Y	FAC	Number of OBL,	FACW and FAC	species:	Ĩ
Quercus alba		20	Y	FACU	Total number of	all dominant sp	ecies:	6
Quercus velutina		10	Ν	UPL	% of OBL, FACW	and FAC domin	ant species:	33
Carya cordiformis		10	Ν	FAC	Prevalence Index Worksheet			
Quercus falcata		5	Ν	FACU	Total % cover		Multiplier	B-value
Pinus virginiana		5	Ν	UPL	OBL species	0	1	. (
					FACW species	10	2	20
		80	Total Cover		FAC species	60	3	180
<u>Sapling Stratum</u>	Plot size:				FACU species	92	4	368
Carya cordiformis		20	Y	FAC	UPL species	27	5	135
Carya tomentosa		10	Y	UPL	Column total	189		703
Quercus alba		10	Y	FACU	Prevalence Inde	x:		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	problematic veg	etation:	
<u>Shrub Stratum</u>	Plot size:				Area is maintain	ed as a power li	ne easement	
	•				Definitions of	vegetation st	rata:	
					Tree - Woody plants, excluding woody vines, approx.			prox.
					20 feet (6 m) or more in height and 3 inches (7.6 cm) or			6 cm) or
					larger in diameter at breast height (DBH).			
					Sapling - Woody	plants, excludir	ng woody vines,	approx.
					20 feet (6 m) or	more in height a	and less than 3 i	nches
					(7.6 cm) DBH.			
		0	Total Cover		Shrub - Woody p	olants, excluding	woody vines, a	pprox.
Herb Stratum	Plot size:				3 to 20 feet (1 to	o 6 m) in height.		
Vaccinium angustifol	ium	50	Y	FACU	Herb - All herba	ceous (non-woo	dy) plants, inclu	ding
Quercus falcata		1	N	FACU	herbaceous vine	s, regardless of	size. Includes w	oody
					plants, except w	oody vines, less	than approxima	itely
					3 feet (1 m) in h	eight.		
					Woody Vine - A	l woody vines, r	egardless of hei	ght.
					Remarks: (If obs	erved, list morpl	hological adapta	ations)
					1			
					1			
-		51	Total cover		1			
Woody Vine Stratum	Plot size:							
	4				1			
			1		ls H	ydrophytic Ve	egetation Pres	sent?
					1	Yes		
		0	Total cover		1	No	$\overline{\checkmark}$	

SOIL								Sampling Point: DP9			
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 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	ncentration. D-depletion	. RM-reduce	d matrix, CS covered or co	pated sand g	ains.			Locations: PL-pore lining, M-matrix			
	il Indicators:	,					Indicato	rs for Problematic Hydric Soils:			
	ol (A1)		Polyvalue below surf	ace (S8)(LRR	S. T. U)		1 cm muck (A9)(LRR O)			
	epipedon (A2)		Thin dark surface (SS			,		2 cm muck (A10)(LRR S)			
	histic (A3)		Loamy mucky minera					Reduced vertic (F18)			
	ogen sulfide (A4)		Loamy gleyed matrix					(outside MLRA 150A, B)			
	fied layers (A5)		Depleted matrix (F3)	. ,				Piedmont floodplain soils (F19)			
	ic bodies (A6)(LRR P, T, U	`						(LRR P, S, T)			
			Redox dark surface (,			
	mucky mineral (A7)(LRR L))	Depleted dark surfac					Anomalous bright loamy soils (F20)			
	presence (A8)(LRR U)		Redox depressions (F	-8)			(MLRA 153B)				
	muck (A9) (LRR P, T)		Marl (F10)(LRR U)					Red parent material (TF2)			
	ted below dark surface (A	11)	Depleted ochric (F11				Very shallow dark surface (TF12)				
	dark surface (A12)		Fe-Mn masses (F12)				(LRR T, U)				
	prairie redox (A16)(MLRA		Umbric surface (F13)	(LRR P, T, U)			Other (explain in remarks)				
Sandy	mucky mineral (S1)(LRR	O, S)	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	49A)		and wetland hydrology must be			
L Stripp	ed matrix (S6)		Anomalous bright los	amy soils (F2	D)			present, unless disturbed or			
Dark s	surface (S7)(LRR P, S, T, U)	(MLRA 149A, 153C, 1	.53D)				problematic.			
Restrictive	Layer (if observed):							Is Hydric Soil Present?			
	Туре:							Yes			
	Depth (inches):							No 🗸			
Remarks:											
ļ											

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region														
Project/Site: Proposed 230kV	USW Su	ubstatior	n Site		City/Co	ounty: S	Sussex County		Sampling Date: 05-04-21					
Applicant/Owner: US Wind							State: Delaware	9	Sampling Point: DP10					
Investigators: Craig Smith							Section/Township:							
Landform: Plain							Local relief: Flat		% Slope: 0%					
Subregion:MLRA 153D			Lat: 38	.5875°N	١		Long: -75.2483°W		Datum:					
Soil Map Unit Name: Broadki	II mucky	/ peat (B	r)				ļ_ ⁻	NWI Classification: PEM/PSS						
· · · · ·	Are climatic/hydrologic conditions on the site typical for this time of year?								Yes 🗸 No 🗌					
Is vegetation soil o	Is vegetation 🔲 soil 🔲 or hydrology 🗌 significantly disturbed?								Are "Normal Circumstances" present?					
	r hydrol		-		lematic				Yes V No					
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.														
Hydrophytic vegetation prese			Yes	V	No				bled Area within a Wetland?					
Hydric soil present?					\Box	Yes 🗸								
Wetland Hydrology present?			Yes	Image: A start of the start	No		1	 No □						
Remarks:														
HYDROLOGY														
Wetland Hydrology Indica														
Primary indicators (minimum	of one i	s require	ed; chec	k all tha	at apply)			Second	dary indicators (minimum of two required)					
Surface water (A1)	Surface water (A1) Water-stained leaves (B9)						Surface soil cracks (B6)							
High water table (A2)			Aquati	c fauna	(B13)				Sparsely vegetated concave surface (B8)					
Saturation (A3)				-	(B15) (LI	-		Drainage patterns (B10)						
Water marks (B1)					ide odor			Moss trim lines (B16)						
Sediment deposits (B2)					-		g roots (C3)		Dry-season water table (C2)					
Drift deposits (B3)			Presen	ice of re	educed ir	on (C4)			Crayfish burrows (C8)					
Algal mat or crust (B4)			Recent	iron re	duction	in tilled	soils (C4)		Saturation visible on aerial photos (C9)					
Iron deposits (B5)			Thick r	nuck su	rface (C7	7)		7	Geomorphic position (D2)					
Inundation visible on			Other	(explair	in rema	rks)	Shallow aquitard (D3)							
aerial photos (B7)								7	FAC-neutral test (D5)					
Field Observations:														
Surface water present?	Yes		No	~	Depth	(inches)			Is Wetland Hydrology Present?					
Water table present?	Yes		No	~	Depth	(inches)			Yes 🗸					
Saturation present?	Yes	\checkmark	No		Depth	(inches)	12		No					
(includes capillary fringe)														
Describe recorded data (stream gage, monitoring well, aerial photos, previous inspections) if available:														
Remarks: Area is a narrow lin	ear non-	-tidal we	tland fr	inge be	tween ti	dal eme	rgent wetlands ar	nd forested up	lands					

