



amec
foster
wheeler

September 7, 2016

Ms. Courtney M. Stevens
Watershed Manager
U.S. Army Corps of Engineers
Charleston District
69A Hagood Ave.
Charleston, SC 29403

**Subject: Request for Jurisdictional Determination
Volvo Interchange Properties
Berkeley and Dorchester Counties, South Carolina
Amec Foster Wheeler Project No. 6250-15-0096**

Dear Ms. Stevens:

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler), on behalf of our client Berkeley County, respectfully requests a jurisdictional determination by the U.S. Army Corps of Engineers (USACE) Charleston District of the Waters of the U.S./Wetlands located on the Volvo Interchange Properties (Figure 1).

The properties, located near the intersection of interstate I-26 and SC Highway 27 in Berkeley and Dorchester Counties, South Carolina, consist of 118.95 acres of loblolly pine plantation, undeveloped mixed pine/hardwood forest, and SCDOT right of way associated with I-26. Berkeley County is proposing a new interstate interchange in order to provide future access to the Volvo manufacturing facility, which is currently being developed on the nearby Camp Hall Tract.

METHODOLOGY

Jurisdictional waters of the U.S., including wetlands, are defined by 33 CFR Part 328.3(b) and are protected by Section 404 of the CWA (33 United States Code [USC] 1344), which is administered and enforced in South Carolina by the USACE (United States Army Corps of Engineers), Charleston District. The landward limits of waters of the U.S. regulatory jurisdiction at the Volvo Interchange Properties were delineated by Amec Foster Wheeler. Amec Foster Wheeler personnel conducted a wetland/waters of the US delineation on November 12 and 24, 2015 and April 26 and 27, 2016.

Wetlands are defined by the presence of three criteria: hydrophytic vegetation, hydric soils, and evidence of wetland hydrology. Jurisdictional areas were delineated using the three parameter approach in accordance with the *Corps of Engineers Wetland Delineation Manual*¹ and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain (Version 2.0)*². Jurisdictional areas

¹ USACE. 1987. *Corps of Engineers Wetlands Delineation Manual*. Environmental Laboratory, Vicksburg, MS.

² USACE. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)*. Environmental Laboratory, Vicksburg, MS.

were delineated with sequentially numbered flagging tape and mapped using a Trimble Geo7X sub-meter GPS Unit. Paired upland and wetland *Atlantic and Gulf Coastal Plain Region Wetland Determination Data Forms (Version 2.0)* were completed at several locations (Figure 7) along the jurisdictional boundary to illustrate the distinction between wetland and upland.

RESULTS

Jurisdictional Waters of the U.S./Wetlands

Amec Foster Wheeler personnel identified 62.54 acres of wetlands within the Volvo Interchange Properties. Figure 6 shows the approximate location of the wetlands as determined by Amec Foster Wheeler. Table 1 lists each waters of the US/wetland features located within the project site and their corresponding size.

Table 1 - Waters of the U.S./Wetlands Identified at Property

Label	Feature Type	Acreage/Linear Feet
Wetland A	Palustrine Forested Wetland	0.31 ac
Wetland B	Palustrine Forested Wetland	53.00 ac
Wetland C	Palustrine Forested Wetland	0.63 ac
Wetland D	Palustrine Forested Wetland	0.42 ac
Wetland E	Palustrine Forested Wetland	0.14 ac
Wetland F	Palustrine Forested Wetland	3.83 ac
Wetland G	Palustrine Forested Wetland	3.76 ac
Jurisdictional pRPW	Jurisdictional Ditch A	0.24 ac / 869.86 LF
Jurisdictional pRPW	Jursidictional Ditch B	0.21 ac / 881.86 LF
Total Wetlands		62.54 ac / 1,751.72 LF
Total Uplands		56.41 ac
Total Acreage		118.95

Wetland Descriptions

Wetland B is classified as palustrine forested wetlands consisting of unthinned loblolly pine plantation stands of varying ages and undeveloped mixed pine/hardwood forest. Younger stands of pine plantation are dominated by loblolly pine (*Pinus taeda*) and hardwood species in the sapling stage including sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), diamond-leaf oak (*Quercus laurifolia*), water oak (*Quercus nigra*),

and willow oak (*Quercus phellos*). The shrub layer is well developed and includes, sweetbay (*Magnolia virginiana*), wax myrtle (*Morella cerifera*), blackberry (*Rubus spp.*), fetterbush (*Lyonia lucida*), common sweetleaf (*Symplocos tinctoria*), sweet pepperbush (*Clethra alnifolia*), inkberry (*Ilex glabra*), redbay (*Persea borbonia*), and highbush blueberry (*Vaccinium corymbosum*). The herbaceous stratum is generally sparse, and contains bracken fern (*Pteridium aquilinum*), cinnamon fern (*Osmundastrum cinnamomeum*), royal fern (*Osmunda regalis*), giant cane (*Arundinaria gigantea*), and slender woodoats (*Chasmanthium laxum*).

Older stands of pine plantation have an overstory composed of loblolly pine. The understory is dominated by hardwood saplings, including water oak, red maple, sweet gum, willow oak, black gum (*Nyssa sylvatica*), and black cherry (*Prunus serotina*). The shrub layer is abundant and composed of wax myrtle, ink berry, American holly (*Ilex opaca*), sweet pepperbush, fetterbush, and blueberry (*Vaccinium sp.*). The herbaceous stratum contains cinnamon fern, royal fern, giant cane, and slender woodoats.

The remaining wetlands (Wetland A and Wetlands C – G) are palustrine forested wetlands consisting of mixed pine/hardwood forest. The overstory consists of loblolly pine and hardwood species including sweetgum, red maple, water oak, diamond-leaf oak, willow oak, and black gum. The understory is dominated by hardwood saplings, including water oak, red maple, sweet gum, black gum, and black cherry. The shrub layer includes sweet pepperbush, inkberry, redbay, and wax myrtle, highbush blueberry, fetterbush, and sweetbay. Dense stands of fetterbush and sweet pepperbush were observed within Wetlands A and D. The herbaceous stratum is generally sparse and includes various sedges (*Carex sp.*) and velvet panicum (*Dichanthelium scoparium*). Vine species included yellow jasmine (*Gelsemium sempervirens*), muscadine (*Vitis rotundifolia*), and roundleaf greenbrier (*Smilax rotundifolia*).

Jurisdictional Ditches A and B are part of a system of ditches that has been installed on and around the adjacent Camp Hall site to facilitate active timber management of the properties. The ditches are classified as jurisdictional relatively permanent waters, which convey water from wetlands to the downstream receiving waters of Timothy Creek and its tributaries to the west. The flow regime within these ditches exhibits no evidence of riffles, runs, or shallow pools. The substrate consists of sand, silt, and clay. The banks are steep from historic channelization, are partially vegetated, and appear to be unstable throughout. Sinuosity is absent as these are constructed ditches. Sedimentation within the RPWs is high due to runoff from the adjacent roads.

Connection to Waters of the US

Wetlands within the Volvo Interchange Properties are adjacent to jurisdictional ditches and unnamed tributaries of Timothy Creek, which flow directly to Four Hole Swamp, a traditionally navigable water.

SUMMARY

Amec Foster Wheeler has conducted a wetland delineation of the Volvo Interchange Properties. Wetlands were determined by interpretation of readily available remote sensing data and on-site investigation by Amec Foster Wheeler personnel and digitized into GIS. These wetlands are represented within the attached Jurisdictional determination package.

The wetlands as described in this report and presented within the attached Jurisdictional Determination Request packages were determined with all due and reasonable care. These wetland boundaries are subject to change following verification by the USACE, Charleston District.

CLOSING

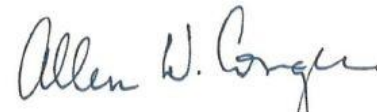
If you have any questions concerning this document, please contact Mr. Brendon Kelly at (803) 798-1200.

Sincerely,

AMEC FOSTER WHEELER ENVIRONMENT & INFRASTRUTURE, INC.



Brendon P. Kelly
Staff Environmental Scientist



Allen W. Conger, PWS
Senior Principal Scientist

Attachments: Jurisdictional Determination Request Form
Photograph Appendix
Wetland Determination Data Forms (Atlantic and Gulf Coastal Plain – Version 2.0)
Figures
Figure 1- Site Location Map
Figure 2 – USGS Topographic Map
Figure 3– Soils Map
Figure 4 – National Wetlands Inventory Map
Figure 5 – Aerial Map
Figure 6 – Aquatic Resources Map
Figure 7 – Photograph and Data Point Location Map
Figure 8 – Connection to Navigable Waters Map

U.S. Army Corps of Engineers – Charleston District - Regulatory Division
JURISDICTIONAL DETERMINATION REQUEST

For Identifying Waters of the U.S., Including Wetlands and Tributaries, and Jurisdictional Status

This form is intended for use by anyone requesting a jurisdictional determination from the U.S Army Corps of Engineers, Charleston District (Corps). Please supply the following information and supporting documents described below. This document can be completed electronically and then printed. **This document must be signed by the current property owner(s) to be considered a formal request.** We require original signatures; faxes and emails with scanned copies are not acceptable. Per the required property owner's signature below, please be advised that submitting this request authorizes the Corps to conduct on-site investigations, if necessary, to inform the jurisdictional determination process. Please contact us if you need any assistance with filling out this form, as well as for jurisdictional determination requests associated with corridor projects involving multiple property owners. You may attach extra pages/authorizations if needed. The printed form and supporting documents should be mailed to the appropriate office (refer to the enclosed service area map):

Charleston Office: US Army Corps of Engineers Regulatory Division 69A Hagood Avenue Charleston, SC 29403 (ph) 843-329-8044	Columbia Office: US Army Corps of Engineers Regulatory Office 1835 Assembly Street, Room 865 B-1 Columbia, SC 29201 (ph) 803-253-3444	Conway Office: US Army Corps of Engineers Regulatory Office 1949 Industrial Park Road, Room 140 Conway, SC 29526 (ph) 843-365-4239
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Directions: Sections I-V must be completed upon submittal. Failure to do so may result in additional delays.

I. PROPERTY AND AGENT INFORMATION

A. Project Details/Location:

Project Name: _____ Date: _____
County: _____ Latitude/Longitude: _____
Tax Map Sequence (TMS) #(s): _____
Property Address(es): _____
Acreage(s): _____

B. Property Owner(s): (if there are multiple property owners, please attach additional pages)

Name: _____
(*Current Legal Property Owner Name and Contact Information are required.)
Company Name (if applicable): _____
Address: _____
Phone: _____ Email: _____

C. Requestor Of Jurisdictional Determination (check here ☐ if same as Property Owner):

Name: _____
Company Name (if applicable): _____
Address: _____
Phone: _____ Email: _____

Select one:

- ☐ I am the current property owner
☐ I am an interested buyer or am under contract to purchase the property
☐ Other, please explain.

D. Consultant/Agent (if applicable):

Consultant/Agent Name: _____
Company Name (if applicable): _____
Address: _____
Phone: _____ Email: _____

II. PROPERTY ACCESS AUTHORIZATION

I, the undersigned, a duly authorized owner of record of the below parcel number(s), do hereby authorize representatives of the U.S. Army Corps of Engineers, Charleston District, to enter upon the below parcel number(s) for the purposes of conducting on-site investigations (e.g., digging and refilling shallow holes) and issuing a jurisdictional determination associated with Waters of the U.S. subject to Federal Jurisdiction under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899.

I acknowledge that under South Carolina common law, a person who authorizes, advises, encourages, procures, or incites another to commit a trespass, is liable along with the actual perpetrator.

I further acknowledge that 18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

Mailing Address of Property Owner

Property Address

TMS #(s)

Property Owner Name (please print)

Signature of Property Owner:

Date:

III. AGENT/CONSULTANT AUTHORIZATION ☐ Not applicable

I, the undersigned, do authorize the agent/consultant listed above (on page 1) to act in my behalf in the processing of this request and to furnish supplemental information in support of this request.

I acknowledge that 18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

Property Owner Name (or Requestor Name) (please print)

Signature of Property Owner (or Requestor): **Date:**

The Consultant/Agent is acting on behalf of the *(check all that apply)*:

☐ Property Owner

☐ Requestor

☐ Other, please explain: _____

IV. Type of Submittal (Select one)

A. I am an environmental/wetland consultant representing a JD requestor who is submitting a wetland delineation for review and verification by the Corps. Please refer to pages **4-8** for the "Information Required for Wetland Delineations and Jurisdictional Determination Submittals."

B. I am a JD requestor without an environmental/wetland consultant requesting that the Corps investigate the above property for the presence or absence of wetlands, tributaries, or other Waters of the U.S., and establish the geographic extent of these areas. *Please note that while the Corps offers wetland delineation services, time frames to fulfill requests are dependent on site size, property conditions, workload priorities, and staffing levels. To expedite the wetland delineation process, property owners and/or requestors are encouraged to hire an environmental consultant. A courtesy list of environmental consultants can be found on our website at www.sac.usace.army.mil/Missions/Regulatory/PermittingProcess.aspx.*

For requestors with no environmental/wetland consultant for box IV. B. above, the first three items listed below MUST accompany your request. Complete only this page and disregard the following pages.

1. Accurate location maps (from County Map, USGS Quad Sheet, etc.), street address and directions to site from a nearby major intersection.
2. Copy of Survey Property Plat, Tax Map of Property, or depiction showing project review area/property boundary with GPS coordinates.
3. Statement that the project review area/property boundaries are marked and a description of how the project review area/property boundaries are marked onsite. See below note* for more information.
4. Additional information, such as soil survey information, aerial photographs, etc.

*Note: The project review area/property boundaries must be accurately marked onsite PRIOR to the Corps site visit. The property owner may need to hire a registered land surveyor to locate and mark the property corners and/or boundaries. Small sites and/or sparsely vegetated sites may only require the property corners be marked. However, sites that are large, oddly shaped, and/or have thick vegetative cover may require additional marking efforts, such as cut sight lines, the use of a series of flags, etc., in order for Corps staff to identify and locate the boundaries while onsite.

V. Type of Jurisdictional Determination Requested (select one):

A. Accurate-Approved B. Approximate-Approved C. Accurate-Preliminary * D. Approximate-Preliminary

Description of the Types of Jurisdictional Determinations:

Preliminary – Preliminary determinations will identify whether wetlands or other waters are present on the site and will presume that they are jurisdictional. Preliminary jurisdictional determinations may be completed more quickly than Approved jurisdictional determinations and do not expire.

Approved – Approved jurisdictional determinations will identify whether wetlands or other waters are present on the site and will include a determination of their jurisdictional status. Approved jurisdictional determinations expire in 5 years.

Description of the Types of Delineations:

Accurate: Location and extent (boundaries) of all Waters of the U.S. are identified and surveyed by a registered land surveyor. Project review area/property boundary must be surveyed or represented by a tax map (or by GPS points if no Waters of the U.S. are present).

Approximate: Location and extent (boundaries) of all Waters of the U.S. are identified and depicted approximately on a sketch. Project review area/property boundary must be surveyed or represented by a tax map or GPS coordinates.

***Note: For Accurate-Preliminary Jurisdictional Determinations, although the jurisdictional determination will not expire, the surveyed location and extent (boundaries) of wetlands and/or waters will expire after 5 years.**

Information Required for Delineation and Jurisdictional Determination Submittals

- Pages 4-8 provide a detailed list of all information that is **REQUIRED** for delineations and jurisdictional determinations submitted to the Corps for approval.
- Items listed in #1- #3 are required for **ALL** submittals.
- Items listed in #4 are required for “**Approximate**” depictions of aquatic resources.
- Items listed in #5 are required for “**Accurate**” depictions of aquatic resources.
- Items listed in #6 are required for “**Approved**” jurisdictional determinations depicting **uplands only**.

Note: Prior to site verification by the Corps, all aquatic resource boundaries, data point locations, and property corners must be marked for field inspection. Incomplete submittals may cause a delay in the verification process. Additional information not required below may be included with the submittal.

1. Jurisdictional Determination (JD) Request Form – (Current version from Charleston District website)

- The form must be completed fully and the person signing the form must be the legal and current property owner or have the specific authority of the property owner to authorize Corps of Engineers employees or their agents to inspect the property.
- **The legal and current property owner contact information must be listed on the form.**
- Indicate the type of JD requested.

2. Wetland Determination Data Forms – (Current version from appropriate Regional Supplement available on Corps website)

- Appropriate data forms must be used and completed fully.
- A minimum of one data point (one completed data form) is required for properties containing no wetlands. Additional data points should be taken on larger sites and in any upland areas that appear to be wetlands based on aerial photos, NWI maps, etc.
- Data points must be located such that there is a pair of points at multiple locations for each wetland type, on both sides of the wetland line in positions that illustrate the distinction between wetland and non-wetland.
- Sufficient number/location of data points should be taken to represent the wetland/upland status of the entire investigation area.