VEGETATION -	Absolute	Dominant	Indicator	Sampling Point: DP10					
<u>Tree Stratum</u>	Plot size:	% Cover	Species?	Status	Dominance Te	st Worksheet	:	1	
Nyssa sylvatica		5	Y	FAC	Number of OBL,	FACW and FAC	species:		
Acer rubrum		5	Y	FAC	Total number of	all dominant sp	ecies:		
Quercus falcata		5	Y	FACU	% of OBL, FACW	and FAC domin	ant species:	7	
Quercus alba		5	Y	FACU	Prevalence Inc	dex Workshee	t	-	
					Total % cover		Multiplier	B-value	
					OBL species	10	1	. 1	
					FACW species	60	2	. 12	
		20	Total Cover		FAC species	28			
<u>Sapling Stratum</u>	Plot size:		-		FACU species	15	Ĺ	6	
Nyssa sylvatica		35	Y	FAC	UPL species	0	5	;	
Quercus nigra		10	N	FAC	Column total	180		47	
Quercus alba		5	N	FACU	Prevalence Inde	x:		2.6	
Diospyros virginiana		5	N	FAC	Hydrophytic V	egetation Ind	licators		
					, , , , , , , , , , , , , , , , , , , ,	Dominance tes			
						Prevalence inde	ex is ≤ 3.0		
						Problematic hy	drophytic veget	ation	
		55	Total Cover		Explanantion of problematic vegetation:				
Shrub Stratum	Plot size:				Area is maintained as a power line easement				
Ilex opaca		10	Y	FAC	Definitions of vegetation strata:				
Chamaecyparis thyoi	des	10	Y	OBL					
Baccharis halimifolia		3	N	FAC	20 feet (6 m) or	more in height a	and 3 inches (7.0	5 cm) or	
					larger in diameter at breast height (DBH).				
					Sapling - Woody	plants, excludir	ng woody vines,	approx.	
					20 feet (6 m) or	more in height a	and less than 3 i	nches	
					(7.6 cm) DBH.				
		23	Total Cover		Shrub - Woody p	olants, excluding	g woody vines, a	pprox.	
Herb Stratum	Plot size:				3 to 20 feet (1 to	o 6 m) in height.			
Phragmites australis		50	Y	FACW	Herb - All herbad	ceous (non-woo	dy) plants, inclu	ding	
Smilax rotundifolia		20	Y	FAC	herbaceous vine	s, regardless of	size. Includes w	oody	
Teucrium canadense		10	N	FACW	plants, except w				
Baccharis halimifolia		1	N	FAC	3 feet (1 m) in he	-		·	
Acer rubrum		1	N	FAC	Woody Vine - Al	5	egardless of hei	ght.	
					Remarks: (If obs	erved, list morp	hological adapta	ations)	
							nonoBroan adapte		
					-				
				ļ	4				
		02	Total actor		ł				
	Dist	82	Total cover						
Woody Vine Stratum	Plot size:				4				
		_							
					Is Hydrophytic Vegetation Present?				
				Yes 🗸					
		0	Total cover			No			

SOIL								Sampling Point: DP10				
Profile De	escription: (Describe t	o the dept	h 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-cc	Different concentration, D-depletion	, RM-reduc	ed matrix, CS covered or c	oated sand g	rains.			Locations: PL-pore lining, M-matrix				
	il Indicators:						Indicato	rs for Problematic Hydric Soils:				
_	sol (A1)		Polyvalue below sur	face (S8)(LRR	S, T, U)		1 cm muck (A9)(LRR O)				
Histic	epipedon (A2)		Thin dark surface (S	9)(LRR S. T. U)			2 cm muck (A10)(LRR S)				
	histic (A3)		Loamy mucky miner					Reduced vertic (F18)				
	ogen sulfide (A4)		Loamy gleyed matrix		,			(outside MLRA 150A, B)				
	fied layers (A5)		Depleted matrix (F3)					Piedmont floodplain soils (F19)				
	nic bodies (A6)(LRR P, T, U	1)	Redox dark surface ((LRR P, S, T)				
	mucky mineral (A7)(LRR L		Depleted dark surface					Anomalous bright loamy soils (F20)				
	presence (A8)(LRR U)	- /										
			Redox depressions (F8)				(MLRA 153B)				
	muck (A9) (LRR P, T)		Marl (F10)(LRR U)					Red parent material (TF2)				
	ted below dark surface (A dark surface (A12)	411)	Depleted ochric (F11					Very shallow dark surface (TF12) (LRR T, U)				
	. ,	A 150A)	Fe-Mn masses (F12)									
	prairie redox (A16)(MLR		Umbric surface (F13					Other (explain in remarks)				
	<pre>/ mucky mineral (S1)(LRR / gleyed matrix (S4)</pre>	0, 3)	Delta ochric (F17)(M Reduced vertic (F18)		1500)			Indicators of hydrophytic vegetation				
	redox (S5)		Piedmont floodplain			49A)		and wetland hydrology must be				
	ed matrix (S6)		Anomalous bright lo		0)			present, unless disturbed or				
	surface (S7)(LRR P, S, T, U)	(MLRA 149A, 153C,	153D)				problematic.				
Restrictive	Layer (if observed):							Is Hydric Soil Present?				
	Туре:							Yes 🗸				
Deres der	Depth (inches):							No				
Remarks:												

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region													
Project/Site: Proposed 230kV	USW Sub	ostatio	n Site		City/C	ounty: S	Sussex County		Sampling Da	te: 05-04-21			
Applicant/Owner: US Wind							State: Delaware	5	Sampling Po				
Investigators: Craig Smith							Section/Township:						
Landform: Plain							Local relief: Flat	-	% Slope: 1-2	9/ Slene: 1.29/			
Subregion:MLRA 153D			Lat: 38	.5873°N	J		Long: -75.2484°W		Datum:	/0			
Soil Map Unit Name: Runclin	t loomy s	and (P	-	.5675 1	N		NWI Classification: UPL			cation: LIPI			
Are climatic/hydrologic condi		-	for this										
		1		Are "Normal Circumstances" present?									
	r hydrolo			,	isturbed			Are Norman					
Is vegetation soil or hydrology naturally problematic?													
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic vegetation present? Yes No ✓ Is the Sampled Area within a Wetland?													
Hydrophytic vegetation present? Yes No 🗸						_	Is the Samp		thin a Wetland?				
Hydric soil present?			Yes		No		Yes						
Wetland Hydrology present?			Yes		No	\checkmark		No					
Remarks: HYDROLOGY													
Wetland Hydrology Indicators:													
Primary indicators (minimum	of one is	requir	1					Second	1	s (minimum of two required)			
Surface water (A1)			1		l leaves (B9)			Surface soil o	. ,			
High water table (A2)			Aquatio	c fauna	(B13)				Sparsely veg	etated concave surface (B8)			
Saturation (A3)			Marl de	eposits	(B15) (LI	RR U)			Drainage pat	tterns (B10)			
Water marks (B1)			Hydrog	en sulfi	ide odor	(C1)		Moss trim lines (B16)					
Sediment deposits (B2)] Oxidize	d rhizo	spheres	on livin	g roots (C3)] Dry-season v	water table (C2)			
Drift deposits (B3)			Presen	ce of re	duced ir	on (C4)			Crayfish buri	rows (C8)			
Algal mat or crust (B4)] Recent	iron re	duction	in tilled	soils (C4)] Saturation vi	isible on aerial photos (C9)			
Iron deposits (B5)] Thick m	nuck su	rface (C	7)] Geomorphic	position (D2)			
Inundation visible on] Other (explain	in rema	ırks)			Shallow aqui	itard (D3)			
aerial photos (B7)									FAC-neutral	test (D5)			
Field Observations:													
Surface water present?	Yes		No	\checkmark	Depth	(inches)			s Wetland H	Hydrology Present?			
Water table present?	Yes		No	\checkmark	Depth	(inches)			Yes				
Saturation present?	Yes		No	\checkmark		(inches)			No	✓			
(includes capillary fringe)						(
Describe recorded data (stream gage, monitoring well, aerial photos, previous inspections) if available:													
Remarks: Forested upland ad	jacent to	emerg	ent tidal	wetlan	ld								

VEGETATION - U	Absolute	Dominant	Indicator	Sampling Point: DP						
<u>Tree Stratum</u>	Plot size:	% Cover	Species?	Status	Dominance Test Worksheet					
Pinus taeda		25	Y	FAC	Number of OBL,	FACW and FAC	species:	4		
Quercus falcata		20	Y	FACU	Total number of	all dominant sp	ecies:	5		
Prunus serotina		5	Ν	FACU	% of OBL, FACW	and FAC domin	ant species:	80		
Acer rubrum		5	Ν	FAC	Prevalence Inc	dex Workshee	t			
Juglans nigra		5	Ν	UPL	Total % cover	-	Multiplier	B-value		
					OBL species	0	1	. (
					FACW species	5	2	10		
		60	Total Cover		FAC species 90 3					
Sapling Stratum	Plot size:				FACU species	47	4	188		
Acer rubrum		20	Y	FAC	UPL species	15	5	75		
Diospyros virginiana		15	Y	FAC	Column total	157		543		
Nyssa sylvatica		10	N	FAC	Prevalence Inde	x:		3.46		
Cornus florida		10	N	FACU	Hydrophytic V	egetation Ind	icators			
Sassafras albidum		5	N	FACU		Dominance tes	t is > 50%			
Magnolia virginiana		5	N	FACW		Prevalence inde	ex is ≤ 3.0			
Carya tomentosa		5	N	UPL		Problematic hy	drophytic veget	ation		
-		70	Total Cover		Explanantion of	problematic veg	etation:			
		_	8		Area is maintained as a power line easement					
Quercus nigra		5	N	FAC						
Prunus serotina		5	N	FACU	Tree - Woody pl	-		prox.		
Juglans nigra		5	N	UPL						
sagians nigra		3		012	larger in diameter at breast height (DBH).					
					Sapling - Woody			approx.		
					20 feet (6 m) or					
					(7.6 cm) DBH.					
		15	Total Cover		Shrub - Woody p	plants, excluding	woody vines, a	pprox.		
Harb Stratum	Plot size:	15	Total cover							
<u>Herb Stratum</u> Smilax rotundifolia	Plot size.	10	Y	FAC	3 to 20 feet (1 to Herb - All herba		dv) plants inclu	ding		
Vaccinium angustifoli		2	N	FACU	herbaceous vine			-		
	um	2	IN	FACU	plants, except w	-				
					3 feet (1 m) in h	-		itely		
					Woody Vine - A	-	egardless of hei	ght.		
					-	-	-	_		
					Remarks: (If obs	erved, list morpl	nological adapta	itions)		
					-					
					-					
					-					
		_			4					
		12	Total cover							
Woody Vine Stratum	Plot size:	_	1		4					
					Is Hydrophytic Vegetation Present?					
					Yes 🗌					
		0	0 Total cover			No 🗸				

SOIL								Sampling Point: DP11				
Profile De	escription: (Describe to	o the dept	h needed to docume	nt the indica	ator or	r conf	irm the a	bsence of indicators)				
Depth	Matrix		Redox	<pre>k Features</pre>								
(inches)	Color (moist)	%	Color (moist)	%	Туре	Loc	Texture	Remarks				
0-3	10YR 4/1	100					Sd Lo	High organic content				
3-10	10YR 6/1	85	10YR 4/1 & 4/4	15	С	м	Lo Sd					
10-18	10YR 4/3	85	10YR 5/4 & 6/3	15	С	М	Lo Sd					
Types: C-co	oncentration, D-depletion	, RM-reduc	ed matrix, CS covered or	coated sand g	rains.			Locations: PL-pore lining, M-matrix				
Hydric So	il Indicators:						Indicato	rs for Problematic Hydric Soils:				
Histos	sol (A1)		Polyvalue below su	rface (S8)(LRF	S, T, U)		1 cm muck (A9)(LRR O)				
Histic	epipedon (A2)		Thin dark surface (S9)(LRR S, T, L)			2 cm muck (A10)(LRR S)				
Black	histic (A3)		Loamy mucky mine	eral (F1)(LRR C)			Reduced vertic (F18)				
Hydro	ogen sulfide (A4)		Loamy gleyed matr	ix (F2)				(outside MLRA 150A, B)				
Strati	fied layers (A5)		Depleted matrix (F	3)				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 L	I)	Depleted dark surfa	ace (F7)				Anomalous bright loamy soils (F20)				
Muck	presence (A8)(LRR U)		Redox depressions	(F8)			(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 (F1	L1)(MLRA 151)			Very shallow dark surface (TF12)				
Thick	dark surface (A12)		Fe-Mn masses (F12	2)(LRR O, P, T)				(LRR T, U)				
Coast	prairie redox (A16)(MLRA	A 150A)	Umbric surface (F1	3)(LRR P, T, U				Other (explain in remarks)				
Sandy	mucky mineral (S1)(LRR	O, S)	Delta ochric (F17)(I	MLRA 151)								
Sandy	gleyed matrix (S4)		Reduced vertic (F18	8)(MLRA 150A	, 150B)		Indicators of hydrophytic vegetation					
Sandy	redox (S5)		Piedmont floodplai	in soils (F19)(N	/ILRA 14	49A)		and wetland hydrology must be				
Stripp	ed matrix (S6)		Anomalous bright I	oamy soils (F2	20)			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?				
	Туре:							Yes				
	Depth (inches):							No				
Remarks:							-					