3. Maps, Wetland/Upland Sketches and Photos

- Location Maps: large-scale and small-scale maps, including streets, intersections, cities and an accurate depiction of the project boundary.
- Overlay project boundary on
 - Aerial photo
 - USGS topographic map
 - Soil Survey map
 - National Wetlands Inventory map
- Landscape photos of representative upland areas and aquatic resources. Display photo location and direction on wetland/upland sketch.
- Sketch of all aquatic resources and pertinent features that are present (Wetlands, Tributaries, Lakes, Borrow Pits, Ponds, Rivers, Drainage Features, Ditches) preferably on an aerial photo using no-fill polygons.
 - Data point locations with labels

4. Required Elements for “Approximate” Depictions of Aquatic Resources (Non-Surveyed Depiction)

- Title Block with project name, applicant, county, state, date
- Solid bold line depicting project area boundary with label. The project area boundary must be accurate and may be represented by survey, tax map, or GPS coordinates with coordinates provided. Tax maps may only be used if the project area includes the entire parcel. Refer to #6 Option 2 for required information for depictions using tax maps. Refer to #6 Option 3 for required information for depictions using GPS coordinates.
- North arrow
- Clearly marked boundaries of all aquatic resources and other pertinent features that are present (Wetlands, Tributaries, Lakes, Borrow Pits, Ponds, Rivers, Drainage Features, Ditches). Non-jurisdictional linear features or ditches are not required to be included on the approximate depiction but must be shown on a supplemental sketch.
- Label all aquatic resources.
 - Refer to the Jurisdictional Status Label Tables on page 5 for the standardized labels that should be used for Approved and Preliminary jurisdictional determinations.
 - Include size (acres) and length (linear feet) of each aquatic resource on the approximate depiction.
 - A table displaying the above information may be provided on the approximate depiction

5. Required Elements of an Accurate Depiction of Aquatic Resources (Survey Plat)

- Title Block with project name, applicant, county and state
- Vicinity map
- Labeled names of significant adjacent and/or internal roads, water bodies or other unique reference features
- North arrow / compass rose
- Distance scale
- Plat preparation date, revision date(s), surveyor seal, surveyor signature, and date of surveyor signature. All plats must be prepared by a SC-Registered Land Surveyor
- SCDHEC-OCRM signature approving critical line boundaries and acreage (if applicable).**
- Solid bold surveyed line depicting project area boundary and clearly labeled
- Surveyed boundaries of all Jurisdictional Wetlands and Non-Jurisdictional Wetlands
- Non-Jurisdictional Borrow Pits/Ponds do not have to be surveyed but must be shown on the survey plat. (The survey plat can include a note that these features are depicted “Not to Scale”)
- Non-jurisdictional linear features or ditches are not required to be included on the survey plat but must be shown on a supplemental sketch.
- Tributaries should be delineated and displayed on the survey plat.
 - In circumstances when a portion of a tributary is located within wetlands and is no longer distinct from the wetland, then that portion of the tributary need not be surveyed but the approximate location should be displayed on the survey plat.
- “Floating” polygons must be tied to a referenced survey point
- Survey data table, listing prominent labeled polygon point locations, expressed in *Metes & Bounds* or *State-Plane coordinates*
- Label all aquatic resources.
 - Refer to the Jurisdictional Status Label Tables on page 5 for the standardized labels that should be used for Approved and Preliminary jurisdictional determinations.
 - Include size (acres) and length (linear feet) of each aquatic resource on the survey plat.
 - A table displaying the above information may be provided on the survey plat.

**** Applicants are encouraged to follow the *Recommended SCDHEC-OCRM/Corps Plat Procedure*. Refer to page 6.**

6. Required Elements for Upland Depictions (No Wetlands or Waters Present)- 3 Options Available

Option 1: Survey Plat- Survey Plats may be provided for any Upland Depictions

- Title Block with project name, applicant, county and state
- Vicinity map
- Labeled names of significant adjacent and/or internal roads, water bodies or other unique reference features
- North arrow / compass rose
- Distance scale
- Plat preparation date, revision date(s), surveyor seal, surveyor signature, and date of surveyor signature. All plats must be prepared by a SC-Registered Land Surveyor
- Solid bold surveyed line depicting project area boundary clearly labeled
- Uplands label, including acreage
- Survey data table, listing prominent labeled polygon point locations, expressed in *Metes & Bounds* or *State-Plane coordinates*
- Non-Jurisdictional Borrow Pits/Ponds do not have to be surveyed but must be shown on the survey plat and properly labeled. (The survey plat can include a note that these features are depicted "Not to Scale") Refer to the Jurisdictional Status Label Table 1. for APPROVED jurisdictional determinations on page 5 the standardized labels that should be used.
- Non-Jurisdictional Linear Features or Ditches are not required to be included on the survey plat but must be shown on a supplement sketch.

Option 2: Tax Maps- Valid Tax Maps from County websites may be provided for Upland Depictions if the project area includes the entire parcel

- Title Block with project name, applicant, county, state, source of tax map, date of preparation (print date)
- Tax Map Parcel Numbers, Property Identification Numbers, etc., must be shown on the Tax Map
- Acreage of the parcel must be included
- Non-Jurisdictional Borrow Pits/Ponds must be shown on the Tax Map and properly labeled. Refer to the Jurisdictional Status Label Table 1. for APPROVED jurisdictional determinations on page 5 for the standardized labels that should be used.
- Non-Jurisdictional Linear Features or Ditches are not required to be included on the Tax Map but must be shown on a supplemental sketch.

Option 3: GPS Coordinates- GPS coordinates of project area boundary may be provided for Upland Depictions when the review is for a portion of a parcel

- Title Block with project name, applicant, county, state, date of preparation
- Solid bold line depicting the project area boundary with the points (corners) marked on depiction
- GPS coordinates of the points (corners) of the project area boundary provided on the sketch (at corner points or listed in a table).
- Acreage of project area
- Solid bold line (different color or line type) depicting the boundaries of the larger parcel.
- Non-Jurisdictional Borrow Pits/Ponds must be shown and labeled. Refer to the Jurisdictional Status Label Table 1. for APPROVED jurisdictional determinations on page 5 for the standardized labels that should be used.
- Non-Jurisdictional Linear Features or Ditches are not required to be included on the GPS Upland Depiction, but must be shown on a supplemental sketch.

Table 1:
Jurisdictional Status Label Table for APPROVED Jurisdictional Determinations

Label ¹	Description
Jurisdictional Features	
TNW x ²	Traditionally Navigable Water and/or OCRM Critical Area Wetland
TNW Tidal Ditch x	Tidally-influenced ditches (below MHW line)
Jurisdictional pRPW Tributary x	Jurisdictional perennial Relatively Permanent Water
Jurisdictional sRPW Tributary x	Jurisdictional seasonal Relatively Permanent Water
Jurisdictional non-RPW Tributary x	Jurisdictional non-Relatively Permanent Water
Jurisdictional Ditch x ³	Jurisdictional Ditch ³
Jurisdictional Wetland x	Meeting 3-parameters per 1987 Delineation Manual
Jurisdictional Lake x	
Jurisdictional Impoundment of WOUS x	Jurisdictional Impoundment of waters of the U.S.
Jurisdictional Pond x	
Non-jurisdictional Features	
Non-jurisdictional non-RPW Tributary x	Non-jurisdictional non-Relatively Permanent Water
Non-jurisdictional wetland x	
Non-jurisdictional isolated wetland x	
Non-jurisdictional ditch x	
Non-jurisdictional linear conveyance x	
Non-jurisdictional Borrow Pit x	
Non-jurisdictional manmade Lake x	
Non-jurisdictional upland excavated Pond x	
Non-jurisdictional Impoundment x	
Upland	Uplands should be labeled when wetlands or other waters, regardless of jurisdictional status, are present. When no wetlands or other waters are present, the "Upland" label is not necessary.

1 = Labels required for jurisdictional and non-jurisdictional features on depictions that support jurisdictional determinations. Note that for some features more than one label may be acceptable (i.e., a tidal marsh wetland might be labeled "Jurisdictional Wetland x" or "TNW x"). The intent is to have labels that are consistent with current guidance and thus minimize the need to edit plat labels later in the process. Ultimately, determination of the jurisdictional status of aquatic resources is the responsibility of the Corps of Engineers and a plat should not be considered final until the Corps of Engineers has approved all labels regarding jurisdictional status. Additional labels may be added to this list in subsequent revisions of this form.

2 = Each feature label must include a unique alpha-numeric label so that multiple features of a given type can be distinguished (i.e., Jurisdictional Wetland 1, Jurisdictional Wetland 2, etc.). Exception: Upland areas should be labeled "Upland" with no additional label data.

3 = Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water are generally not waters of the United States because they are not tributaries or they do not have a significant nexus to downstream traditional navigable waters. Consistent with current Rapanos Guidance, the category "jurisdictional ditch" should be reserved for those non-tributary linear conveyance features which are manmade and that do carry a relatively permanent flow of water. The most common examples include ditches excavated between and connecting two or more wetlands or waters of the United States that display no tributary characteristics. The Corps of Engineers will evaluate these features on a case-by-case basis.

Table 2:
Label Table for PRELIMINARY¹ Jurisdictional Determinations

Label	Description
Tidal Wetland X	Tidal wetland, OCRM Critical Area Wetland
Freshwater Wetland X	Freshwater wetland (differentiate when tidal wetlands are also present)
Wetland X	When only freshwater wetlands are present
Tributary X	Tributaries, linear non-wetland waters, with unknown flow regime
Tributary-Perennial X	Tributaries, linear non-wetland waters, with perennial flow
Tributary- Seasonal X	Tributaries, linear non-wetland waters, with seasonal flow
Tributary- Intermittent X	Tributaries, linear non-wetland waters, with less than seasonal flow
Pond X	Pond
Water X	Non-linear non-wetland water features, including open water borrow pits and other open water excavated areas.
Non-aquatic feature X	A feature that is determined by the Corps not be an aquatic feature and therefore not potentially jurisdictional. Non-aquatic features do not need to be shown and labeled on plats but must be shown and labeled on supplemental sketches.

1= For Preliminary Jurisdictional Determinations, Aquatic Resources present on a project site are Potentially Jurisdictional and therefore presumed to be jurisdictional. Features that are determined to be non-aquatic resources are not considered Potentially Jurisdictional.

Recommended SCDHEC-OCRM/Corps Plat Procedure

This is a recommended procedure for conducting wetland delineations and obtaining jurisdictional determinations that include **tidal** waters and/or wetlands that are regulated by both SCDHEC-OCRM and the Corps. This procedure was developed by both OCRM and the Corps to help reduce the delays that may occur during the jurisdictional determination process relating to plat revisions.

Step 1: Applicant should delineate and flag wetlands on-site.

Step 2: Applicant should prepare and submit Jurisdictional Determination Request to USACE and Critical Area Line determination request to DHEC OCRM.

Step 3: USACE field review/ DHEC OCRM field reviews (separate reviews).

Step 4: Applicant should survey agency-reviewed wetland boundaries.

Step 5: Applicant should coordinate with USACE to determine appropriate jurisdictional status labels prior to plat submittal.

Step 6: Applicant should provide appropriate jurisdictional status labels and submittal requirements to surveyor.

Step 7: Surveyor produces plat.

Step 8: Applicant must review plat to ensure appropriate labeling/submittal requirements are met prior to submittal.

Step 9: Submit plat to DHEC OCRM for approval of critical area and signing of plat.

Step 10: Submit DHEC OCRM signed plat to USACE for finalizing Jurisdictional Determination.

U. S. Army Corps Of Engineers Charleston District Regulatory Service Areas

Conway Office:

U.S. Army Corps Of Engineers
Conway Regulatory Office
Conway Agricultural Center
1949 Industrial Park Road, Rm 140
Conway, SC 29526

Phone: 843-365-4239
Fax: 843-365-4318

Columbia Office Service Area

Columbia Office:

U.S. Army Corps of Engineers
Strom Thurmond Federal Bldg.
1835 Assembly Street, Rm. 865 B-1
Columbia, SC 29201

Phone: 803-253-3444
Fax: 803-253-3446

Conway Office Service Area


Charleston Office Service Area


Charleston Office:

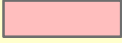
U.S. Army Corps of Engineers
Charleston Regulatory Office
69 A Hagood Ave.
Charleston, SC 29403

Toll Free: 866-329-8187
Phone: 843-329-8044
Fax: 843-329-2332

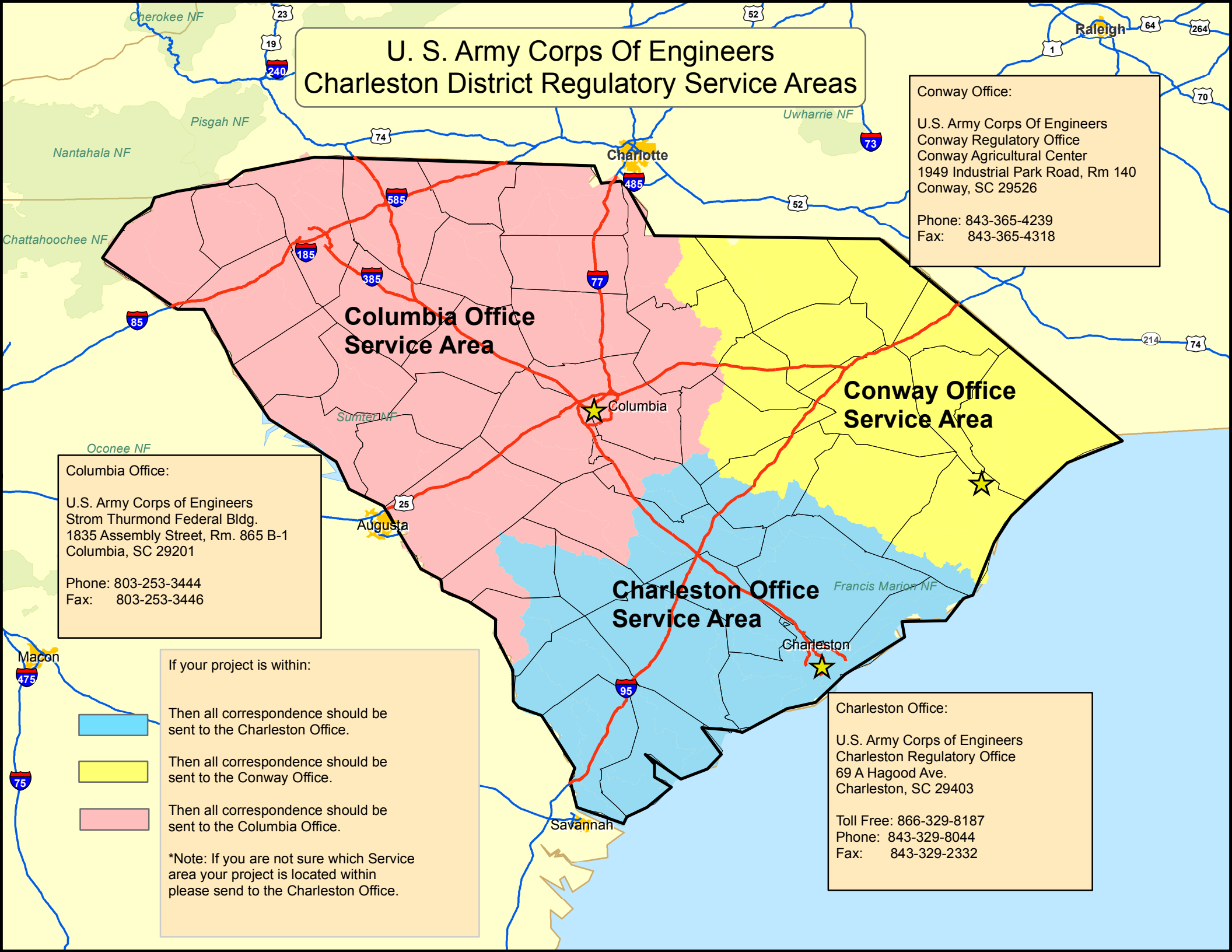
If your project is within:

 Then all correspondence should be sent to the Charleston Office.

 Then all correspondence should be sent to the Conway Office.

 Then all correspondence should be sent to the Columbia Office.

*Note: If you are not sure which Service area your project is located within please send to the Charleston Office.