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region												
Project/Site: Proposed 230kV US	SW Subs	statior	n Site		City/C	ounty: S	Sussex County		Sampling D	ate: 05-04-21		
Applicant/Owner: US Wind						,	, State: Delaware	2	Sampling P			
Investigators: Craig Smith								Section/Township:				
Landform: Plain								Local relief: Flat % Slo		2%		
Subregion:MLRA 153D			Lat: 38.	5852°N	1		Long: -75.2524°W		Datum:	270		
Soil Map Unit Name: Henlopen	loamy s	and (F		5052 1	•		NWI Classification:			ication: LIPI		
Are climatic/hydrologic conditio			Yes V No									
Is vegetation soil or h	Are "Normal	Are "Normal Circumstances" present?										
					isturbed			Are Norman				
Is vegetation soil or hydrology naturally problematic? Yes No SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.												
Hydrophytic vegetation present? Yes No ✓ Hydric soil present? Yes No ✓						Yes						
					-	✓	 No					
Wetland Hydrology present?			Yes		No	Ĺ			NU	Ľ		
Remarks:												
HYDROLOGY												
Wetland Hydrology Indicate	ors:											
Primary indicators (minimum of	one is r	equire	ed; check	k all tha	at apply)			Second	dary indicato	rs (minimum of two re	quired)	
Surface water (A1)			Water-s	stained	leaves ((B9)] Surface soi	l cracks (B6)		
High water table (A2)			Aquatio	: fauna	(B13)] Sparsely ve	getated concave surfac	ce (B8)	
Saturation (A3)			Marl de	eposits	(B15) (L	RR U)] Drainage pa	atterns (B10)		
Water marks (B1)			Hydrog	en sulfi	ide odor	(C1)		Moss trim lines (B16)				
Sediment deposits (B2)			Oxidize	d rhizo	spheres	on livin	g roots (C3)] Dry-season	water table (C2)		
Drift deposits (B3)			Presend	ce of re	duced ir	on (C4)			Crayfish bu	rrows (C8)		
Algal mat or crust (B4)			Recent	iron re	duction	in tilled	soils (C4)] Saturation	visible on aerial photos	s (C9)	
Iron deposits (B5)			Thick m	nuck su	rface (C	7)			Geomorphi	ic position (D2)		
Inundation visible on			Other (explain	in rema	arks)] Shallow aq	uitard (D3)		
aerial photos (B7)] FAC-neutra	ll test (D5)		
Field Observations:												
Surface water present? Ye	es [No	\checkmark	Depth	(inches)			Is Wetland	Hydrology Present	?	
Water table present? Ye	es [No	\checkmark	Depth	(inches))		Yes			
Saturation present? Ye	es [No	1	Depth	(inches))		No	\checkmark		
(includes capillary fringe)												
Describe recorded data (stream	gage, m	nonito	ring well	l, aerial	photos,	, previou	us inspections) if a	vailable:				
Remarks: Forested upland adjac	ent to ri	iverba	nk									

VEGETATION -	Use scientific names	Absolute	Dominant	Indicator	Sampling Point: DP12					
<u>Tree Stratum</u>	Plot size:	% Cover	Species?	Status	Dominance Test Worksheet					
Pinus taeda		35	Y	FAC	Number of OBL,	FACW and FAC	species:	3		
Diospyros virginiana		15	Y	UPL	Total number of	all dominant sp	ecies:	6		
Celtis occidentalis		5	Ν	FACU	% of OBL, FACW	and FAC domin	ant species:	50		
llex opaca		5	Ν	FAC	Prevalence Inc	dex Workshee	et			
Quercus nigra		5	Ν	FAC	Total % cover		Multiplier	B-value		
Quercus falcata		5	Ν	FACU	J OBL species 0 1			. (
					FACW species	0	2	. (
		70	Total Cover	-	FAC species	118	3	354		
Sapling Stratum	Plot size:		•		FACU species	48	4	192		
Diospyros virginiana		20	Y	FAC	UPL species	16	5	80		
Sassafras albidum		10	Y	FACU	Column total	182		626		
Celtis occidentalis		10	Y	FACU	Prevalence Inde	x:		3.44		
Prunus serotina		5	N	FACU	Hydrophytic V	egetation Ind	licators	•		
Acer rubrum		3	N	FAC	\square	Dominance tes				
						Prevalence ind	ex is ≤ 3.0			
						Problematic hy	drophytic veget	ation		
		48	Total Cover	1	Explanantion of problematic vegetation:					
Shrub Stratum	Plot size:				Area is maintained as a power line easement					
					Definitions of					
					Tree - Woody pla	-		prox.		
					20 feet (6 m) or more in height and 3 inches (7.6 cm) or					
					larger in diameter at breast height (DBH).					
					Sapling - Woody			approx.		
					20 feet (6 m) or					
					(7.6 cm) DBH.					
		0	Total Cover		Shrub - Woody p	plants, excluding	woody vines, a	pprox.		
Herb Stratum	Plot size:	0			3 to 20 feet (1 to	-				
Smilax rotundifolia	i lot size.	50	Y	FAC	Herb - All herbad		dv) plants. inclu	ding		
Vaccinium angustifoli	ium	5	N	FACU	herbaceous vine	-		-		
Lonicera japonica		5	N	FACU	plants, except w					
Ambrosia artemisilfol	lia	2	N	FACU	3 feet (1 m) in he			itely		
Cradamine parviflora		1	N	FACU	Woody Vine - Al	8	egardless of hei	ght.		
Oxalis corniculata		1	N	UPL	Remarks: (If obs	erved list morn	hological adapta	ations)		
		-		OIL		erved, list morp		1(10113)		
					4					
<u> </u>					4					
		64	Total cover	ļ	ł					
		04	i otai cover							
Woody Vine Stratum	Plot size:		1		4					
							a matation D			
					Is Hydrophytic Vegetation Present?					
L					Yes					
		0	Total cover			No	\checkmark			

SOIL								Sampling Point: DP12				
Profile De	escription: (Describe to	o the dept	h needed to documen	t the indica	tor or	conf	irm the a	bsence of indicators)				
Depth	Matrix		Redox F	eatures								
(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	pated sand g	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)				
	histic (A3)		Loamy mucky minera					Reduced vertic (F18)				
	ogen sulfide (A4)		Loamy gleyed matrix					(outside MLRA 150A, B)				
	fied layers (A5)		Depleted matrix (F3)					Piedmont floodplain soils (F19)				
	nic bodies (A6)(LRR P, T, U)	Redox dark surface ((LRR P, S, T)				
_	mucky mineral (A7)(LRR L		Depleted dark surfac	,				Anomalous bright loamy soils (F20)				
		,	Redox depressions (F									
	presence (A8)(LRR U) muck (A9) (LRR P, T)		Marl (F10)(LRR U)	-8)				(MLRA 153B) Red parent material (TF2)				
		11)										
	ted below dark surface (A	(11)	Depleted ochric (F11					Very shallow dark surface (TF12)				
	dark surface (A12)	1504	Fe-Mn masses (F12)					(LRR T, U)				
	prairie redox (A16)(MLRA		Umbric surface (F13)					Other (explain in remarks)				
	v mucky mineral (S1)(LRR v v gleyed matrix (S4)	0, 3)	Delta ochric (F17)(M Reduced vertic (F18)		1500)			Indicators of hydrophytic vogatation				
							Indicators of hydrophytic vegetation					
	redox (S5)		Piedmont floodplain			49A)		and wetland hydrology must be				
	ed matrix (S6)		Anomalous bright los		0)			present, unless disturbed or				
	surface (S7)(LRR P, S, T, U)	(MLRA 149A, 153C, 1	153D)				problematic.				
Restrictive	Layer (if observed):							Is Hydric Soil Present?				
	Type:							Yes No 🗸				
Demenden	Depth (inches):						I	No				
Remarks:												

WETI	AND I	DETEI	RMINA		N DAT	A FOR	M - Atlantic	and Gulf C	oastal Plain Region			
Project/Site: Proposed 230kV	' USW Su	bstatio	n Site		City/C	County: S	Sussex County		Sampling Date: 05-04-21			
Applicant/Owner: US Wind							State: Delaware	e	Sampling Point: DP13			
Investigators: Craig Smith							Section/Townsh	iip:				
Landform: Plain							Local relief: Flat		% Slope: 0%			
Subregion:MLRA 153D			Lat: 38	.5846°I	N		Long: -75.2511°	W	Datum:			
Soil Map Unit Name: Manah	awkin mi	uck (Ma	a)				•	NWI Classification: PSS/PFO				
Are climatic/hydrologic condi	tions on	the site	typical	for this	time of	year?			Yes 🗸 No			
Is vegetation Soil C	or hydrolo	ogy 🗌	signific	antly d	isturbed	1?	Are "Normal Circumstances" present?					
Is vegetation 🗌 soil 🗌 or hydrology 🗌 naturally problematic?									Yes 🗸 No			
							sampling point	locations, tr	ansects, important features, etc.			
Hydrophytic vegetation prese			Yes	\checkmark	No				led Area within a Wetland?			
Hydric soil present?	ydric soil present? Yes 🗸				No				Yes 🗸			
Wetland Hydrology present?			Yes		No		1		No 🗌			
Remarks:												
HYDROLOGY												
Wetland Hydrology Indic	ators:											
Primary indicators (minimum	of one is	s requir	ed; chec	k all th	at apply)		Second	ary indicators (minimum of two required)			
Surface water (A1)					d leaves	(B9)			Surface soil cracks (B6)			
✓ High water table (A2)			Aquati	c fauna	(B13)				Sparsely vegetated concave surface (B8)			
Saturation (A3)			Marl d	eposits	(B15) (L	.RR U)		Drainage patterns (B10)				
Water marks (B1)			Hydrog	gen sulf	ide odo	r (C1)	Moss trim lines (B16)					
Sediment deposits (B2)			Oxidize	ed rhizo	spheres	on livin	g roots (C3)		Dry-season water table (C2)			
Drift deposits (B3)			Presen	ce of re	educed i	ron (C4)			Crayfish burrows (C8)			
Algal mat or crust (B4)] Recent	iron re	duction	in tilled	soils (C4)		Saturation visible on aerial photos (C9)			
Iron deposits (B5)] Thick n	nuck su	irface (C	7)		✓	Geomorphic position (D2)			
Inundation visible on] Other ((explair	n in rema	arks)			Shallow aquitard (D3)			
aerial photos (B7)								✓	FAC-neutral test (D5)			
Field Observations:			-					•				
Surface water present?	Yes		No	\checkmark	Depth	n (inches			s Wetland Hydrology Present?			
Water table present?	Yes	\checkmark	No		Depth	n (inches	18		Yes 🗸			
Saturation present?	Yes	\checkmark	No		Depth	n (inches	8		No			
(includes capillary fringe)												
Describe recorded data (strea	am gage,	monito	oring wel	ll, aeria	l photos	, previou	is inspections) if a	vailable:				
Remarks: Area is a narrow lin	ear non-	tidal we	etland fri	inge be	tween t	idal eme	rgent wetlands ar	nd forested upl	ands			

VEGETATION -	Absolute	Dominant	Indicator	Sampling Point: DP13						
<u>Tree Stratum</u>	Plot size:	% Cover	Species?	Status	Dominance Test Worksheet					
Nyssa sylvatica		25	Y	FAC	Number of OBL,	FACW and FAC	species:	8		
Pinus taeda		10	Y	FAC	Total number of	all dominant sp	ecies:	8		
llex opaca		10	Y	FAC	% of OBL, FACW	and FAC domin	ant species:	100		
Quercus lyrata		5	N	OBL	Prevalence Inc	dex Workshee	et			
					Total % cover		Multiplier	B-value		
					OBL species	5	1	. 5		
					FACW species	51	2	102		
		50	Total Cover		FAC species	111	3	333		
Sapling Stratum	Plot size:		•		FACU species	1	4			
Nyssa sylvatica		5	Y	FAC	UPL species	0	5	5 (
					Column total	168		444		
					Prevalence Inde	x:	•	2.64		
					Hydrophytic V	egetation Ind	licators			
					, , , , ,	Dominance tes				
						Prevalence ind	ex is ≤ 3.0			
						Problematic hy	drophytic veget	ation		
		5	Total Cover		Explanantion of problematic vegetation:					
Shrub Stratum	Plot size:				Area is maintained as a power line easement					
Baccharis halimifolia		25	Y	FAC	Definitions of					
llex opaca		10	Ŷ	FAC	Tree - Woody pla	-		prox.		
		10			20 feet (6 m) or more in height and 3 inches (7.6 cm) or					
					larger in diamete	-				
					Sapling - Woody			approx.		
					20 feet (6 m) or					
					(7.6 cm) DBH.					
		35	Total Cover		Shrub - Woody p	plants, excluding	woody vines, a	pprox.		
Herb Stratum	Plot size:				3 to 20 feet (1 to	6 m) in height				
Phragmites australis	1100 3120.	50	Y	FACW	Herb - All herbad		dv) plants, inclu	ding		
Smilax rotundifolia		20	Ŷ	FAC	herbaceous vine	-		-		
Parthenocissus quinq	uefolia	1	N	FACU	plants, except w					
Vaccinium corymbosi		1	N	FACW	3 feet (1 m) in he			itely		
Acer rubrum		1	N	FAC	Woody Vine - Al	-	egardless of hei	ght.		
		-		TAC	Remarks: (If obs					
					Remarks: (II Obs	erved, list morp	noiogicai adapta	itions)		
					-					
					4					
				ļ	4					
			T . 1 . 1		4					
		73	Total cover							
Woody Vine Stratum	Plot size:	_			4					
Smilax rotundifolia		5	Y	FAC						
					ls H	lydrophytic V		sent?		
		_			ł	Yes				
	5	Total cover			No					

SOIL								Sampling Point: DP13			
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	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 c	oated sand g	rains.			Locations: PL-pore lining, M-matrix			
Hydric So	il Indicators:						Indicato	rs for Problematic Hydric Soils:			
Histos	sol (A1)		Polyvalue below sur	face (S8)(LRR	S, T, U)		1 cm muck (A9)(LRR O)			
Histic	epipedon (A2)		✓ Thin dark surface (S	9)(LRR S, T, U)			2 cm muck (A10)(LRR S)			
Black	histic (A3)		Loamy mucky miner	al (F1)(LRR O)			Reduced vertic (F18)			
🗌 Hydro	ogen sulfide (A4)		Loamy gleyed matrix	k (F2)				(outside MLRA 150A, B)			
Stratif	fied layers (A5)		✓ Depleted matrix (F3)				Piedmont floodplain soils (F19)			
🗌 Organ	iic 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 (F8)				(MLRA 153B)			
	muck (A9) (LRR P, T)		Marl (F10)(LRR U)					Red parent material (TF2)			
	ted below dark surface (A	11)	Depleted ochric (F11	L)(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)(N	ILRA 151)							
Sandy	gleyed matrix (S4)		Reduced vertic (F18)	(MLRA 150A	, 150B)		Indicators of hydrophytic vegetation				
Sandy	redox (S5)		Piedmont floodplain	soils (F19)(N	1LRA 14	49A)		and wetland hydrology must be			
Stripp	ed matrix (S6)		Anomalous bright lo	amy soils (F2	0)			present, unless disturbed or			
	surface (S7)(LRR P, S, T, U))	(MLRA 149A, 153C,	153D)				problematic.			
Restrictive	Layer (if observed):							Is Hydric Soil Present?			
	Туре:							Yes 🗸			
	Depth (inches):							No 🗌			
Remarks:											