U.S. Army Corps of Engineers – Charleston District - Regulatory Division
JURISDICTIONAL DETERMINATION REQUEST

For Identifying Waters of the U.S., Including Wetlands and Tributaries, and Jurisdictional Status

This form is intended for use by anyone requesting a jurisdictional determination from the U.S Army Corps of Engineers, Charleston District (Corps). Please supply the following information and supporting documents described below. This document can be completed electronically and then printed. **This document must be signed by the current property owner(s) to be considered a formal request.** We require original signatures; faxes and emails with scanned copies are not acceptable. Per the required property owner's signature below, please be advised that submitting this request authorizes the Corps to conduct on-site investigations, if necessary, to inform the jurisdictional determination process. Please contact us if you need any assistance with filling out this form, as well as for jurisdictional determination requests associated with corridor projects involving multiple property owners. You may attach extra pages/authorizations if needed. The printed form and supporting documents should be mailed to the appropriate office (refer to the enclosed service area map):

Charleston Office: US Army Corps of Engineers Regulatory Division 69A Hagood Avenue Charleston, SC 29403 (ph) 843-329-8044	Columbia Office: US Army Corps of Engineers Regulatory Office 1835 Assembly Street, Room 865 B-1 Columbia, SC 29201 (ph) 803-253-3444	Conway Office: US Army Corps of Engineers Regulatory Office 1949 Industrial Park Road, Room 140 Conway, SC 29526 (ph) 843-365-4239
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Directions: Sections I-V must be completed upon submittal. Failure to do so may result in additional delays.

I. PROPERTY AND AGENT INFORMATION

A. Project Details/Location:

Project Name: _____ Date: _____
County: _____ Latitude/Longitude: _____
Tax Map Sequence (TMS) #(s): _____
Property Address(es): _____
Acreage(s): _____

B. Property Owner(s): (if there are multiple property owners, please attach additional pages)

Name: _____
(*Current Legal Property Owner Name and Contact Information are required.)
Company Name (if applicable): _____
Address: _____
Phone: _____ Email: _____

C. Requestor Of Jurisdictional Determination (check here ☐ if same as Property Owner):

Name: _____
Company Name (if applicable): _____
Address: _____
Phone: _____ Email: _____

Select one:

- ☐ I am the current property owner
☐ I am an interested buyer or am under contract to purchase the property
☐ Other, please explain.

D. Consultant/Agent (if applicable):

Consultant/Agent Name: _____
Company Name (if applicable): _____
Address: _____
Phone: _____ Email: _____

II. PROPERTY ACCESS AUTHORIZATION

I, the undersigned, a duly authorized owner of record of the below parcel number(s), do hereby authorize representatives of the U.S. Army Corps of Engineers, Charleston District, to enter upon the below parcel number(s) for the purposes of conducting on-site investigations (e.g., digging and refilling shallow holes) and issuing a jurisdictional determination associated with Waters of the U.S. subject to Federal Jurisdiction under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899.

I acknowledge that under South Carolina common law, a person who authorizes, advises, encourages, procures, or incites another to commit a trespass, is liable along with the actual perpetrator.

I further acknowledge that 18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

Mailing Address of Property Owner

Property Address

TMS #(s)

Property Owner Name (please print)

Signature of Property Owner:

Date:

III. AGENT/CONSULTANT AUTHORIZATION ☐ Not applicable

I, the undersigned, do authorize the agent/consultant listed above (on page 1) to act in my behalf in the processing of this request and to furnish supplemental information in support of this request.

I acknowledge that 18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

Property Owner Name (or Requestor Name) (please print)

Signature of Property Owner (or Requestor): **Date:**

The Consultant/Agent is acting on behalf of the *(check all that apply)*:

☐ Property Owner

☐ Requestor

☐ Other, please explain: _____

IV. Type of Submittal (Select one)

A. I am an environmental/wetland consultant representing a JD requestor who is submitting a wetland delineation for review and verification by the Corps. Please refer to pages **4-8** for the "Information Required for Wetland Delineations and Jurisdictional Determination Submittals."

B. I am a JD requestor without an environmental/wetland consultant requesting that the Corps investigate the above property for the presence or absence of wetlands, tributaries, or other Waters of the U.S., and establish the geographic extent of these areas. *Please note that while the Corps offers wetland delineation services, time frames to fulfill requests are dependent on site size, property conditions, workload priorities, and staffing levels. To expedite the wetland delineation process, property owners and/or requestors are encouraged to hire an environmental consultant. A courtesy list of environmental consultants can be found on our website at www.sac.usace.army.mil/Missions/Regulatory/PermittingProcess.aspx.*

For requestors with no environmental/wetland consultant for box IV. B. above, the first three items listed below MUST accompany your request. Complete only this page and disregard the following pages.

1. Accurate location maps (from County Map, USGS Quad Sheet, etc.), street address and directions to site from a nearby major intersection.
2. Copy of Survey Property Plat, Tax Map of Property, or depiction showing project review area/property boundary with GPS coordinates.
3. Statement that the project review area/property boundaries are marked and a description of how the project review area/property boundaries are marked onsite. See below note* for more information.
4. Additional information, such as soil survey information, aerial photographs, etc.

*Note: The project review area/property boundaries must be accurately marked onsite PRIOR to the Corps site visit. The property owner may need to hire a registered land surveyor to locate and mark the property corners and/or boundaries. Small sites and/or sparsely vegetated sites may only require the property corners be marked. However, sites that are large, oddly shaped, and/or have thick vegetative cover may require additional marking efforts, such as cut sight lines, the use of a series of flags, etc., in order for Corps staff to identify and locate the boundaries while onsite.

V. Type of Jurisdictional Determination Requested (select one):

A. Accurate-Approved B. Approximate-Approved C. Accurate-Preliminary * D. Approximate-Preliminary

Description of the Types of Jurisdictional Determinations:

Preliminary – Preliminary determinations will identify whether wetlands or other waters are present on the site and will presume that they are jurisdictional. Preliminary jurisdictional determinations may be completed more quickly than Approved jurisdictional determinations and do not expire.

Approved – Approved jurisdictional determinations will identify whether wetlands or other waters are present on the site and will include a determination of their jurisdictional status. Approved jurisdictional determinations expire in 5 years.

Description of the Types of Delineations:

Accurate: Location and extent (boundaries) of all Waters of the U.S. are identified and surveyed by a registered land surveyor. Project review area/property boundary must be surveyed or represented by a tax map (or by GPS points if no Waters of the U.S. are present).

Approximate: Location and extent (boundaries) of all Waters of the U.S. are identified and depicted approximately on a sketch. Project review area/property boundary must be surveyed or represented by a tax map or GPS coordinates.

***Note: For Accurate-Preliminary Jurisdictional Determinations, although the jurisdictional determination will not expire, the surveyed location and extent (boundaries) of wetlands and/or waters will expire after 5 years.**

Information Required for Delineation and Jurisdictional Determination Submittals

- Pages 4-8 provide a detailed list of all information that is **REQUIRED** for delineations and jurisdictional determinations submitted to the Corps for approval.
- Items listed in #1- #3 are required for **ALL** submittals.
- Items listed in #4 are required for “**Approximate**” depictions of aquatic resources.
- Items listed in #5 are required for “**Accurate**” depictions of aquatic resources.
- Items listed in #6 are required for “**Approved**” jurisdictional determinations depicting **uplands only**.

Note: Prior to site verification by the Corps, all aquatic resource boundaries, data point locations, and property corners must be marked for field inspection. Incomplete submittals may cause a delay in the verification process. Additional information not required below may be included with the submittal.

1. Jurisdictional Determination (JD) Request Form – (Current version from Charleston District website)

- The form must be completed fully and the person signing the form must be the legal and current property owner or have the specific authority of the property owner to authorize Corps of Engineers employees or their agents to inspect the property.
- **The legal and current property owner contact information must be listed on the form.**
- Indicate the type of JD requested.

2. Wetland Determination Data Forms – (Current version from appropriate Regional Supplement available on Corps website)

- Appropriate data forms must be used and completed fully.
- A minimum of one data point (one completed data form) is required for properties containing no wetlands. Additional data points should be taken on larger sites and in any upland areas that appear to be wetlands based on aerial photos, NWI maps, etc.
- Data points must be located such that there is a pair of points at multiple locations for each wetland type, on both sides of the wetland line in positions that illustrate the distinction between wetland and non-wetland.
- Sufficient number/location of data points should be taken to represent the wetland/upland status of the entire investigation area.

3. Maps, Wetland/Upland Sketches and Photos

- Location Maps: large-scale and small-scale maps, including streets, intersections, cities and an accurate depiction of the project boundary.
- Overlay project boundary on
 - Aerial photo
 - USGS topographic map
 - Soil Survey map
 - National Wetlands Inventory map
- Landscape photos of representative upland areas and aquatic resources. Display photo location and direction on wetland/upland sketch.
- Sketch of all aquatic resources and pertinent features that are present (Wetlands, Tributaries, Lakes, Borrow Pits, Ponds, Rivers, Drainage Features, Ditches) preferably on an aerial photo using no-fill polygons.
 - Data point locations with labels

4. Required Elements for “Approximate” Depictions of Aquatic Resources (Non-Surveyed Depiction)

- Title Block with project name, applicant, county, state, date
- Solid bold line depicting project area boundary with label. The project area boundary must be accurate and may be represented by survey, tax map, or GPS coordinates with coordinates provided. Tax maps may only be used if the project area includes the entire parcel. Refer to #6 Option 2 for required information for depictions using tax maps. Refer to #6 Option 3 for required information for depictions using GPS coordinates.
- North arrow
- Clearly marked boundaries of all aquatic resources and other pertinent features that are present (Wetlands, Tributaries, Lakes, Borrow Pits, Ponds, Rivers, Drainage Features, Ditches). Non-jurisdictional linear features or ditches are not required to be included on the approximate depiction but must be shown on a supplemental sketch.
- Label all aquatic resources.
 - Refer to the Jurisdictional Status Label Tables on page 5 for the standardized labels that should be used for Approved and Preliminary jurisdictional determinations.
 - Include size (acres) and length (linear feet) of each aquatic resource on the approximate depiction.
 - A table displaying the above information may be provided on the approximate depiction

5. Required Elements of an Accurate Depiction of Aquatic Resources (Survey Plat)

- Title Block with project name, applicant, county and state
- Vicinity map
- Labeled names of significant adjacent and/or internal roads, water bodies or other unique reference features
- North arrow / compass rose
- Distance scale
- Plat preparation date, revision date(s), surveyor seal, surveyor signature, and date of surveyor signature. All plats must be prepared by a SC-Registered Land Surveyor
- SCDHEC-OCRM signature approving critical line boundaries and acreage (if applicable).**
- Solid bold surveyed line depicting project area boundary and clearly labeled
- Surveyed boundaries of all Jurisdictional Wetlands and Non-Jurisdictional Wetlands
- Non-Jurisdictional Borrow Pits/Ponds do not have to be surveyed but must be shown on the survey plat. (The survey plat can include a note that these features are depicted “Not to Scale”)
- Non-jurisdictional linear features or ditches are not required to be included on the survey plat but must be shown on a supplemental sketch.
- Tributaries should be delineated and displayed on the survey plat.
 - In circumstances when a portion of a tributary is located within wetlands and is no longer distinct from the wetland, then that portion of the tributary need not be surveyed but the approximate location should be displayed on the survey plat.
- “Floating” polygons must be tied to a referenced survey point
- Survey data table, listing prominent labeled polygon point locations, expressed in *Metes & Bounds* or *State-Plane coordinates*
- Label all aquatic resources.
 - Refer to the Jurisdictional Status Label Tables on page 5 for the standardized labels that should be used for Approved and Preliminary jurisdictional determinations.
 - Include size (acres) and length (linear feet) of each aquatic resource on the survey plat.
 - A table displaying the above information may be provided on the survey plat.

**** Applicants are encouraged to follow the *Recommended SCDHEC-OCRM/Corps Plat Procedure*. Refer to page 6.**

6. Required Elements for Upland Depictions (No Wetlands or Waters Present)- 3 Options Available

Option 1: Survey Plat- Survey Plats may be provided for any Upland Depictions

- Title Block with project name, applicant, county and state
- Vicinity map
- Labeled names of significant adjacent and/or internal roads, water bodies or other unique reference features
- North arrow / compass rose
- Distance scale
- Plat preparation date, revision date(s), surveyor seal, surveyor signature, and date of surveyor signature. All plats must be prepared by a SC-Registered Land Surveyor
- Solid bold surveyed line depicting project area boundary clearly labeled
- Uplands label, including acreage
- Survey data table, listing prominent labeled polygon point locations, expressed in *Metes & Bounds* or *State-Plane coordinates*
- Non-Jurisdictional Borrow Pits/Ponds do not have to be surveyed but must be shown on the survey plat and properly labeled. (The survey plat can include a note that these features are depicted "Not to Scale") Refer to the Jurisdictional Status Label Table 1. for APPROVED jurisdictional determinations on page 5 the standardized labels that should be used.
- Non-Jurisdictional Linear Features or Ditches are not required to be included on the survey plat but must be shown on a supplement sketch.

Option 2: Tax Maps- Valid Tax Maps from County websites may be provided for Upland Depictions if the project area includes the entire parcel

- Title Block with project name, applicant, county, state, source of tax map, date of preparation (print date)
- Tax Map Parcel Numbers, Property Identification Numbers, etc., must be shown on the Tax Map
- Acreage of the parcel must be included
- Non-Jurisdictional Borrow Pits/Ponds must be shown on the Tax Map and properly labeled. Refer to the Jurisdictional Status Label Table 1. for APPROVED jurisdictional determinations on page 5 for the standardized labels that should be used.
- Non-Jurisdictional Linear Features or Ditches are not required to be included on the Tax Map but must be shown on a supplemental sketch.

Option 3: GPS Coordinates- GPS coordinates of project area boundary may be provided for Upland Depictions when the review is for a portion of a parcel

- Title Block with project name, applicant, county, state, date of preparation
- Solid bold line depicting the project area boundary with the points (corners) marked on depiction
- GPS coordinates of the points (corners) of the project area boundary provided on the sketch (at corner points or listed in a table).
- Acreage of project area
- Solid bold line (different color or line type) depicting the boundaries of the larger parcel.
- Non-Jurisdictional Borrow Pits/Ponds must be shown and labeled. Refer to the Jurisdictional Status Label Table 1. for APPROVED jurisdictional determinations on page 5 for the standardized labels that should be used.
- Non-Jurisdictional Linear Features or Ditches are not required to be included on the GPS Upland Depiction, but must be shown on a supplemental sketch.

Table 1:
Jurisdictional Status Label Table for APPROVED Jurisdictional Determinations

Label ¹	Description
Jurisdictional Features	
TNW x ²	Traditionally Navigable Water and/or OCRM Critical Area Wetland
TNW Tidal Ditch x	Tidally-influenced ditches (below MHW line)
Jurisdictional pRPW Tributary x	Jurisdictional perennial Relatively Permanent Water
Jurisdictional sRPW Tributary x	Jurisdictional seasonal Relatively Permanent Water
Jurisdictional non-RPW Tributary x	Jurisdictional non-Relatively Permanent Water
Jurisdictional Ditch x ³	Jurisdictional Ditch ³
Jurisdictional Wetland x	Meeting 3-parameters per 1987 Delineation Manual
Jurisdictional Lake x	
Jurisdictional Impoundment of WOUS x	Jurisdictional Impoundment of waters of the U.S.
Jurisdictional Pond x	
Non-jurisdictional Features	
Non-jurisdictional non-RPW Tributary x	Non-jurisdictional non-Relatively Permanent Water
Non-jurisdictional wetland x	
Non-jurisdictional isolated wetland x	
Non-jurisdictional ditch x	
Non-jurisdictional linear conveyance x	
Non-jurisdictional Borrow Pit x	
Non-jurisdictional manmade Lake x	
Non-jurisdictional upland excavated Pond x	
Non-jurisdictional Impoundment x	
Upland	Uplands should be labeled when wetlands or other waters, regardless of jurisdictional status, are present. When no wetlands or other waters are present, the "Upland" label is not necessary.

1 = Labels required for jurisdictional and non-jurisdictional features on depictions that support jurisdictional determinations. Note that for some features more than one label may be acceptable (i.e., a tidal marsh wetland might be labeled "Jurisdictional Wetland x" or "TNW x"). The intent is to have labels that are consistent with current guidance and thus minimize the need to edit plat labels later in the process. Ultimately, determination of the jurisdictional status of aquatic resources is the responsibility of the Corps of Engineers and a plat should not be considered final until the Corps of Engineers has approved all labels regarding jurisdictional status. Additional labels may be added to this list in subsequent revisions of this form.

2 = Each feature label must include a unique alpha-numeric label so that multiple features of a given type can be distinguished (i.e., Jurisdictional Wetland 1, Jurisdictional Wetland 2, etc.). Exception: Upland areas should be labeled "Upland" with no additional label data.

3 = Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water are generally not waters of the United States because they are not tributaries or they do not have a significant nexus to downstream traditional navigable waters. Consistent with current Rapanos Guidance, the category "jurisdictional ditch" should be reserved for those non-tributary linear conveyance features which are manmade and that do carry a relatively permanent flow of water. The most common examples include ditches excavated between and connecting two or more wetlands or waters of the United States that display no tributary characteristics. The Corps of Engineers will evaluate these features on a case-by-case basis.