WETL	AND D	ETER	RMINA		N DAT	A FOR	M - Atlantic	and Gulf C	Coastal Pla	ain Region		
Project/Site: Proposed 230kV	USW Sub	ostatio	n Site		City/C	ounty: S	Sussex County		Sampling Da	te: 05-04-21		
Applicant/Owner: US Wind							State: Delaware	2	Sampling Po			
Investigators: Craig Smith							Section/Township:					
Landform: Plain							Local relief: Flat	-	% Slope: 2-3	%		
Subregion:MLRA 153D			Lat: 38.	5850°N	1		Long: -75.2511°		Datum:	,,,		
Soil Map Unit Name: Henlop	en loamv	sand (.5656 1	•		NWI Classification:			cation: LIPI		
Are climatic/hydrologic condi				for this	time of	vear?						
		signific			Are "Normal							
	r hydrolo		5	,				Are Norman				
Is vegetation soil or hydrology naturally problematic? Yes No SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.												
Hydrophytic vegetation prese		NUS	Yes		No					thin a Wetland?		
	int:		1		No	 ✓ 	-	is the samp	Yes			
Hydric soil present?			Yes			~	-					
Wetland Hydrology present?			Yes		No	Ľ			No	~		
Remarks: HYDROLOGY												
Wetland Hydrology Indic								_				
Primary indicators (minimum	of one is	requir	1					Second	1	s (minimum of two required)		
Surface water (A1)					leaves (B9)			Surface soil o			
High water table (A2)			Aquatio							etated concave surface (B8)		
Saturation (A3)				-	(B15) (LI	-			Drainage pat			
Water marks (B1)					ide odor	• •			Moss trim lir	. ,		
Sediment deposits (B2)							g roots (C3)	Dry-season water table (C2)				
Drift deposits (B3)			Presend	ce of re	duced ir	on (C4)			Crayfish buri	rows (C8)		
Algal mat or crust (B4)			Recent	iron re	duction	in tilled	soils (C4)		Saturation vi	isible on aerial photos (C9)		
Iron deposits (B5)			Thick m	nuck su	rface (C7	7)] Geomorphic	position (D2)		
Inundation visible on			Other (explain	in rema	rks)		Shallow aquitard (D3)				
aerial photos (B7)									FAC-neutral	test (D5)		
Field Observations:												
Surface water present?	Yes		No	\checkmark	Depth	(inches)		I	s Wetland H	Hydrology Present?		
Water table present?	Yes		No	\checkmark	Depth	(inches)			Yes			
Saturation present?	Yes		No	\checkmark	Depth	(inches)			No	✓		
(includes capillary fringe)												
Describe recorded data (stream gage, monitoring well, aerial photos, previous inspections) if available: Remarks: Forested upland adjacent to emergent tidal wetland												

VEGETATION -	Use scientific names	Absolute	Dominant	Indicator			Samplin	g Point: DP14		
<u>Tree Stratum</u>	Plot size:	% Cover	Species?	Status	Dominance Te	st Worksheet		1		
Pinus taeda		20	Y	FAC	Number of OBL,	FACW and FAC	species:	4		
Quercus falcata		20	Y	FACU	Total number of	6				
Quercus nigra		10	N	FAC	% of OBL, FACW	67				
Acer rubrum		10	Ν	FAC	Prevalence Inc	lex Workshee	et			
Sassafras albidum		5	Ν	FACU	Total % cover	-	Multiplier	B-value		
					OBL species	0	1	. (
					FACW species	0	2	. (
		65	Total Cover		FAC species	100	3	300		
Sapling Stratum	Plot size:		•		FACU species	41	4	164		
Acer rubrum	•	25	Y	FAC	UPL species	0	5	. (
Nyssa sylvatica		5	N	FAC	Column total	141		464		
					Prevalence Inde	x:	•	3.29		
					Hydrophytic V	egetation Ind	licators	•		
					\square	Dominance tes				
						Prevalence ind				
						Problematic hv	drophytic veget	ation		
		30	Total Cover		Explanantion of					
Shrub Stratum	Plot size:				Area is maintained as a power line easement					
Ilex opaca		5	Y	FAC	Definitions of					
πεχ οράζα		5	I	TAC		-		nrox		
					Tree - Woody plants, excluding woody vir 20 feet (6 m) or more in height and 3 incl					
					larger in diamete Sapling - Woody	annroy				
					20 feet (6 m) or (7.6 cm) DBH.	more in neight a	and less than 3 i	nches		
					(7.6 cm) DBH. Shrub - Woody p	lants excluding	woodyvinesa	nnroy		
h		5	Total Cover			-	, woody villes, a	ρρισχ.		
<u>Herb Stratum</u>	Plot size:				3 to 20 feet (1 to					
Smilax rotundifolia		25	Y	FAC	Herb - All herbad			-		
Vaccinium angustifo	lium	15	Y	FACU	herbaceous vines, regardless of size. Includes woody					
Sassafras albidum		1	N	FACU	plants, except w		than approxima	itely		
					3 feet (1 m) in he	0				
					Woody Vine - Al	l woody vines, r	egardless of hei	ght.		
					Remarks: (If obse	erved, list morp	hological adapta	ations)		
		41	Total cover]					
Woody Vine Stratum	Plot size:									
	- 1				1					
					Is Hydrophytic Vegetation Present?					
				Yes						
1		_			No 🗸					

SOIL								Sampling Point: DP14				
Profile De	escription: (Describe to	o the dept	h 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				
0-3	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-cc	oncentration, D-depletion,	, RM-reduce	ed matrix, CS covered or c	oated sand g	rains.	•		Locations: PL-pore lining, M-matrix				
Hydric So	il Indicators:						Indicato	rs for Problematic Hydric Soils:				
Histos	sol (A1)		Polyvalue below sur	face (S8)(LRR	S, T, U)		1 cm muck (A9)(LRR O)				
Histic	epipedon (A2)		Thin dark surface (S	9)(LRR S, T, U)			2 cm muck (A10)(LRR S)				
	histic (A3)		Loamy mucky miner					Reduced vertic (F18)				
Hydro	ogen sulfide (A4)		Loamy gleyed matrix					(outside MLRA 150A, B)				
	fied layers (A5)		Depleted matrix (F3)					Piedmont floodplain soils (F19)				
	nic bodies (A6)(LRR P, T, U)	Redox dark surface ((LRR P, S, T)				
	mucky mineral (A7)(LRR U		Depleted dark surface					Anomalous bright loamy soils (F20)				
	presence (A8)(LRR U)	,	Redox depressions ((MLRA 153B)					
	muck (A9) (LRR P, T)		Marl (F10)(LRR U)	-,				Red parent material (TF2)				
	ted below dark surface (A	11)	Depleted ochric (F11	L)(MLRA 151)				Very shallow dark surface (TF12)				
	dark surface (A12)		Fe-Mn masses (F12)					(LRR T, U)				
	prairie redox (A16)(MLRA	A 150A)	Umbric surface (F13				Other (explain in remarks)					
	mucky mineral (S1)(LRR (-	Delta ochric (F17)(M									
	gleyed matrix (S4)		Reduced vertic (F18)	-	. 150B)		Indicators of hydrophytic vegetation					
	redox (S5)		Piedmont floodplain				and wetland hydrology must be					
	ed matrix (S6)		Anomalous bright lo			,	present, unless disturbed or					
	surface (S7)(LRR P, S, T, U))	(MLRA 149A, 153C,		-,		problematic.					
	Layer (if observed):	,	, , ,	,			Is Hydric Soil Present?					
	Туре:							Yes				
	Depth (inches):							No 🗸				
Remarks:							<u>.</u>					