Table 2:
Label Table for PRELIMINARY¹ Jurisdictional Determinations

Label	Description
Tidal Wetland X	Tidal wetland, OCRM Critical Area Wetland
Freshwater Wetland X	Freshwater wetland (differentiate when tidal wetlands are also present)
Wetland X	When only freshwater wetlands are present
Tributary X	Tributaries, linear non-wetland waters, with unknown flow regime
Tributary-Perennial X	Tributaries, linear non-wetland waters, with perennial flow
Tributary- Seasonal X	Tributaries, linear non-wetland waters, with seasonal flow
Tributary- Intermittent X	Tributaries, linear non-wetland waters, with less than seasonal flow
Pond X	Pond
Water X	Non-linear non-wetland water features, including open water borrow pits and other open water excavated areas.
Non-aquatic feature X	A feature that is determined by the Corps not be an aquatic feature and therefore not potentially jurisdictional. Non-aquatic features do not need to be shown and labeled on plats but must be shown and labeled on supplemental sketches.

1= For Preliminary Jurisdictional Determinations, Aquatic Resources present on a project site are Potentially Jurisdictional and therefore presumed to be jurisdictional. Features that are determined to be non-aquatic resources are not considered Potentially Jurisdictional.

Recommended SCDHEC-OCRM/Corps Plat Procedure

This is a recommended procedure for conducting wetland delineations and obtaining jurisdictional determinations that include **tidal** waters and/or wetlands that are regulated by both SCDHEC-OCRM and the Corps. This procedure was developed by both OCRM and the Corps to help reduce the delays that may occur during the jurisdictional determination process relating to plat revisions.

Step 1: Applicant should delineate and flag wetlands on-site.

Step 2: Applicant should prepare and submit Jurisdictional Determination Request to USACE and Critical Area Line determination request to DHEC OCRM.

Step 3: USACE field review/ DHEC OCRM field reviews (separate reviews).

Step 4: Applicant should survey agency-reviewed wetland boundaries.

Step 5: Applicant should coordinate with USACE to determine appropriate jurisdictional status labels prior to plat submittal.

Step 6: Applicant should provide appropriate jurisdictional status labels and submittal requirements to surveyor.

Step 7: Surveyor produces plat.

Step 8: Applicant must review plat to ensure appropriate labeling/submittal requirements are met prior to submittal.

Step 9: Submit plat to DHEC OCRM for approval of critical area and signing of plat.

Step 10: Submit DHEC OCRM signed plat to USACE for finalizing Jurisdictional Determination.

U. S. Army Corps Of Engineers Charleston District Regulatory Service Areas

Conway Office:

U.S. Army Corps Of Engineers
Conway Regulatory Office
Conway Agricultural Center
1949 Industrial Park Road, Rm 140
Conway, SC 29526

Phone: 843-365-4239
Fax: 843-365-4318

Columbia Office Service Area

Columbia Office:

U.S. Army Corps of Engineers
Strom Thurmond Federal Bldg.
1835 Assembly Street, Rm. 865 B-1
Columbia, SC 29201

Phone: 803-253-3444
Fax: 803-253-3446

Conway Office Service Area

Charleston Office Service Area

Charleston Office:

U.S. Army Corps of Engineers
Charleston Regulatory Office
69 A Hagood Ave.
Charleston, SC 29403

Toll Free: 866-329-8187
Phone: 843-329-8044
Fax: 843-329-2332

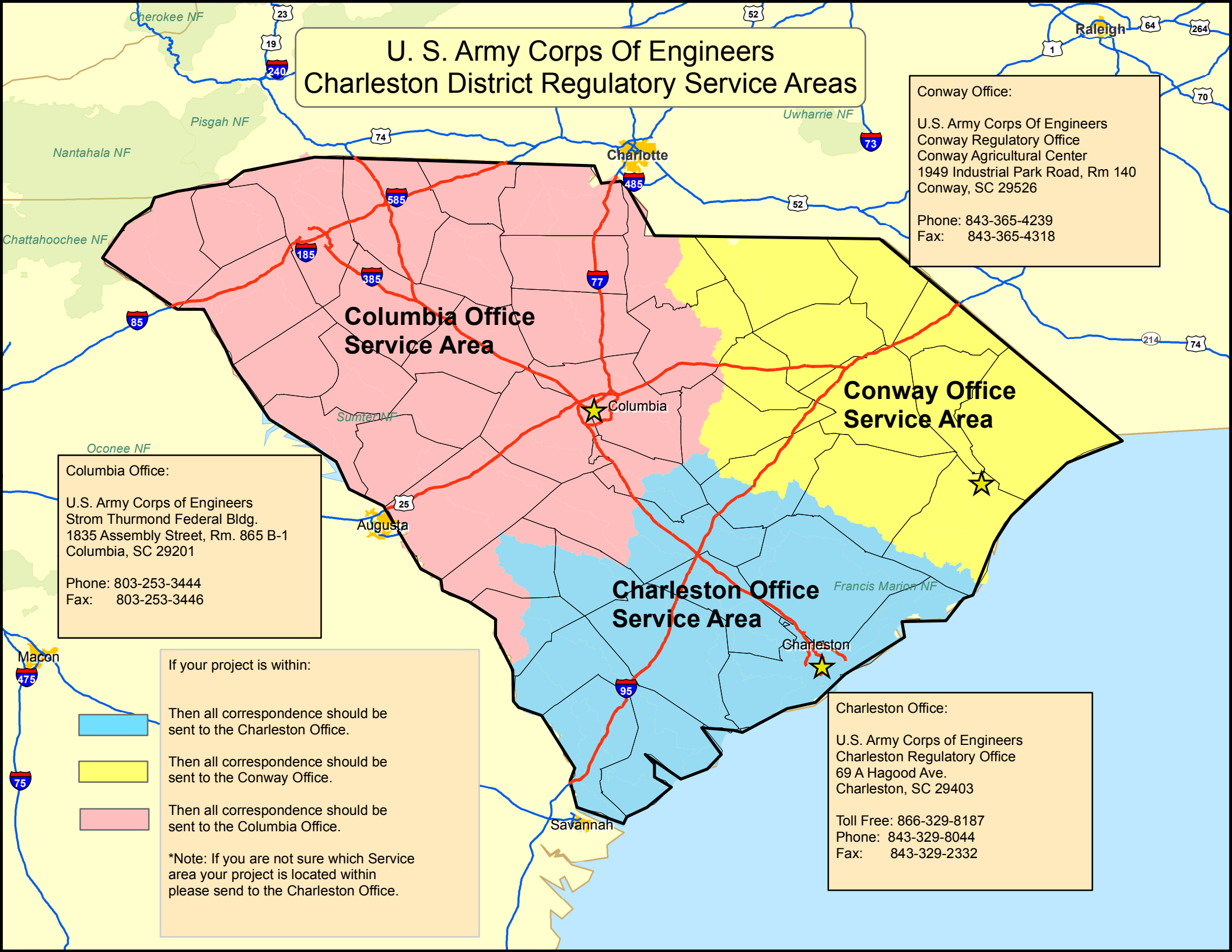
If your project is within:

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sent to the Columbia Office.

*Note: If you are not sure which Service
area your project is located within
please send to the Charleston Office.



Volvo Interchange Properties
Ridgeville, Berkeley County, South Carolina
 Photographic Log

	PHOTOLOG SHEET	
	Client: Berkeley County	
	Site name: Volvo Interchange Properties	
	Project: 6250150096	
	Date: 4/26/2016	
	Photo #: 1	
	Photographer: Brett Sexton	
Description: View of Wetland A taken from flag WSB-3 facing northwest.		
	Client: Berkeley County	
	Site name: Volvo Interchange Properties	
	Project: 6250150096	
	Date: 4/26/2016	
	Photo #: 2	
	Photographer: Brett Sexton	
	Description: View of upland adjacent to southeastern edge of Wetland A facing southeast.	

Volvo Interchange Properties
Ridgeville, Berkeley County, South Carolina
 Photographic Log

	PHOTOLOG SHEET	
	Client: Berkeley County	
	Site name: Volvo Interchange Properties	
	Project: 6250150096	
	Date: 4/26/2016	
	Photo #: 3	
	Photographer: Brett Sexton	
	Description: View of Wetland B taken from flag WZ-13 facing northwest.	
	Client: Berkeley County	
	Site name: Volvo Interchange Properties	
	Project: 6250150096	
	Date: 4/26/2016	
	Photo #: 4	
	Photographer: Brett Sexton	
	Description: View of upland adjacent to southeastern edge of Wetland B facing southeast.	

Volvo Interchange Properties
Ridgeville, Berkeley County, South Carolina
 Photographic Log

 <p style="text-align: right; color: yellow;">217° N: M Lat: 33° 7' 4.52" N Lon: 80° 16' 21.58" W</p>	PHOTOLOG SHEET <hr/> Client: Berkeley County <hr/> Site name: Volvo Interchange Properties Project: 6250150096 <hr/> Date: 11/12/2015 <hr/> Photo #: 5 <hr/> Photographer: Brett Sexton <hr/> Description: View of mature loblolly pine plantation in Wetland B facing northwest.
 <p style="text-align: right; color: yellow;">301° N: M Lat: 33° 7' 3.80" N Lon: 80° 16' 24.18" W</p>	Client: Berkeley County <hr/> Site name: Volvo Interchange Properties Project: 6250150096 <hr/> Date: 11/12/2015 <hr/> Photo #: 6 <hr/> Photographer: Brett Sexton <hr/> Description: View of mature loblolly pine plantation in Wetland B facing northwest.

Volvo Interchange Properties
Ridgeville, Berkeley County, South Carolina
 Photographic Log

 <p style="text-align: right; color: yellow;">168° N: M Lat: 33° 7' 8.64" N Lon: 80° 16' 28.30" W</p>	PHOTOLOG SHEET Client: Berkeley County Site name: Volvo Interchange Properties Project: 6250150096 Date: 11/12/2015 Photo #: 7 Photographer: Brett Sexton Description: View of mature loblolly pine plantation in Wetland B taken from Wetland Point 1 facing south-southeast.
 <p style="text-align: right; color: yellow;">216° N: M Lat: 33° 7' 11.28" N Lon: 80° 16' 41.6" W</p>	Client: Berkeley County Site name: Volvo Interchange Properties Project: 6250150096 Date: 11/12/2015 Photo #: 8 Photographer: Brett Sexton Description: View of Wetland B taken from access road facing southwest.

Volvo Interchange Properties
Ridgeville, Berkeley County, South Carolina
 Photographic Log

	<p>PHOTOLOG SHEET</p> <p>Client: Berkeley County</p> <p>Site name: Volvo Interchange Properties</p> <p>Project: 6250150096</p> <p>Date: 11/12/2015</p> <p>Photo #: 9</p> <p>Photographer: Brett Sexton</p> <p>Description: View of young loblolly pine plantation in Wetland B facing south-southeast.</p>
	<p>Client: Berkeley County</p> <p>Site name: Volvo Interchange Properties</p> <p>Project: 6250150096</p> <p>Date: 11/12/2015</p> <p>Photo #: 10</p> <p>Photographer: Brett Sexton</p> <p>Description: View of young loblolly pine plantation in Wetland B taken from Wetland Point 2 facing southwest.</p>

Volvo Interchange Properties
Ridgeville, Berkeley County, South Carolina
 Photographic Log

	PHOTOLOG SHEET
	Client: Berkeley County
	Site name: Volvo Interchange Properties
	Project: 6250150096
	Date: 4/26/2016
	Photo #: 11
	Photographer: Brett Sexton
Description: View of mixed pine/hardwood forest in Wetland B taken from Wetland Point 3 facing northwest.	
	Client: Berkeley County
	Site name: Volvo Interchange Properties
	Project: 6250150096
	Date: 4/26/2016
	Photo #: 12
	Photographer: Brett Sexton
	Description: View of mixed pine/hardwood forest in Wetland B taken from Wetland Point 3 facing southeast.

Volvo Interchange Properties
Ridgeville, Berkeley County, South Carolina
 Photographic Log

	PHOTOLOG SHEET
	Client: Berkeley County
	Site name: Volvo Interchange Properties
	Project: 6250150096
	Date: 4/27/2016
	Photo #: 13
	Photographer: Walker Stinnette
	Description: View of Wetland C taken from flag WBKA-5 facing southeast.
	Client: Berkeley County
	Site name: Volvo Interchange Properties
	Project: 6250150096
	Date: 4/27/2016
	Photo #: 14
	Photographer: Walker Stinnette
	Description: View of upland adjacent to northwestern edge of Wetland C facing northwest.

Volvo Interchange Properties
Ridgeville, Berkeley County, South Carolina
 Photographic Log

	PHOTOLOG SHEET
	Client: Berkeley County
	Site name: Volvo Interchange Properties
	Project: 6250150096
	Date: 4/27/2016
	Photo #: 15
	Photographer: Walker Stinnette
	Description: View of Wetland D taken from flag WBKB-6 facing southeast.
	Client: Berkeley County
	Site name: Volvo Interchange Properties
	Project: 6250150096
	Date: 4/27/2016
	Photo #: 16
	Photographer: Walker Stinnette
	Description: View of upland adjacent to northwestern edge of Wetland D facing northwest.

Volvo Interchange Properties
Ridgeville, Berkeley County, South Carolina
 Photographic Log

	PHOTOLOG SHEET	
	Client: Berkeley County	
	Site name: Volvo Interchange Properties	
	Project: 6250150096	
	Date: 4/27/2016	
	Photo #: 17	
	Photographer: Walker Stinnette	
	Description: View of Wetland E taken from flag WBKC-2 facing northwest.	
	Client: Berkeley County	
	Site name: Volvo Interchange Properties	
	Project: 6250150096	
	Date: 4/27/2016	
	Photo #: 18	
	Photographer: Walker Stinnette	
	Description: View of upland adjacent to southeastern edge of Wetland E facing southeast.	

Volvo Interchange Properties
Ridgeville, Berkeley County, South Carolina
 Photographic Log

	PHOTOLOG SHEET	
	Client: Berkeley County	
	Site name: Volvo Interchange Properties	
	Project: 6250150096	
	Date: 4/27/2016	
	Photo #: 19	
	Photographer: Walker Stinnette	
	Description: View of Wetland F taken from flag WBKD-2 facing northwest.	
	Client: Berkeley County	
	Site name: Volvo Interchange Properties	
	Project: 6250150096	
	Date: 4/27/2016	
	Photo #: 20	
	Photographer: Walker Stinnette	
	Description: View of upland adjacent to southeastern edge of Wetland F facing southeast.	

Volvo Interchange Properties
Ridgeville, Berkeley County, South Carolina
 Photographic Log

	PHOTOLOG SHEET
	Client: Berkeley County
	Site name: Volvo Interchange Properties
	Project: 6250150096
	Date: 4/27/2016
	Photo #: 21
	Photographer: Walker Stinnette
	Description: View of mixed pine/hardwood forest in Wetland G facing southeast.
	Client: Berkeley County
	Site name: Volvo Interchange Properties
	Project: 6250150096
	Date: 4/27/2016
	Photo #: 22
	Photographer: Walker Stinnette
	Description: View of mixed pine/hardwood forest in Wetland G facing southeast.

Prepared by: WWS 4/29/2016
 Checked by: BPK 5/9/2016

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site:	SCDOT Right of Way		City/County:	Ridgeville/Berkeley County	Sampling Date:	4/26/2016	
Applicant/Owner:	Berkeley County		State:	SC	Sampling Point:	WSB-3 Upland	
Investigator(s):	Walker Stinnette, Brett Sexton		Section, Township, Range:	NA			
Landform: (hillslope, terrace, etc.)	flat		Local Relief (concave, convex, none):	none	Slope (%):	0	
Subregion (LRR or MLRA)	LRR T	Lat:	33.115147	Long:	-80.26765	Datum:	NA
Soil Map Unit Name:	Goldsboro loamy sand		NWI Classification:	None			

Are climatic/hydrologic conditions on the site typical for this time of year? ☒ Yes ☐ No (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? ☒ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

Remarks: Upland in mixed pine/hardwood forest within SCDOT right of way.

All three wetland indicators are not present, area is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one is required; check all that apply):</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Much Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)	
		<input type="checkbox"/> Sphangnum moss (D8) (LRR T,U)	

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

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

Remarks: No primary or secondary wetland hydrology indicators present.