WETI	AND D	ETER	RMINA		N DAT	A FOR	M - Atlantic	and Gulf C	Coastal Pla	ain Region		
Project/Site: Proposed 230kV	USW Sub	ostatio	n Site		City/C	ounty: S	Sussex County		Sampling Da	te: 05-04-21		
Applicant/Owner: US Wind							State: Delaware	5	Sampling Po			
Investigators: Craig Smith							Section/Township:					
Landform: Plain							Local relief: Flat	-	% Slope: 2-3	(Slana: 2, 2%		
Subregion:MLRA 153D			Lat: 38.	5846°N	1		Long: -75.2458°		Datum:	70		
Soil Map Unit Name: Henlop	en loamv	sand (50101	•		NWI Classification: UF			ration: LIPI		
Are climatic/hydrologic condi				for this	time of	vear?						
		signific			Are "Normal							
	r hydrolo		5	,								
Is vegetation soil or hydrology naturally problematic? Yes No SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.												
Hydrophytic vegetation prese		NUS	Yes		No					thin a Wetland?		
	int:		1		No	 ✓ 	-	is the samp	Yes			
Hydric soil present?			Yes			~	_					
Wetland Hydrology present?			Yes		No	Ľ			No	v		
Remarks: HYDROLOGY												
	ators											
Wetland Hydrology Indic				الم ال م				Connect		· /		
Primary indicators (minimum	of one is	requir	1					Second		s (minimum of two required)	
Surface water (A1)					leaves (B9)			Surface soil o			
High water table (A2)			Aquatic							etated concave surface (B8)		
Saturation (A3)				-	(B15) (LI	-			Drainage pat			
Water marks (B1)					ide odor	• •		Moss trim lines (B16)				
Sediment deposits (B2)							g roots (C3)	Dry-season water table (C2)				
Drift deposits (B3)			Present	ce of re	duced ir	on (C4)			Crayfish buri	rows (C8)		
Algal mat or crust (B4)			Recent	iron re	duction	in tilled	soils (C4)		Saturation v	isible on aerial photos (C9)		
Iron deposits (B5)			Thick m	nuck su	rface (C7	7)			Geomorphic	position (D2)		
Inundation visible on			Other (explain	in rema	rks)			Shallow aqui	itard (D3)		
aerial photos (B7)									FAC-neutral	test (D5)		
Field Observations:												
Surface water present?	Yes		No	\checkmark	Depth	(inches)		1	s Wetland H	Hydrology Present?		
Water table present?	Yes		No	\checkmark	Depth	(inches)			Yes			
Saturation present?	Yes		No	\checkmark	Depth	(inches)			No	\checkmark		
(includes capillary fringe)												
Describe recorded data (stream gage, monitoring well, aerial photos, previous inspections) if available: Remarks: Forested upland adjacent to emergent tidal wetland												

VEGETATION - U	Jse scientific names	Absolute	Dominant	Indicator	Sampling Point: DP15						
<u>Tree Stratum</u>	Plot size:	% Cover	Species?	Status	Dominance Te	est Worksheet	:	1			
Quercus velutina		30	Y	UPL	Number of OBL,	FACW and FAC	species:	2			
Pinus taeda		15	Y	FAC	Total number of	all dominant sp	ecies:	5			
Quercus coccinea		10	Ν	UPL	% of OBL, FACW	40					
Quercus alba		10	Ν	FACU	Prevalence Inc	dex Workshee	t				
					Total % cover		Multiplier	B-value			
					OBL species	0	1	. (
					FACW species	0	2	. (
		65	Total Cover		FAC species 45 3			135			
Sapling Stratum	Plot size:				FACU species	105	4	420			
Sassafras albidum		15	Y	FACU	UPL species	60	5	300			
Carya tomentosa		10	N	UPL	Column total	210		855			
Pinus taeda		10	N	FAC	Prevalence Inde	x:		4.07			
Diospyros virginiana		10	N	FAC	Hydrophytic V	egetation Ind	licators				
Pinus virginiana		10	N	UPL		Dominance tes					
Carya cordiformis		5	N	FAC		Prevalence ind					
Quercus alba		5	N	FACU		Problematic hy	drophytic veget	ation			
		65	Total Cover	1	Explanantion of problematic vegetation:						
<u>Shrub Stratum</u>	Plot size:				Area is maintained as a power line easement						
Ilex opaca		5	Y	FAC	Definitions of						
nex opaca			•	ine	Tree - Woody pla		prox.				
					20 feet (6 m) or more in height and 3 inches (7.6						
					larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approx.						
					20 feet (6 m) or						
					(7.6 cm) DBH.						
		5	Total Cover		Shrub - Woody p	plants, excluding	woodv vines, a	pprox.			
Liesh Christian	Plot size:	5				-	,,,.	rr -			
<u>Herb Stratum</u> Vaccinium angustifolio		75	Y	FACU	3 to 20 feet (1 to Herb - All herbad		dv) plants inclu	dina			
	um	75	ř	FACU		-		-			
					herbaceous vine						
					plants, except w		than approxima	itely			
					3 feet (1 m) in he Woody Vine - Al	-	egardless of hei	ght			
					-	-	-	_			
					Remarks: (If obs	erved, list morp	hological adapta	itions)			
					-						
		_			4						
		75	Total cover								
Woody Vine Stratum	Plot size:				4						
					Is Hydrophytic Vegetation Present?						
						Yes					
		0	Total cover		No 🗸						

SOIL	Soil Sampling Point: DP1												
Profile De	escription: (Describe to	the dept	h 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 3/2	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										
12-18	10YR 5/4	85	10YR 6/6 & 5/1	15	С	М	Lo Sd						
Types: C-cc	oncentration, D-depletion	, RM-reduce	d matrix, CS covered or co	pated 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	ic bodies (A6)(LRR P, T, U)	Redox dark surface (F6)				(LRR P, S, T)					
🗌 5 cm i	mucky mineral (A7)(LRR U)	Depleted dark surfac	e (F7)			Anomalous bright loamy soils (F20)						
Muck	presence (A8)(LRR U)		Redox depressions (F	-8)			(MLRA 153B)						
🗌 1 cm i	muck (A9) (LRR P, T)		Marl (F10)(LRR U)					Red parent material (TF2)					
	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	150A)	Umbric surface (F13)	(LRR P, T, U)				Other (explain in remarks)					
Sandy	mucky mineral (S1)(LRR	D, 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	LRA 14	49A)	and wetland hydrology must be						
Stripp	ed matrix (S6)		Anomalous bright loa	amy soils (F2	D)		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?						
	Туре:							Yes					
	Depth (inches):							No 🗸					
Remarks:													