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: WSB-3 Upland

Tree Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>8</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
1.	<i>Acer rubrum</i>			30	Y	FAC		
2.	<i>Liquidambar styraciflua</i>			30	Y	FAC		
3.	<i>Pinus taeda</i>			20	Y	FAC		
4.	<i>Quercus virginiana</i>			5		FACU		
5.								
6.								
				85	= Total Cover			
50% of total cover: <u>42.5</u>				20% of total cover: <u>17</u>				
Sapling Stratum (Plot size: 30 ft)							Prevalence Index worksheet: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>180</u> x 3 = <u>540</u> FACU species <u>13</u> x 4 = <u>52</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>198</u> (A) <u>602</u> (B) Prevalence Index = B/A = <u>3.0</u>	
1.	<i>Liquidambar styraciflua</i>			10	Y	FAC		
2.	<i>Acer rubrum</i>			10	Y	FAC		
3.								
4.								
5.								
6.								
				20	= Total Cover			
50% of total cover: <u>10</u>				20% of total cover: <u>4</u>				
Shrub Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is <u>3.0</u> ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
1.	<i>Liquidambar styraciflua</i>			10	Y	FAC		
2.	<i>Morella cerifera</i>			5		FAC		
3.	<i>Quercus nigra</i>			5		FAC		
4.	<i>Persea borbonia</i>			5		FACW		
5.	<i>Sassafras albidum</i>			5		FACU		
6.								
				30	= Total Cover			
50% of total cover: <u>15</u>				20% of total cover: <u>6</u>				
Herb Stratum (Plot size: 30 ft)							Definitions of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.	
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
					= Total Cover			
50% of total cover: _____				20% of total cover: _____				
Woody Vine Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1.	<i>Vitis rotundifolia</i>			30	Y	FAC		
2.	<i>Toxicodendron radicans</i>			20	Y	FAC		
3.	<i>Smilax rotundifolia</i>			10		FAC		
4.	<i>Parthenocissus quinquefolia</i>			3		FACU		
5.								
				63	= Total Cover			
50% of total cover: <u>31.5</u>				20% of total cover: <u>12.6</u>				
Remarks: (If observed, list morphological adaptations below) ERDC/CRREL 2014 Regional Wetland Plant List (Atlantic and Gulf Coastal Plain) used for indicator status. Hydrophytic vegetation criteria met.								

SOIL

Sampling Point: WSB-3 Upland

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-3	10YR 3/1						Sandy loam	
3-18+	10YR 4/4						Sandy loam	

¹Type C = Concentration, D = depletion, RM = Reduced Matrix, MS = Masked Sand Grains²Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S,T,U) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S,T,U) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P,T,U) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P,T,U) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Muck Presence (A8) (LRR U) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P,T) | <input type="checkbox"/> Marl (F10) (LRR U) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O,P,T) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P,T,U) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O,S) | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A) |
| <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P,S,T,U) | |

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (LRR O)
☐ 2 cm Muck (A10) (LRR S)
☐ Reduced Vertic (F18) (outside MLRA 150A,B)
☐ Piedmont Floodplain Soils (F19) (LRR P,S,T)
☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches)

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Hydric soil criteria not met.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site:	SCDOT Right of Way		City/County:	Ridgeville/Berkeley County	Sampling Date:	4/26/2016	
Applicant/Owner:	Berkeley County		State:	SC	Sampling Point:	WSB-3 Wetland	
Investigator(s):	Walker Stinnette, Brett Sexton		Section, Township, Range:	NA			
Landform: (hillslope, terrace, etc.)	flat		Local Relief (concave, convex, none):	none	Slope (%):	0	
Subregion (LRR or MLRA)	LRR T	Lat:	33.115147	Long:	-80.26765	Datum:	NA
Soil Map Unit Name:	Goldsboro loamy sand		NWI Classification:	None			

Are climatic/hydrologic conditions on the site typical for this time of year? ☒ Yes ☐ No (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? ☒ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area	
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	within a wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		

Remarks: Wetland in mixed pine/hardwood forest within SCDOT right of way.

All three wetland indicators are present, area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one is required; check all that apply):</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Much Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
		<input type="checkbox"/> Sphangnum moss (D8) (LRR T,U)	

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

(includes capillary fringe)

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

Remarks: Primary and multiple secondary wetland hydrology indicators present.

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: WSB-3 Wetland

Tree Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
1.	<i>Liquidambar styraciflua</i>			40	Y	FAC		
2.	<i>Acer rubrum</i>			20	Y	FAC		
3.	<i>Quercus laurifolia</i>			20	Y	FACW		
4.								
5.								
6.								
				<u>80</u> = Total Cover				
50% of total cover: <u>40</u>				20% of total cover: <u>16</u>				
Sapling Stratum (Plot size: 30 ft)							Prevalence Index worksheet: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>90</u> x 2 = <u>180</u> FAC species <u>75</u> x 3 = <u>225</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>165</u> (A) <u>405</u> (B) Prevalence Index = B/A = <u>2.5</u>	
1.	<i>Liquidambar styraciflua</i>			15	Y	FAC		
2.								
3.								
4.								
5.								
6.								
				<u>15</u> = Total Cover				
50% of total cover: <u>7.5</u>				20% of total cover: <u>3</u>				
Shrub Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is > 3.0 ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
1.	<i>Clethra alnifolia</i>			15	Y	FACW		
2.	<i>Lyonia lucida</i>			10	Y	FACW		
3.	<i>Vaccinium corymbosum</i>			5		FACW		
4.								
5.								
6.								
				<u>30</u> = Total Cover				
50% of total cover: <u>15</u>				20% of total cover: <u>6</u>				
Herb Stratum (Plot size: 30 ft)							Definitions of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.	
1.	<i>Carex sp.</i>			40	Y	FACW		
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
				<u>40</u> = Total Cover				
50% of total cover: <u>20</u>				20% of total cover: <u>8</u>				
Woody Vine Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1.								
2.								
3.								
4.								
5.								
50% of total cover:				20% of total cover:				

Remarks: (If observed, list morphological adaptations below)

ERDC/CRREL 2014 Regional Wetland Plant List (Atlantic and Gulf Coastal Plain) used for indicator status.

Hydrophytic vegetation criteria met.

Unable to identify Carex to species level given the lack of fruiting bodies at the time of this investigation. Plant was assumed to be FACW.

SOIL

Sampling Point: WSB-3 Wetland

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 2/1						Sandy loam	
4-12	10YR 4/1	95	10YR 4/6	5	C	M	Sandy loam	
12-18+	10YR 4/1	80	10YR 4/6	20	C	M	Sandy loam	

¹Type C = Concentration, D = depletion, RM = Reduced Matrix, MS = Masked Sand Grains²Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S,T,U) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S,T,U) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P,T,U) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P,T,U) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Muck Presence (A8) (LRR U) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P,T) | <input type="checkbox"/> Marl (F10) (LRR U) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O,P,T) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P,T,U) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O,S) | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A) |
| <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P,S,T,U) | |

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P,S,T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:	
Depth (inches)	

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site:	SCDOT Right of Way		City/County:	Ridgeville/Berkeley County	Sampling Date:	4/26/2016	
Applicant/Owner:	Berkeley County		State:	SC	Sampling Point:	WZ-13 Upland	
Investigator(s):	Walker Stinnette, Brett Sexton		Section, Township, Range:	NA			
Landform: (hillslope, terrace, etc.)	hillslope		Local Relief (concave, convex, none):	none	Slope (%):	0	
Subregion (LRR or MLRA)	LRR T	Lat:	33.117556	Long:	-80.27161	Datum:	NA
Soil Map Unit Name:	Goldsboro loamy sand		NWI Classification:	None			

Are climatic/hydrologic conditions on the site typical for this time of year? ☒ Yes ☐ No (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? ☒ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

Remarks: Upland in mixed pine/hardwood forest within SCDOT right of way.

All three wetland indicators are not present, area is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one is required; check all that apply):</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Much Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)	
		<input type="checkbox"/> Sphangnum moss (D8) (LRR T,U)	

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

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

Remarks: No primary or secondary wetland hydrology indicators present.

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: WZ-13 Upland

Tree Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>10</u> (A) Total Number of Dominant Species Across All Strata: <u>10</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
1.	<i>Acer rubrum</i>			40	Y	FAC		
2.	<i>Pinus taeda</i>			25	Y	FAC		
3.	<i>Liquidambar styraciflua</i>			10		FAC		
4.								
5.								
6.								
				75	= Total Cover			
50% of total cover: <u>37.5</u>				20% of total cover: <u>15</u>				
Sapling Stratum (Plot size: 30 ft)							Prevalence Index worksheet: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>25</u> x 2 = <u>50</u> FAC species <u>170</u> x 3 = <u>510</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>195</u> (A) <u>560</u> (B) Prevalence Index = B/A = <u>2.9</u>	
1.	<i>Liquidambar styraciflua</i>			15	Y	FAC		
2.	<i>Acer rubrum</i>			15	Y	FAC		
3.								
4.								
5.								
6.								
				30	= Total Cover			
50% of total cover: <u>15</u>				20% of total cover: <u>6</u>				
Shrub Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is <u>3.0</u> ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
1.	<i>Morella cerifera</i>			20	Y	FAC		
2.	<i>Ilex glabra</i>			15	Y	FACW		
3.	<i>Magnolia virginiana</i>			10	Y	FACW		
4.								
5.								
6.								
				45	= Total Cover			
50% of total cover: <u>22.5</u>				20% of total cover: <u>9</u>				
Herb Stratum (Plot size: 30 ft)							Definitions of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.	
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
					= Total Cover			
50% of total cover: <u>22.5</u>				20% of total cover: <u>9</u>				
Woody Vine Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1.	<i>Vitis rotundifolia</i>			20	Y	FAC		
2.	<i>Gelsemium sempervirens</i>			10	Y	FAC		
3.	<i>Smilax rotundifolia</i>			10	Y	FAC		
4.	<i>Toxicodendron radicans</i>			5		FAC		
5.								
				45	= Total Cover			
50% of total cover: <u>22.5</u>				20% of total cover: <u>9</u>				

Remarks: (If observed, list morphological adaptations below)
 ERDC/CRREL 2014 Regional Wetland Plant List (Atlantic and Gulf Coastal Plain) used for indicator status.
 Hydrophytic vegetation criteria met.

SOIL

Sampling Point: WZ-13 Upland

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-5	10YR 2/1						Sandy loam	
5-18+	10YR 5/4						Sandy loam	

¹Type C = Concentration, D = depletion, RM = Reduced Matrix, MS = Masked Sand Grains²Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S,T,U) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S,T,U) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P,T,U) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P,T,U) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Muck Presence (A8) (LRR U) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P,T) | <input type="checkbox"/> Marl (F10) (LRR U) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O,P,T) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P,T,U) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O,S) | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A) |
| <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P,S,T,U) | |

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P,S,T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches)

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Hydric soil criteria not met.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site:	SCDOT Right of Way		City/County:	Ridgeville/Berkeley County	Sampling Date:	4/26/2016
Applicant/Owner:	Berkeley County		State:	SC	Sampling Point:	WZ-13 Wetland
Investigator(s):	Walker Stinnette, Brett Sexton		Section, Township, Range:	NA		
Landform: (hillslope, terrace, etc.)	hillslope		Local Relief (concave, convex, none):	none	Slope (%):	0
Subregion (LRR or MLRA)	LRR T	Lat: 33.117556	Long: -80.27161	Datum:	NA	
Soil Map Unit Name:	Goldsboro loamy sand		NWI Classification:	None		

Are climatic/hydrologic conditions on the site typical for this time of year? ☒ Yes ☐ No (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? ☒ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks: Wetland in mixed pine/hardwood forest within SCDOT right of way.

All three wetland indicators are present, area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one is required; check all that apply):</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Much Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
		<input type="checkbox"/> Sphangnum moss (D8) (LRR T,U)	

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

(includes capillary fringe)

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

Remarks: Primary and multiple secondary wetland hydrology indicators present.

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: WZ-13 Wetland

Tree Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>9</u> (A) Total Number of Dominant Species Across All Strata: <u>9</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
1.	<i>Acer rubrum</i>			50	Y	FAC		
2.	<i>Pinus taeda</i>			25	Y	FAC		
3.	<i>Nyssa sylvatica</i>			20	Y	FAC		
4.								
5.								
6.								
				95	= Total Cover			
50% of total cover: <u>47.5</u>				20% of total cover: <u>19</u>				
Sapling Stratum (Plot size: 30 ft)							Prevalence Index worksheet: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>25</u> x 2 = <u>50</u> FAC species <u>195</u> x 3 = <u>585</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>220</u> (A) <u>635</u> (B) Prevalence Index = B/A = <u>2.9</u>	
1.	<i>Liquidambar styraciflua</i>			20	Y	FAC		
2.	<i>Acer rubrum</i>			15	Y	FAC		
3.	<i>Quercus nigra</i>			5		FAC		
4.								
5.								
6.								
				40	= Total Cover			
50% of total cover: <u>20</u>				20% of total cover: <u>8</u>				
Shrub Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is <u>3.0</u> ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
1.	<i>Persea borbonia</i>			20	Y	FACW		
2.	<i>Morella cerifera</i>			20	Y	FAC		
3.	<i>Clethra alnifolia</i>			5		FACW		
4.								
5.								
6.								
				45	= Total Cover			
50% of total cover: <u>22.5</u>				20% of total cover: <u>9</u>				
Herb Stratum (Plot size: 30 ft)							Definitions of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.	
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
					= Total Cover			
50% of total cover: _____				20% of total cover: _____				
Woody Vine Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1.	<i>Vitis rotundifolia</i>			30	Y	FAC		
2.	<i>Gelsemium sempervirens</i>			10	Y	FAC		
3.								
4.								
5.								
				40	= Total Cover			
50% of total cover: <u>20</u>				20% of total cover: <u>8</u>				
Remarks: (If observed, list morphological adaptations below) ERDC/CRREL 2014 Regional Wetland Plant List (Atlantic and Gulf Coastal Plain) used for indicator status. Hydrophytic vegetation criteria met.								

SOIL

Sampling Point: WZ-13 Wetland

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-3	10YR 2/1						Sandy loam	
3-6	10YR 4/1	95	10YR 6/8	5	C	M	Sandy loam	
6-12	10YR 4/1	80	10YR 6/8	20	C	M	Sandy loam	
12-18+	10YR 6/1	80	10YR 6/8	20	C	M	Sandy loam	

¹Type C = Concentration, D = depletion, RM = Reduced Matrix, MS = Masked Sand Grains²Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S,T,U) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S,T,U) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P,T,U) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P,T,U) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Muck Presence (A8) (LRR U) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P,T) | <input type="checkbox"/> Marl (F10) (LRR U) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O,P,T) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P,T,U) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O,S) | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A) |
| <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P,S,T,U) | |

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P,S,T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches)

Hydric Soil Present?

Yes ☒No ☐

Remarks:

Hydric soil criteria met.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site:	Volvo Interchange Properties		City/County:	Ridgeville/Berkeley County	Sampling Date:	11/12/2015	
Applicant/Owner:	Berkeley County		State:	SC	Sampling Point:	Wetland Point 1	
Investigator(s):	Brendon Kelly, Brett Sexton		Section, Township, Range:	NA			
Landform: (hillslope, terrace, etc.)	flat		Local Relief (concave, convex, none):	none	Slope (%):	0	
Subregion (LRR or MLRA)	LRR T	Lat:	33.118500	Long:	-80.27394	Datum:	NA
Soil Map Unit Name:	Coxville fine sandy loam		NWI Classification:	None			

Are climatic/hydrologic conditions on the site typical for this time of year? ☐ Yes ☒ No (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? ☒ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks: Delineation was performed after a season of historically high rainfall amounts.

Wetland in loblolly pine plantation.

All three wetland indicators are present, area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one is required; check all that apply):</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Much Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
		<input type="checkbox"/> Sphangnum moss (D8) (LRR T,U)	

Field Observations:		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>6</u>	
Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>0</u>	

(includes capillary fringe)

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

Remarks:

Multiple primary and secondary wetland hydrology indicators present.

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: Wetland Point 1

Tree Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>8</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
1.	<i>Pinus taeda</i>			60	Y	FAC		
2.								
3.								
4.								
5.								
6.								
				60	= Total Cover			
50% of total cover: <u>30</u>				20% of total cover: <u>12</u>				
Sapling Stratum (Plot size: 30 ft)							Prevalence Index worksheet: OBL species <u>5</u> x 1 = <u>5</u> FACW species <u>41</u> x 2 = <u>82</u> FAC species <u>130</u> x 3 = <u>390</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>176</u> (A) <u>477</u> (B) Prevalence Index = B/A = <u>2.7</u>	
1.	<i>Quercus nigra</i>			15	Y	FAC		
2.	<i>Acer rubrum</i>			10	Y	FAC		
3.	<i>Liquidambar styraciflua</i>			10	Y	FAC		
4.	<i>Quercus phellos</i>			5		FACW		
5.	<i>Nyssa sylvatica</i>			5		FAC		
6.								
				45	= Total Cover			
50% of total cover: <u>22.5</u>				20% of total cover: <u>9</u>				
Shrub Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is <u>3.0</u> ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
1.	<i>Morella cerifera</i>			25	Y	FAC		
2.	<i>Ilex glabra</i>			15	Y	FACW		
3.	<i>Clethra alnifolia</i>			10		FACW		
4.	<i>Ilex opaca</i>			5		FAC		
5.	<i>Lyonia lucida</i>			5		FACW		
6.								
				60	= Total Cover			
50% of total cover: <u>30</u>				20% of total cover: <u>12</u>				
Herb Stratum (Plot size: 30 ft)							Definitions of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.	
1.	<i>Osmundastrum cinnamomeum</i>			5	Y	FACW		
2.	<i>Osmunda spectabilis</i>			5	Y	OBL		
3.	<i>Chasmanthium laxum</i>			1		FACW		
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
				11	= Total Cover			
50% of total cover: <u>5.5</u>				20% of total cover: <u>2.2</u>				
Woody Vine Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1.								
2.								
3.								
4.								
5.								
					= Total Cover			
50% of total cover: <u> </u>				20% of total cover: <u> </u>				
Remarks: (If observed, list morphological adaptations below) ERDC/CRREL 2014 Regional Wetland Plant List (Atlantic and Gulf Coastal Plain) used for indicator status. Hydrophytic vegetation criteria met.								

SOIL

Sampling Point: Wetland Point 1

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-3	10YR 3/1						Clay loam	
3-18+	10YR 7/1	50	10YR 6/8	50	C	M	Clay loam	

¹Type C = Concentration, D = depletion, RM = Reduced Matrix, MS = Masked Sand Grains²Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S,T,U) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S,T,U) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P,T,U) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P,T,U) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Muck Presence (A8) (LRR U) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P,T) | <input type="checkbox"/> Marl (F10) (LRR U) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O,P,T) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P,T,U) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O,S) | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A) |
| <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P,S,T,U) | |

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P,S,T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:	
Depth (inches)	

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site:	Volvo Interchange Properties		City/County:	Ridgeville/Berkeley County	Sampling Date:	11/12/2015	
Applicant/Owner:	Berkeley County		State:	SC	Sampling Point:	Wetland Point 2	
Investigator(s):	Brendon Kelly, Brett Sexton		Section, Township, Range:	NA			
Landform: (hillslope, terrace, etc.)	flat		Local Relief (concave, convex, none):	none	Slope (%):	0	
Subregion (LRR or MLRA)	LRR T	Lat:	33.121786	Long:	-80.28061	Datum:	NA
Soil Map Unit Name:	Craven loam		NWI Classification:	None			

Are climatic/hydrologic conditions on the site typical for this time of year? ☐ Yes ☒ No (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? ☒ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks: Delineation was performed after a season of historically high rainfall amounts.

Wetland in young loblolly pine plantation.

All three wetland indicators are present, area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one is required; check all that apply):</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Much Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
		<input type="checkbox"/> Sphangnum moss (D8) (LRR T,U)	

Field Observations:		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): 4	
Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): 0	

(includes capillary fringe)

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

Remarks:

Multiple primary and secondary wetland hydrology indicators present.

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: Wetland Point 2

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>6</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: _____				20% of total cover: _____	
Sapling Stratum (Plot size: 30 ft)					
1. <i>Pinus taeda</i>	50	Y	FAC	OBL species <u>5</u> x 1 = <u>5</u>	
2. <i>Acer rubrum</i>	10		FAC	FACW species <u>88</u> x 2 = <u>176</u>	
3. <i>Quercus nigra</i>	10		FAC	FAC species <u>95</u> x 3 = <u>285</u>	
4. <i>Quercus laurifolia</i>	5		FACW	FACU species <u>3</u> x 4 = <u>12</u>	
5. <i>Quercus phellos</i>	5		FACW	UPL species <u>0</u> x 5 = <u>0</u>	
6. _____	_____	_____	_____	Column Totals: <u>191</u> (A) <u>478</u> (B)	
80 = Total Cover				Prevalence Index worksheet:	
50% of total cover: 40				Prevalence Index = B/A = <u>2.5</u>	
20% of total cover: 16					
Shrub Stratum (Plot size: 30 ft)					
1. <i>Morella cerifera</i>	25	Y	FAC	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is 3.0 ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
2. <i>Persea borbonia</i>	25	Y	FACW		
3. <i>Lyonia lucida</i>	10		FACW		
4. <i>Clethra alnifolia</i>	10		FACW		
5. <i>Ilex glabra</i>	5		FACW		
6. <i>Magnolia virginiana</i>	5		FACW		
80 = Total Cover					
50% of total cover: 40					
20% of total cover: 16					
Herb Stratum (Plot size: 30 ft)					
1. <i>Arundinaria gigantea</i>	15	Y	FACW	Definitions of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.	
2. <i>Osmundastrum cinnamomeum</i>	5	Y	FACW		
3. <i>Osmunda spectabilis</i>	5	Y	OBL		
4. <i>Chasmanthium laxum</i>	3		FACW		
5. <i>Pteridium aquilinum</i>	3		FACU		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
31 = Total Cover					
50% of total cover: 15.5					
20% of total cover: 6.2					
Woody Vine Stratum (Plot size: 30 ft)					
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: _____					
20% of total cover: _____					
Remarks: (If observed, list morphological adaptations below) ERDC/CRREL 2014 Regional Wetland Plant List (Atlantic and Gulf Coastal Plain) used for indicator status. Hydrophytic vegetation criteria met.					

SOIL

Sampling Point: Wetland Point 2

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-3	10YR 4/1						Sandy clay loam	
3-7	10YR 6/1	95	10YR 6/8	5	C	M	Sandy clay loam	
7-18+	10YR 7/1	75	10YR 6/8	25	C	M	Sandy clay loam	

¹Type C = Concentration, D = depletion, RM = Reduced Matrix, MS = Masked Sand Grains²Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S,T,U) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S,T,U) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P,T,U) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P,T,U) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Muck Presence (A8) (LRR U) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P,T) | <input type="checkbox"/> Marl (F10) (LRR U) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O,P,T) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P,T,U) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O,S) | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A) |
| <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P,S,T,U) | |

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (LRR O)
☐ 2 cm Muck (A10) (LRR S)
☐ Reduced Vertic (F18) (outside MLRA 150A,B)
☐ Piedmont Floodplain Soils (F19) (LRR P,S,T)
☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches)

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site:	Volvo Interchange Properties		City/County:	Ridgeville/Berkeley County	Sampling Date:	4/26/2016	
Applicant/Owner:	Berkeley County		State:	SC	Sampling Point:	Wetland Point 3	
Investigator(s):	Walker Stinnette, Brett Sexton		Section, Township, Range:	NA			
Landform: (hillslope, terrace, etc.)	flat		Local Relief (concave, convex, none):	none	Slope (%):	0	
Subregion (LRR or MLRA)	LRR T	Lat:	33.124701	Long:	-80.28528	Datum:	NA
Soil Map Unit Name:	Meggett loam		NWI Classification:	None			

Are climatic/hydrologic conditions on the site typical for this time of year? ☒ Yes ☐ No (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? ☒ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks: Wetland in mixed pine/hardwood forest within SCDOT right of way.

All three wetland indicators are present, area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one is required; check all that apply):</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Much Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
		<input type="checkbox"/> Sphangnum moss (D8) (LRR T,U)	

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

(includes capillary fringe)

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

Remarks: Primary and multiple secondary wetland hydrology indicators present.

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: Wetland Point 3

Tree Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>10</u> (A) Total Number of Dominant Species Across All Strata: <u>11</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>91%</u> (A/B)	
1.	<i>Acer rubrum</i>			50	Y	FAC		
2.	<i>Pinus taeda</i>			20	Y	FAC		
3.	<i>Quercus phellos</i>			10		FACW		
4.								
5.								
6.								
				80	= Total Cover			
50% of total cover: <u>40</u>				20% of total cover: <u>16</u>				
Sapling Stratum (Plot size: 30 ft)							Prevalence Index worksheet: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>65</u> x 2 = <u>130</u> FAC species <u>160</u> x 3 = <u>480</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>235</u> (A) <u>650</u> (B) Prevalence Index = B/A = <u>2.8</u>	
1.	<i>Liquidambar styraciflua</i>			30	Y	FAC		
2.	<i>Acer rubrum</i>			15	Y	FAC		
3.								
4.								
5.								
6.								
				45	= Total Cover			
50% of total cover: <u>22.5</u>				20% of total cover: <u>9</u>				
Shrub Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is < 3.0 ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
1.	<i>Magnolia virginiana</i>			15	Y	FACW		
2.	<i>Morella cerifera</i>			15	Y	FAC		
3.	<i>Lyonia lucida</i>			10	Y	FACW		
4.								
5.								
6.								
				40	= Total Cover			
50% of total cover: <u>20</u>				20% of total cover: <u>8</u>				
Herb Stratum (Plot size: 30 ft)							Definitions of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.	
1.	<i>Carex sp.</i>			30	Y	FACW		
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
				30	= Total Cover			
50% of total cover: <u>15</u>				20% of total cover: <u>6</u>				
Woody Vine Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1.	<i>Toxicodendron radicans</i>			15	Y	FAC		
2.	<i>Smilax rotundifolia</i>			15	Y	FAC		
3.	<i>Rubus trivialis</i>			10	Y	FACU		
4.								
5.								
				40	= Total Cover			
50% of total cover: <u>20</u>				20% of total cover: <u>8</u>				
Remarks: (If observed, list morphological adaptations below) ERDC/CRREL 2014 Regional Wetland Plant List (Atlantic and Gulf Coastal Plain) used for indicator status. Hydrophytic vegetation criteria met. Unable to identify Carex to species level given the lack of fruiting bodies at the time of this investigation. Plant was assumed to be FACW.								

SOIL

Sampling Point: Wetland Point 3

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-4	10YR 3/1						Sandy loam	
4-8	10YR 4/1	95	10YR 6/8	5	C	M	Sandy clay loam	
8-18+	10YR 5/1	80	10YR 6/8	20	C	M	Sandy clay loam	

¹Type C = Concentration, D = depletion, RM = Reduced Matrix, MS = Masked Sand Grains²Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S,T,U) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S,T,U) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P,T,U) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P,T,U) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Muck Presence (A8) (LRR U) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P,T) | <input type="checkbox"/> Marl (F10) (LRR U) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O,P,T) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P,T,U) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O,S) | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A) |
| <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P,S,T,U) | |

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P,S,T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches)

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site:	SCDOT Right of Way		City/County:	Ridgeville/Berkeley County	Sampling Date:	4/27/2016	
Applicant/Owner:	Berkeley County		State:	SC	Sampling Point:	WBKA-5 Upland	
Investigator(s):	Brendon Kelly, Walker Stinnette		Section, Township, Range:	NA			
Landform: (hillslope, terrace, etc.)	flat		Local Relief (concave, convex, none):	none	Slope (%):	0	
Subregion (LRR or MLRA)	LRR T	Lat:	33.113703	Long:	-80.26366	Datum:	NA
Soil Map Unit Name:	Rains fine sandy loam		NWI Classification:	None			

Are climatic/hydrologic conditions on the site typical for this time of year? ☒ Yes ☐ No (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? ☒ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

Remarks: Upland in mixed pine/hardwood forest within SCDOT right of way.

All three wetland indicators are not present, area is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one is required; check all that apply):</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Much Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)	
		<input type="checkbox"/> Sphangnum moss (D8) (LRR T,U)	

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

(includes capillary fringe)

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

Remarks: No primary or secondary wetland hydrology indicators present.

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: WBKA-5 Upland

Tree Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>9</u> (A) Total Number of Dominant Species Across All Strata: <u>9</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
1.	<i>Liquidambar styraciflua</i>			40	Y	FAC		
2.	<i>Quercus nigra</i>			20	Y	FAC		
3.	<i>Pinus taeda</i>			20	Y	FAC		
4.	<i>Acer rubrum</i>			5		FAC		
5.								
6.								
				85	= Total Cover			
50% of total cover: <u>42.5</u>				20% of total cover: <u>17</u>				
Sapling Stratum (Plot size: 30 ft)							Prevalence Index worksheet: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>125</u> x 3 = <u>375</u> FACU species <u>3</u> x 4 = <u>12</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>143</u> (A) <u>417</u> (B) Prevalence Index = B/A = <u>2.9</u>	
1.	<i>Acer rubrum</i>			10	Y	FAC		
2.	<i>Liquidambar styraciflua</i>			5	Y	FAC		
3.	<i>Quercus alba</i>			2		FACU		
4.								
5.								
6.								
				17	= Total Cover			
50% of total cover: <u>8.5</u>				20% of total cover: <u>3.4</u>				
Shrub Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is <u>3.0</u> ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
1.	<i>Liquidambar styraciflua</i>			5	Y	FAC		
2.	<i>Clethra alnifolia</i>			5	Y	FACW		
3.	<i>Nyssa sylvatica</i>			3		FAC		
4.	<i>Quercus nigra</i>			2		FAC		
5.								
6.								
				15	= Total Cover			
50% of total cover: <u>7.5</u>				20% of total cover: <u>3</u>				
Herb Stratum (Plot size: 30 ft)							Definitions of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.	
1.	<i>Arundinaria gigantea</i>			10	Y	FACW		
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
				10	= Total Cover			
50% of total cover: <u>5</u>				20% of total cover: <u>2</u>				
Woody Vine Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1.	<i>Gelsemium sempervirens</i>			15	Y	FAC		
2.	<i>Parthenocissus quinquefolia</i>			1		FACU		
3.								
4.								
5.								
				16	= Total Cover			
50% of total cover: <u>8</u>				20% of total cover: <u>3.2</u>				
Remarks: (If observed, list morphological adaptations below) ERDC/CRREL 2014 Regional Wetland Plant List (Atlantic and Gulf Coastal Plain) used for indicator status. Hydrophytic vegetation criteria met.								

SOIL

Sampling Point: WBKA-5 Upland

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-14	10YR 4/3						Sandy loam	
14-16	10YR 4/2						Sandy clay loam	No Mottles
16-18+	10YR 5/3						Sandy clay loam	

¹Type C = Concentration, D = depletion, RM = Reduced Matrix, MS = Masked Sand Grains²Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S,T,U) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S,T,U) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P,T,U) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P,T,U) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Muck Presence (A8) (LRR U) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P,T) | <input type="checkbox"/> Marl (F10) (LRR U) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O,P,T) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P,T,U) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O,S) | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A) |
| <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P,S,T,U) | |

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P,S,T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches)

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Hydric soil criteria not met.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site:	SCDOT Right of Way		City/County:	Ridgeville/Berkeley County	Sampling Date:	4/27/2016	
Applicant/Owner:	Berkeley County		State:	SC	Sampling Point:	WBKA-5 Wetland	
Investigator(s):	Brendon Kelly, Walker Stinnette		Section, Township, Range:	NA			
Landform: (hillslope, terrace, etc.)	flat		Local Relief (concave, convex, none):	none	Slope (%):	0	
Subregion (LRR or MLRA)	LRR T	Lat:	33.113703	Long:	-80.26366	Datum:	NA
Soil Map Unit Name:	Rains fine sandy loam		NWI Classification:	None			

Are climatic/hydrologic conditions on the site typical for this time of year? ☒ Yes ☐ No (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? ☒ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area	
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	within a wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		

Remarks: Wetland in mixed pine/hardwood forest within SCDOT right of way.

All three wetland indicators are present, area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one is required; check all that apply):</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Much Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
		<input type="checkbox"/> Sphangnum moss (D8) (LRR T,U)	

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

(includes capillary fringe)

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

Remarks: Primary and multiple secondary wetland hydrology indicators present.

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: WBKA-5 Wetland

Tree Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>8</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
1.	<i>Pinus taeda</i>			50	Y	FAC		
2.	<i>Liquidambar styraciflua</i>			20	Y	FAC		
3.	<i>Quercus nigra</i>			5		FAC		
4.	<i>Acer rubrum</i>			5		FAC		
5.								
6.								
				80	= Total Cover			
50% of total cover: <u>40</u>				20% of total cover: <u>16</u>				
Sapling Stratum (Plot size: 30 ft)							Prevalence Index worksheet: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>35</u> x 2 = <u>70</u> FAC species <u>138</u> x 3 = <u>414</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>178</u> (A) <u>504</u> (B) Prevalence Index = B/A = <u>2.8</u>	
1.	<i>Liquidambar styraciflua</i>			20	Y	FAC		
2.	<i>Acer rubrum</i>			10	Y	FAC		
3.	<i>Prunus serotina</i>			5		FACU		
4.	<i>Nyssa sylvatica</i>			5		FAC		
5.	<i>Quercus nigra</i>			2		FAC		
6.								
				42	= Total Cover			
50% of total cover: <u>21</u>				20% of total cover: <u>8.4</u>				
Shrub Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is <u>3.0</u> ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
1.	<i>Clethra alnifolia</i>			20	Y	FACW		
2.	<i>Magnolia virginiana</i>			5		FACW		
3.	<i>Morella cerifera</i>			5		FAC		
4.	<i>Liquidambar styraciflua</i>			3		FAC		
5.								
6.								
				33	= Total Cover			
50% of total cover: <u>16.5</u>				20% of total cover: <u>6.6</u>				
Herb Stratum (Plot size: 30 ft)							Definitions of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.	
1.	<i>Dichanthelium scoparium</i>			5	Y	FACW		
2.	<i>Carex sp.</i>			5	Y	FACW		
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
				10	= Total Cover			
50% of total cover: <u>5</u>				20% of total cover: <u>2</u>				
Woody Vine Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1.	<i>Gelsemium sempervirens</i>			10	Y	FAC		
2.	<i>Vitis rotundifolia</i>			2		FAC		
3.	<i>Smilax bona-nox</i>			1		FAC		
4.								
5.								
				13	= Total Cover			
50% of total cover: <u>6.5</u>				20% of total cover: <u>2.6</u>				
Remarks: (If observed, list morphological adaptations below) ERDC/CRREL 2014 Regional Wetland Plant List (Atlantic and Gulf Coastal Plain) used for indicator status. Hydrophytic vegetation criteria met. Unable to identify Carex to species level given the lack of fruiting bodies at the time of this investigation. Plant was assumed to be FACW.								