WETL	AND D	ETE	RMINA		N DAT	A FOR	M - Atlantic	and Gulf C	Coastal Pla	ain Region		
Project/Site: Proposed 230kV	USW Sub	ostatio	n Site		City/C	ounty: S	Sussex County		Sampling Da	te: 05-04-21		
Applicant/Owner: US Wind							State: Delaware	2	Sampling Po			
Investigators: Craig Smith							Section/Township:					
Landform: Plain							Local relief: Flat	-	% Slope: 2-5	%		
Subregion:MLRA 153D			Lat: 38.	5843°N	1		Long: -75.2446°		Datum:	,,,		
Soil Map Unit Name: Henlop	en loamv	sand (.50151	•		NWI Classificatio			cation: LIPI		
Are climatic/hydrologic condi				for this	time of	vear?						
		signific			Are "Normal							
	r hydrolo		5	,				Are Norman				
Is vegetation soil or hydrology naturally problematic? Yes No SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.												
Hydrophytic vegetation prese		NUS	Yes		No					thin a Wetland?		
	int:		1		No	 ✓ 	-	is the samp	Yes			
Hydric soil present?			Yes			~	-					
Wetland Hydrology present?			Yes		No	Ľ			No	✓		
Remarks: HYDROLOGY												
Wetland Hydrology Indica				الم ال الم				Comme		· /		
Primary indicators (minimum	of one is	requir	1					Second	1	s (minimum of two required)		
Surface water (A1)					leaves (B9)			Surface soil o	. ,		
High water table (A2)			Aquatic							etated concave surface (B8)		
Saturation (A3)				-	(B15) (LI	-			Drainage pat			
Water marks (B1)					ide odor	• •		Moss trim lines (B16)				
Sediment deposits (B2)							g roots (C3)	Dry-season water table (C2)				
Drift deposits (B3)			Present	ce of re	duced ir	on (C4)			Crayfish buri	rows (C8)		
Algal mat or crust (B4)			Recent	iron re	duction	in tilled	soils (C4)		Saturation vi	isible on aerial photos (C9)		
Iron deposits (B5)			Thick m	nuck su	rface (C7	7)			Geomorphic	position (D2)		
Inundation visible on			Other (explain	in rema	rks)			Shallow aqui	itard (D3)		
aerial photos (B7)									FAC-neutral	test (D5)		
Field Observations:												
Surface water present?	Yes		No	\checkmark	Depth	(inches)			s Wetland H	Hydrology Present?		
Water table present?	Yes		No	\checkmark	Depth	(inches)			Yes			
Saturation present?	Yes		No	\checkmark	Depth	(inches)			No	\checkmark		
(includes capillary fringe)												
Describe recorded data (strea	007		0			previou	is inspections) if a	vailable:				

VEGETATION - U	Jse scientific names	Absolute	Dominant	Indicator	tor Sampling Point: D					
Tree Stratum	Plot size:	% Cover	Species?	Status	Dominance Te	est Worksheet	:			
Pinus taeda		20	Y	FAC	Number of OBL,	FACW and FAC	species:	1		
Carya tomentosa		15	Y	UPL	Total number of	all dominant sp	ecies:	6		
Quercus alba		10	Ν	FACU	% of OBL, FACW	and FAC domir	ant species:	17		
Pinus virginiana		10	Ν	UPL	Prevalence Inc	dex Workshee	et			
Sassafras albidum		5	Ν	FACU	Total % cover		Multiplier	B-value		
Quercus falcata	5	Ν	FACU	OBL species	0	1	. C			
					FACW species	0	2	2 C		
		65	Total Cover		FAC species	29	3	8 87		
Sapling Stratum	Plot size:				FACU species	91	4	364		
Carya tomentosa	•	35	Y	UPL	UPL species	63	5	315		
Cornus florida		15	Y	FACU	Column total	183		766		
Sassafras albidum		10	N	FACU	Prevalence Inde	x:		4.19		
Acer rubrum		5	N	FAC	Hydrophytic V	egetation Ind	licators			
Diospyros virginiana		3	N	FAC		Dominance tes				
Pinus taeda		3	N	UPL		Prevalence ind	ex is ≤ 3.0			
						Problematic hy	drophytic veget	ation		
		71	Total Cover	1	Explanantion of	-				
Shrub Stratum	Plot size:				Area is maintained as a power line easement					
Hammamelis virginiai		20	Y	FACU						
				17100	Definitions of vegetation strata: Tree - Woody plants, excluding woody vines, approx.					
					20 feet (6 m) or	_				
					larger in diameter at breast height (DBH).					
					Sapling - Woody plants, excluding woody vines, ap					
					20 feet (6 m) or					
					(7.6 cm) DBH.					
<u> </u>		20	Total Cover		Shrub - Woody p	plants, excluding	g woody vines, a	pprox.		
Herb Stratum	Plot size:				3 to 20 feet (1 to	6 m) in height				
Vaccinium angustifoli		25	Y	FACU	Herb - All herbad		dy) plants, inclu	ding		
Acer rubrum		1	N	FAC		-		-		
Hammamelis virginiai	าต	1	N	FACU	herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately					
					3 feet (1 m) in he					
					Woody Vine - Al	-	egardless of hei	ght.		
					Remarks: (If obs	erved list morn	hological adapt:	ations)		
					nemarks. (n obs	cived, list morp				
					1					
					1					
		27	Total cover		1					
Woody Vize Chest		27	i otal cover							
Woody Vine Stratum	Plot size:				4					
		_				و د الدر با مرموان ا	antation D			
	_			Is Hydrophytic Vegetation Present?						
					Yes					
		0	Total cover			No	\checkmark			

SOIL								Sampling Point: DP15				
Profile De	escription: (Describe t	o the dept	h needed to docume	ent the indica	tor or	conf	irm the a	bsence of indicators)				
Depth	Matrix		Redo	x Features								
(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									
4-12	10YR 6/4	85	10YR 6/2 & 6/6 15 C M Lo Sd									
12-18	10YR 6/4	90	10YR 6/3	10	С	М	Lo Sd					
Types: C-cc	Differentiation, D-depletion	, RM-reduce	ed matrix, CS covered or	^r coated sand g	rains.			Locations: PL-pore lining, M-matrix				
	il Indicators:		-				Indicato	rs for Problematic Hydric Soils:				
	sol (A1)		Polyvalue below su	urface (S8)(LRR	S, T, U)		1 cm muck (A9)(LRR O)				
Histic	epipedon (A2)		Thin dark surface ((S9)(I RR S. T. U)	-		2 cm muck (A10)(LRR S)				
	histic (A3)		Loamy mucky min					Reduced vertic (F18)				
	ogen sulfide (A4)		Loamy gleyed mat		,			(outside MLRA 150A, B)				
	fied layers (A5)		Depleted matrix (F					Piedmont floodplain soils (F19)				
	nic bodies (A6)(LRR P, T, U	1)	Redox dark surface					(LRR P, S, T)				
	mucky mineral (A7)(LRR L		Depleted dark surf	. ,			(LRR P, S, T)					
		,										
	presence (A8)(LRR U)		Redox depressions	5 (F8)				(MLRA 153B)				
	muck (A9) (LRR P, T)	(11)	Marl (F10)(LRR U)	11)(14) 04 161)				Red parent material (TF2) Very shallow dark surface (TF12)				
	ted below dark surface (A	411)	Depleted ochric (F				(LRR T, U)					
	dark surface (A12)	A 150A)	Fe-Mn masses (F1									
	prairie redox (A16)(MLR/		Umbric surface (F1					Other (explain in remarks)				
	<pre>/ mucky mineral (S1)(LRR / gleyed matrix (S4)</pre>	0, 3)	Delta ochric (F17)(1500)			Indicators of hydrophytic vegetation				
	redox (S5)		Piedmont floodpla			49A)	and wetland hydrology must be					
	bed matrix (S6)		Anomalous bright		0)		present, unless disturbed or					
	surface (S7)(LRR P, S, T, U)	(MLRA 149A, 1530	., 153D)				problematic.				
Restrictive	Layer (if observed):							Is Hydric Soil Present?				
	Type:							Yes				
Deres der	Depth (inches):							No 🗸				
Remarks:												

WETLAND PLAN