SOIL

Sampling Point: WBKA-5 Wetland

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-8	10YR 5/3	75	10YR 5/8; 10YR 6/8	25			Sandy loam	
8-10	10YR 6/1	75	10YR 5/8	25	C	M	Sandy loam	
10-18+	10YR 5/1	95	10YR 5/8	5	C	M	Sandy loam	

¹Type C = Concentration, D = depletion, RM = Reduced Matrix, MS = Masked Sand Grains²Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S,T,U) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S,T,U) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P,T,U) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P,T,U) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Muck Presence (A8) (LRR U) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P,T) | <input type="checkbox"/> Marl (F10) (LRR U) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O,P,T) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P,T,U) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O,S) | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A) |
| <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P,S,T,U) | |

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P,S,T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches)

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site:	SCDOT Right of Way		City/County:	Ridgeville/Berkeley County	Sampling Date:	4/27/2016	
Applicant/Owner:	Berkeley County		State:	SC	Sampling Point:	WBKB-6 Upland	
Investigator(s):	Brendon Kelly, Walker Stinnette		Section, Township, Range:	NA			
Landform: (hillslope, terrace, etc.)	flat		Local Relief (concave, convex, none):	none	Slope (%):	0	
Subregion (LRR or MLRA)	LRR T	Lat:	33.116178	Long:	-80.26792	Datum:	NA
Soil Map Unit Name:	Leon fine sand		NWI Classification:	None			

Are climatic/hydrologic conditions on the site typical for this time of year? ☒ Yes ☐ No (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? ☒ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

Remarks: Upland in mixed pine/hardwood forest within SCDOT right of way.

All three wetland indicators are not present, area is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one is required; check all that apply):</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Much Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)	
		<input type="checkbox"/> Sphangnum moss (D8) (LRR T,U)	

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

(includes capillary fringe)

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

Remarks: No primary or secondary wetland hydrology indicators present.

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: WBKB-6 Upland

Tree Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
1.	<i>Quercus nigra</i>			80	Y	FAC		
2.	<i>Acer rubrum</i>			10		FAC		
3.	<i>Pinus palustris</i>			3		FAC		
4.								
5.								
6.								
				93	= Total Cover			
50% of total cover: <u>46.5</u>				20% of total cover: <u>18.6</u>				
Sapling Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>88</u> x 2 = <u>176</u> FAC species <u>144</u> x 3 = <u>432</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>232</u> (A) <u>608</u> (B) Prevalence Index = B/A = <u>2.6</u>	
1.	<i>Nyssa sylvatica</i>			25	Y	FAC		
2.	<i>Acer rubrum</i>			10	Y	FAC		
3.	<i>Liquidambar styraciflua</i>			10	Y	FAC		
4.								
5.								
6.								
				45	= Total Cover			
50% of total cover: <u>22.5</u>				20% of total cover: <u>9</u>				
Shrub Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is <u>3.0</u> ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
1.	<i>Lyonia lucida</i>			50	Y	FACW		
2.	<i>Clethra alnifolia</i>			25	Y	FACW		
3.	<i>Vaccinium corymbosum</i>			8		FACW		
4.	<i>Persea borbonia</i>			5		FACW		
5.	<i>Morella cerifera</i>			3		FAC		
6.								
				91	= Total Cover			
50% of total cover: <u>45.5</u>				20% of total cover: <u>18.2</u>				
Herb Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status	Definitions of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.	
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
					= Total Cover			
50% of total cover: _____				20% of total cover: _____				
Woody Vine Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1.	<i>Gelsemium sempervirens</i>			3		FAC		
2.								
3.								
4.								
5.								
				3	= Total Cover			
50% of total cover: <u>1.5</u>				20% of total cover: <u>0.6</u>				
Remarks: (If observed, list morphological adaptations below) ERDC/CRREL 2014 Regional Wetland Plant List (Atlantic and Gulf Coastal Plain) used for indicator status. Hydrophytic vegetation criteria met.								

SOIL

Sampling Point: WBKB-6 Upland

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-4	10YR 2/2						Sandy loam	
4-18+	10YR 4/3						Sandy loam	

¹Type C = Concentration, D = depletion, RM = Reduced Matrix, MS = Masked Sand Grains²Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S,T,U) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S,T,U) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P,T,U) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P,T,U) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Muck Presence (A8) (LRR U) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P,T) | <input type="checkbox"/> Marl (F10) (LRR U) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O,P,T) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P,T,U) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O,S) | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A) |
| <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P,S,T,U) | |

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P,S,T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches)

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Hydric soil criteria not met.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site:	SCDOT Right of Way		City/County:	Ridgeville/Berkeley County	Sampling Date:	4/27/2016	
Applicant/Owner:	Berkeley County		State:	SC	Sampling Point:	WBKB-6 Wetland	
Investigator(s):	Brendon Kelly, Walker Stinnette		Section, Township, Range:	NA			
Landform: (hillslope, terrace, etc.)	flat		Local Relief (concave, convex, none):	none	Slope (%):	0	
Subregion (LRR or MLRA)	LRR T	Lat:	33.116178	Long:	-80.26792	Datum:	NA
Soil Map Unit Name:	Leon fine sand		NWI Classification:	None			

Are climatic/hydrologic conditions on the site typical for this time of year? ☒ Yes ☐ No (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? ☒ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks: Wetland in mixed pine/hardwood forest within SCDOT right of way.

All three wetland indicators are present, area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one is required; check all that apply):</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Much Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
		<input type="checkbox"/> Sphangnum moss (D8) (LRR T,U)	

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

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

Remarks: Multiple primary and secondary wetland hydrology indicators present.

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: WBKB-6 Wetland

Tree Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
1.	<i>Pinus taeda</i>			40	Y	FAC		
2.	<i>Acer rubrum</i>			25	Y	FAC		
3.	<i>Quercus nigra</i>			10		FAC		
4.	<i>Quercus laurifolia</i>			5		FACW		
5.								
6.								
				80	= Total Cover			
50% of total cover: <u>40</u>				20% of total cover: <u>16</u>				
Sapling Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>93</u> x 2 = <u>186</u> FAC species <u>154</u> x 3 = <u>462</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>247</u> (A) <u>648</u> (B) Prevalence Index = B/A = <u>2.6</u>	
1.	<i>Quercus nigra</i>			40	Y	FAC		
2.	<i>Nyssa sylvatica</i>			20	Y	FAC		
3.								
4.								
5.								
6.								
				60	= Total Cover			
50% of total cover: <u>30</u>				20% of total cover: <u>12</u>				
Shrub Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is <u>3.0</u> ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
1.	<i>Lyonia lucida</i>			70	Y	FACW		
2.	<i>Magnolia virginiana</i>			10		FACW		
3.	<i>Vaccinium corymbosum</i>			5		FACW		
4.	<i>Persea borbonia</i>			3		FACW		
5.	<i>Liquidambar styraciflua</i>			3		FAC		
6.	<i>Morella cerifera</i>			3		FAC		
				94	= Total Cover			
50% of total cover: <u>47</u>				20% of total cover: <u>18.8</u>				
Herb Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status	Definitions of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.	
1.								
2.						FACW		
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
					= Total Cover			
50% of total cover: _____				20% of total cover: _____				
Woody Vine Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1.	<i>Gelsemium sempervirens</i>			10	Y	FAC		
2.	<i>Vitis rotundifolia</i>			3		FAC		
3.								
4.								
5.								
				13	= Total Cover			
50% of total cover: <u>6.5</u>				20% of total cover: <u>2.6</u>				
Remarks: (If observed, list morphological adaptations below) ERDC/CRREL 2014 Regional Wetland Plant List (Atlantic and Gulf Coastal Plain) used for indicator status. Hydrophytic vegetation criteria met.								

SOIL

Sampling Point: WBKB-6 Wetland

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-2	10YR 2/1						Loamy sand	
2-18+	10YR 5/1						Fine sandy loam	

¹Type C = Concentration, D = depletion, RM = Reduced Matrix, MS = Masked Sand Grains²Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S,T,U) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S,T,U) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P,T,U) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P,T,U) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Muck Presence (A8) (LRR U) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P,T) | <input type="checkbox"/> Marl (F10) (LRR U) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O,P,T) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P,T,U) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O,S) | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A) |
| <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P,S,T,U) | |

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (LRR O)
☐ 2 cm Muck (A10) (LRR S)
☐ Reduced Vertic (F18) (outside MLRA 150A,B)
☐ Piedmont Floodplain Soils (F19) (LRR P,S,T)
☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches)

Hydric Soil Present?

Yes ☒No ☐

Remarks:

Hydric soil criteria met.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site:	SCDOT Right of Way		City/County:	Ridgeville/Berkeley County	Sampling Date:	4/27/2016	
Applicant/Owner:	Berkeley County		State:	SC	Sampling Point:	WBKC-2 Upland	
Investigator(s):	Brendon Kelly, Walker Stinnette		Section, Township, Range:	NA			
Landform: (hillslope, terrace, etc.)	flat		Local Relief (concave, convex, none):	none	Slope (%):	0	
Subregion (LRR or MLRA)	LRR T	Lat:	33.116495	Long:	-80.26846	Datum:	NA
Soil Map Unit Name:	Goldsboro loamy sand		NWI Classification:	None			

Are climatic/hydrologic conditions on the site typical for this time of year? ☒ Yes ☐ No (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? ☒ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area	
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	within a wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		

Remarks: Upland in mixed pine/hardwood forest within SCDOT right of way.

All three wetland indicators are not present, area is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one is required; check all that apply):</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Much Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)	
		<input type="checkbox"/> Sphangnum moss (D8) (LRR T,U)	

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

(includes capillary fringe)

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

Remarks: No primary or secondary wetland hydrology indicators present.

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: WBKC-2 Upland

Tree Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
1.	<i>Quercus nigra</i>			80	Y	FAC		
2.	<i>Acer rubrum</i>			10		FAC		
3.	<i>Pinus palustris</i>			3		FAC		
4.								
5.								
6.								
				93	= Total Cover			
50% of total cover: <u>46.5</u>				20% of total cover: <u>18.6</u>				
Sapling Stratum (Plot size: 30 ft)							Prevalence Index worksheet: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>88</u> x 2 = <u>176</u> FAC species <u>144</u> x 3 = <u>432</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>232</u> (A) <u>608</u> (B) Prevalence Index = B/A = <u>2.6</u>	
1.	<i>Nyssa sylvatica</i>			25	Y	FAC		
2.	<i>Acer rubrum</i>			10	Y	FAC		
3.	<i>Liquidambar styraciflua</i>			10	Y	FAC		
4.								
5.								
6.								
				45	= Total Cover			
50% of total cover: <u>22.5</u>				20% of total cover: <u>9</u>				
Shrub Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is <u>3.0</u> ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
1.	<i>Lyonia lucida</i>			50	Y	FACW		
2.	<i>Clethra alnifolia</i>			25	Y	FACW		
3.	<i>Vaccinium corymbosum</i>			8		FACW		
4.	<i>Persea borbonia</i>			5		FACW		
5.	<i>Morella cerifera</i>			3		FAC		
6.								
				91	= Total Cover			
50% of total cover: <u>45.5</u>				20% of total cover: <u>18.2</u>				
Herb Stratum (Plot size: 30 ft)							Definitions of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.	
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
					= Total Cover			
50% of total cover: _____				20% of total cover: _____				
Woody Vine Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1.	<i>Gelsemium sempervirens</i>			3		FAC		
2.								
3.								
4.								
5.								
				3	= Total Cover			
50% of total cover: <u>1.5</u>				20% of total cover: <u>0.6</u>				
Remarks: (If observed, list morphological adaptations below) ERDC/CRREL 2014 Regional Wetland Plant List (Atlantic and Gulf Coastal Plain) used for indicator status. Hydrophytic vegetation criteria met.								

SOIL

Sampling Point: WBKC-2 Upland

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-4	10YR 2/2						Sandy loam	
4-18+	10YR 4/3						Sandy loam	

¹Type C = Concentration, D = depletion, RM = Reduced Matrix, MS = Masked Sand Grains²Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S,T,U) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S,T,U) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P,T,U) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P,T,U) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Muck Presence (A8) (LRR U) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P,T) | <input type="checkbox"/> Marl (F10) (LRR U) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O,P,T) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P,T,U) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O,S) | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A) |
| <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P,S,T,U) | |

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P,S,T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches)

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Hydric soil criteria not met.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site:	SCDOT Right of Way		City/County:	Ridgeville/Berkeley County		Sampling Date:	4/27/2016	
Applicant/Owner:	Berkeley County		State:	SC		Sampling Point:	WBKC-2 Wetland	
Investigator(s):	Brendon Kelly, Walker Stinnette		Section, Township, Range:	NA				
Landform: (hillslope, terrace, etc.)	flat		Local Relief (concave, convex, none):	none		Slope (%):	0	
Subregion (LRR or MLRA)	LRR T		Lat:	33.116495		Long:	-80.26846	
Soil Map Unit Name:	Goldsboro loamy sand		NWI Classification:	None		Datum:	NA	
Are climatic/hydrologic conditions on the site typical for this time of year? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If no, explain in Remarks.)								
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?			Are "Normal Circumstances" present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?			(If needed, explain any answers in Remarks.)					

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a wetland?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			

Remarks: Wetland in mixed pine/hardwood forest within SCDOT right of way.

All three wetland indicators are present, area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:			<u>Secondary Indicators (minimum of two required)</u>		
<u>Primary Indicators (minimum of one is required; check all that apply):</u>					
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)			
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)			
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)			
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)			
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Much Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Geomorphic Position (D2)			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)			
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)			
		<input type="checkbox"/> Sphangnum moss (D8) (LRR T,U)			

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

(includes capillary fringe)

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

Remarks: Multiple primary and secondary wetland hydrology indicators present.

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: WBKC-2 Wetland

Tree Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
1.	<i>Acer rubrum</i>			40	Y	FAC		
2.	<i>Nyssa sylvatica</i>			25	Y	FAC		
3.	<i>Pinus taeda</i>			20	Y	FAC		
4.	<i>Quercus nigra</i>			10		FAC		
5.								
6.								
				95	= Total Cover			
50% of total cover: 47.5				20% of total cover: 19				
Sapling Stratum (Plot size: 30 ft)							Prevalence Index worksheet: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>60</u> x 2 = <u>120</u> FAC species <u>126</u> x 3 = <u>378</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>186</u> (A) <u>498</u> (B) Prevalence Index = B/A = <u>2.7</u>	
1.	<i>Acer rubrum</i>			5	Y	FAC		
2.	<i>Nyssa sylvatica</i>			5	Y	FAC		
3.	<i>Liquidambar styraciflua</i>			5	Y	FAC		
4.								
5.								
6.								
				15	= Total Cover			
50% of total cover: 7.5				20% of total cover: 3				
Shrub Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is < 3.0 ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
1.	<i>Vaccinium corymbosum</i>			50	Y	FACW		
2.	<i>Quercus nigra</i>			10		FAC		
3.	<i>Persea borbonia</i>			10		FACW		
4.								
5.								
6.								
				70	= Total Cover			
50% of total cover: 35				20% of total cover: 14				
Herb Stratum (Plot size: 30 ft)							Definitions of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.	
1.								
2.						FACW		
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
					= Total Cover			
50% of total cover:				20% of total cover:				
Woody Vine Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1.	<i>Gelsemium sempervirens</i>			3		FAC		
2.	<i>Smilax rotundifolia</i>			3		FAC		
3.								
4.								
5.								
				6	= Total Cover			
50% of total cover: 3				20% of total cover: 1.2				
Remarks: (If observed, list morphological adaptations below) ERDC/CRREL 2014 Regional Wetland Plant List (Atlantic and Gulf Coastal Plain) used for indicator status. Hydrophytic vegetation criteria met.								

SOIL

Sampling Point: WBKC-2 Wetland

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-8	10YR 3/1						Sandy loam	
8-18+	10YR 7/1	90	10YR 5/8	10	C	M	Loamy sand	

¹Type C = Concentration, D = depletion, RM = Reduced Matrix, MS = Masked Sand Grains²Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S,T,U) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S,T,U) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P,T,U) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P,T,U) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Muck Presence (A8) (LRR U) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P,T) | <input type="checkbox"/> Marl (F10) (LRR U) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O,P,T) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P,T,U) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O,S) | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A) |
| <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P,S,T,U) | |

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P,S,T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:	
Depth (inches)	

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site:	SCDOT Right of Way		City/County:	Ridgeville/Berkeley County	Sampling Date:	4/27/2016	
Applicant/Owner:	Berkeley County		State:	SC	Sampling Point:	WBKD-2 Upland	
Investigator(s):	Brendon Kelly, Walker Stinnette		Section, Township, Range:	NA			
Landform: (hillslope, terrace, etc.)	flat		Local Relief (concave, convex, none):	none	Slope (%):	0	
Subregion (LRR or MLRA)	LRR T	Lat:	33.117353	Long:	-80.26992	Datum:	NA
Soil Map Unit Name:	Norfolk loamy sand		NWI Classification:	None			

Are climatic/hydrologic conditions on the site typical for this time of year? ☒ Yes ☐ No (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? ☒ Yes ☐ No

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

Remarks: Upland in mixed pine/hardwood forest within SCDOT right of way.

All three wetland indicators are not present, area is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one is required; check all that apply):</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Much Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)	
		<input type="checkbox"/> Sphangnum moss (D8) (LRR T,U)	

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

Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
----------------------------	---

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

Remarks: No primary or secondary wetland hydrology indicators present.

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: WBKD-2 Upland

Tree Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>8</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
1.	<i>Pinus taeda</i>			40	Y	FAC		
2.	<i>Liquidambar styraciflua</i>			20	Y	FAC		
3.	<i>Acer rubrum</i>			20	Y	FAC		
4.	<i>Nyssa sylvatica</i>			10		FAC		
5.								
6.								
				90	= Total Cover			
50% of total cover: <u>45</u>				20% of total cover: <u>18</u>				
Sapling Stratum (Plot size: 30 ft)							Prevalence Index worksheet: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>175</u> x 3 = <u>525</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>180</u> (A) <u>535</u> (B) Prevalence Index = B/A = <u>3.0</u>	
1.	<i>Nyssa sylvatica</i>			30	Y	FAC		
2.	<i>Liquidambar styraciflua</i>			10	Y	FAC		
3.								
4.								
5.								
6.								
				40	= Total Cover			
50% of total cover: <u>20</u>				20% of total cover: <u>8</u>				
Shrub Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is <u>3.0</u> ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
1.	<i>Morella cerifera</i>			10	Y	FAC		
2.	<i>Vaccinium corymbosum</i>			5	Y	FACW		
3.								
4.								
5.								
6.								
				15	= Total Cover			
50% of total cover: <u>7.5</u>				20% of total cover: <u>3</u>				
Herb Stratum (Plot size: 30 ft)							Definitions of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.	
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
					= Total Cover			
50% of total cover: _____				20% of total cover: _____				
Woody Vine Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1.	<i>Smilax rotundifolia</i>			30	Y	FAC		
2.	<i>Gelsemium sempervirens</i>			5		FAC		
3.								
4.								
5.								
				35	= Total Cover			
50% of total cover: <u>17.5</u>				20% of total cover: <u>7</u>				
Remarks: (If observed, list morphological adaptations below) ERDC/CRREL 2014 Regional Wetland Plant List (Atlantic and Gulf Coastal Plain) used for indicator status. Hydrophytic vegetation criteria met.								

SOIL

Sampling Point: WBKD-2 Upland

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-4	10YR 2/2						Sandy loam	
4-6	10YR 4/3						Sandy loam	
6-18+	10YR 5/4						Sandy loam	

¹Type C = Concentration, D = depletion, RM = Reduced Matrix, MS = Masked Sand Grains²Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S,T,U) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S,T,U) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P,T,U) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P,T,U) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Muck Presence (A8) (LRR U) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P,T) | <input type="checkbox"/> Marl (F10) (LRR U) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O,P,T) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P,T,U) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O,S) | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A) |
| <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P,S,T,U) | |

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P,S,T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches)

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Hydric soil criteria not met.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site:	SCDOT Right of Way		City/County:	Ridgeville/Berkeley County		Sampling Date:	4/27/2016	
Applicant/Owner:	Berkeley County		State:	SC		Sampling Point:	WBKD-2 Wetland	
Investigator(s):	Brendon Kelly, Walker Stinnette		Section, Township, Range:	NA				
Landform: (hillslope, terrace, etc.)	flat		Local Relief (concave, convex, none):	none		Slope (%):	0	
Subregion (LRR or MLRA)	LRR T		Lat:	33.117353		Long:	-80.26992	
Soil Map Unit Name:	Norfolk loamy sand		NWI Classification:	None		Datum:	NA	
Are climatic/hydrologic conditions on the site typical for this time of year? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If no, explain in Remarks.)								
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?			Are "Normal Circumstances" present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?			(If needed, explain any answers in Remarks.)					

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a wetland?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Remarks: Wetland in mixed pine/hardwood forest within SCDOT right of way.					
All three wetland indicators are present, area is a wetland.					

HYDROLOGY

Wetland Hydrology Indicators:			Secondary Indicators (minimum of two required)		
Primary Indicators (minimum of one is required; check all that apply):					
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)			
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Drainage Patterns (B10)			
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)			
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)			
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Much Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Geomorphic Position (D2)			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)			
<input type="checkbox"/> Water-Stained Leaves (B9)		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)			
		<input type="checkbox"/> Sphangnum moss (D8) (LRR T,U)			
Field Observations:					
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____			
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____			
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks: Multiple secondary wetland hydrology indicators present.					

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: WBKD-2 Wetland

Tree Stratum (Plot size: 30 ft)				Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>10</u> (A) Total Number of Dominant Species Across All Strata: <u>10</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
1.	<i>Nyssa sylvatica</i>			40	Y	FAC		
2.	<i>Pinus taeda</i>			20	Y	FAC		
3.	<i>Liquidambar styraciflua</i>			10		FAC		
4.	<i>Acer rubrum</i>			10		FAC		
5.	<i>Quercus phellos</i>			5		FACW		
6.								
				85	= Total Cover			
50% of total cover: <u>42.5</u>				20% of total cover: <u>17</u>				
Sapling Stratum (Plot size: 30 ft)							Prevalence Index worksheet: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>18</u> x 2 = <u>36</u> FAC species <u>155</u> x 3 = <u>465</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>173</u> (A) <u>501</u> (B) Prevalence Index = B/A = <u>2.9</u>	
1.	<i>Acer rubrum</i>			20	Y	FAC		
2.	<i>Liquidambar styraciflua</i>			5	Y	FAC		
3.	<i>Nyssa sylvatica</i>			5	Y	FAC		
4.								
5.								
6.								
				30	= Total Cover			
50% of total cover: <u>15</u>				20% of total cover: <u>6</u>				
Shrub Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is > 50% <input type="checkbox"/> Prevalence Index is <u>3.0</u> ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
1.	<i>Liquidambar styraciflua</i>			10	Y	FAC		
2.	<i>Clethra alnifolia</i>			8	Y	FACW		
3.	<i>Vaccinium corymbosum</i>			5	Y	FACW		
4.								
5.								
6.								
				23	= Total Cover			
50% of total cover: <u>11.5</u>				20% of total cover: <u>4.6</u>				
Herb Stratum (Plot size: 30 ft)							Definitions of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.	
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
					= Total Cover			
50% of total cover: _____				20% of total cover: _____				
Woody Vine Stratum (Plot size: 30 ft)							Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1.	<i>Vitis rotundifolia</i>			15	Y	FAC		
2.	<i>Smilax rotundifolia</i>			15	Y	FAC		
3.	<i>Gelsemium sempervirens</i>			5		FAC		
4.								
5.								
				35	= Total Cover			
50% of total cover: <u>17.5</u>				20% of total cover: <u>7</u>				
Remarks: (If observed, list morphological adaptations below) ERDC/CRREL 2014 Regional Wetland Plant List (Atlantic and Gulf Coastal Plain) used for indicator status. Hydrophytic vegetation criteria met.								

SOIL

Sampling Point: WBKD-2 Wetland

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-2	10YR 2/2						Sandy loam	
2-10	10YR 3/1						Sandy loam	
10-18+	10YR 4/2	80	10YR 5/8	20	C	M	Sandy loam	

¹Type C = Concentration, D = depletion, RM = Reduced Matrix, MS = Masked Sand Grains²Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S,T,U) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S,T,U) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P,T,U) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P,T,U) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Muck Presence (A8) (LRR U) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P,T) | <input type="checkbox"/> Marl (F10) (LRR U) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O,P,T) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P,T,U) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O,S) | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A) |
| <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P,S,T,U) | |

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P,S,T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches)

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met.



Figure 2. USGS Topographic Map

Volvo Interchange

Berkeley & Dorchester County, South Carolina

Legend

Project Boundary



Job No. 6250160096

Drawn: BWS

Reviewed: BPK

Date: 08/08/2016

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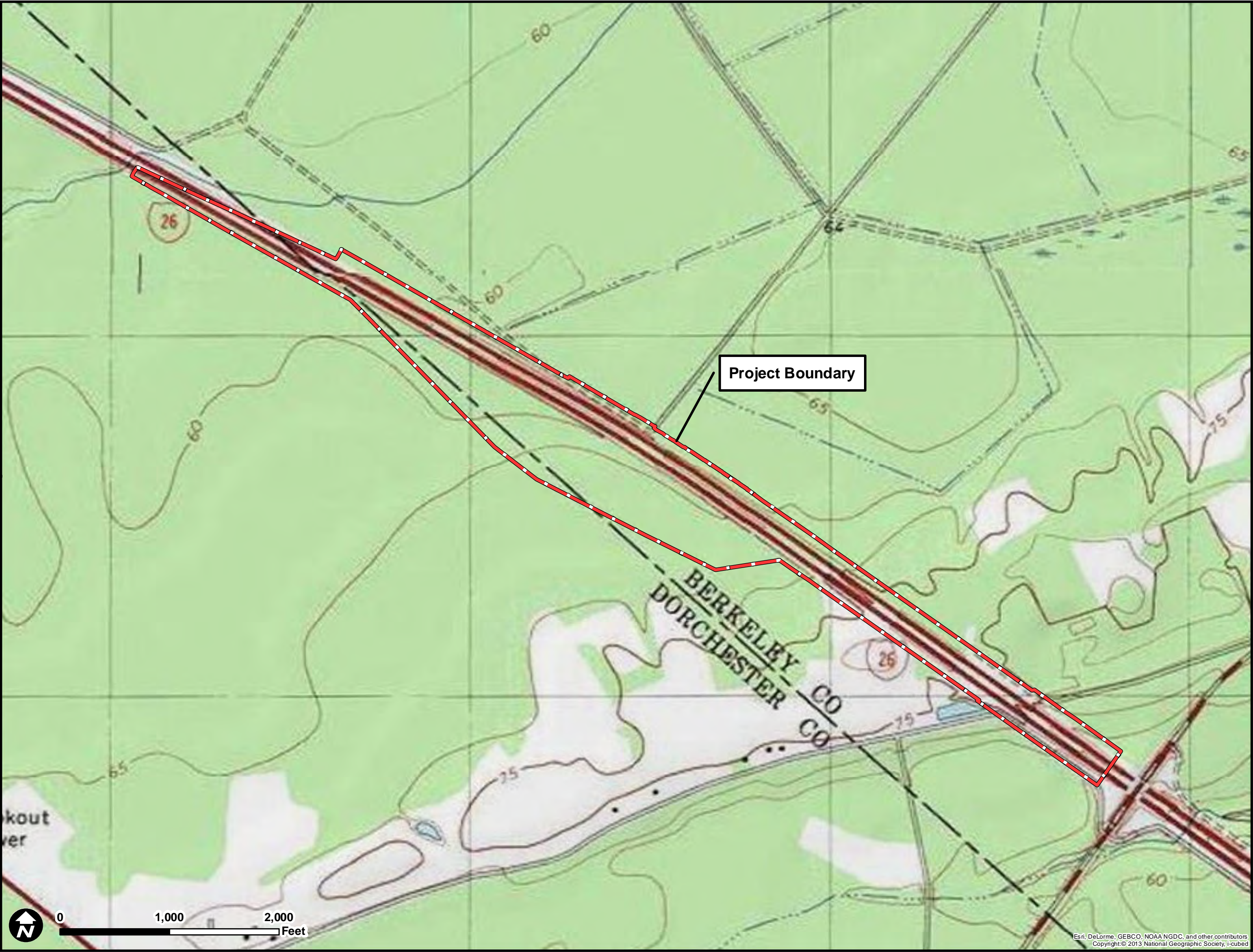




Figure 3. NRCS Soils Map

Volvo Interchange

Berkeley & Dorchester County, South Carolina

Legend

NRCS Hydric Rating

- Nonhydic
- Predominantly Nonhydic
- Predominantly Hydric
- Hydic
- Project Boundary



Job No. 6250160096
Drawn: BWS
Reviewed: BPK
Date: 04/29/2016

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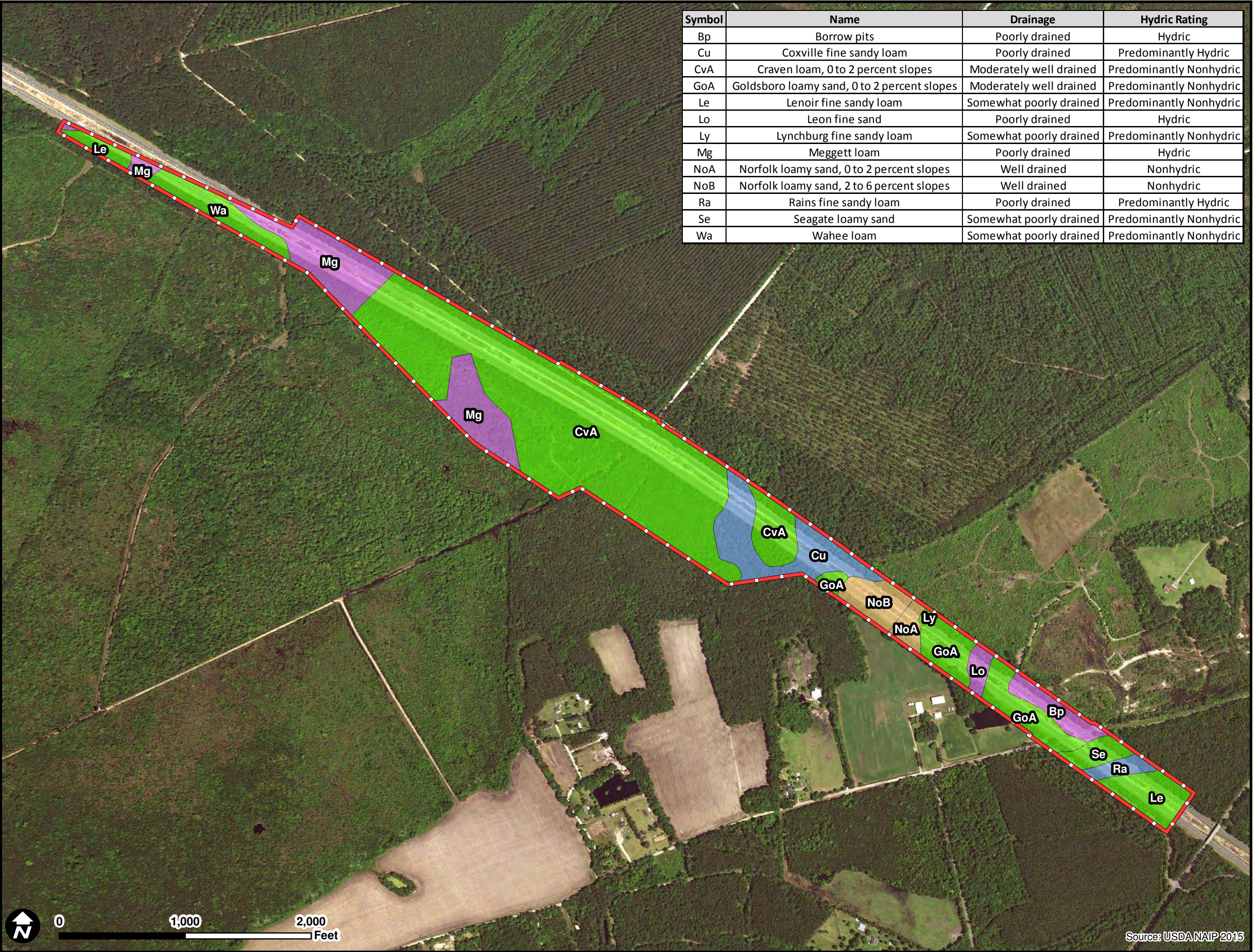




Figure 4. National Wetland Inventory Map
Volvo Interchange
Berkeley & Dorchester County, South Carolina

Legend

Project Boundary

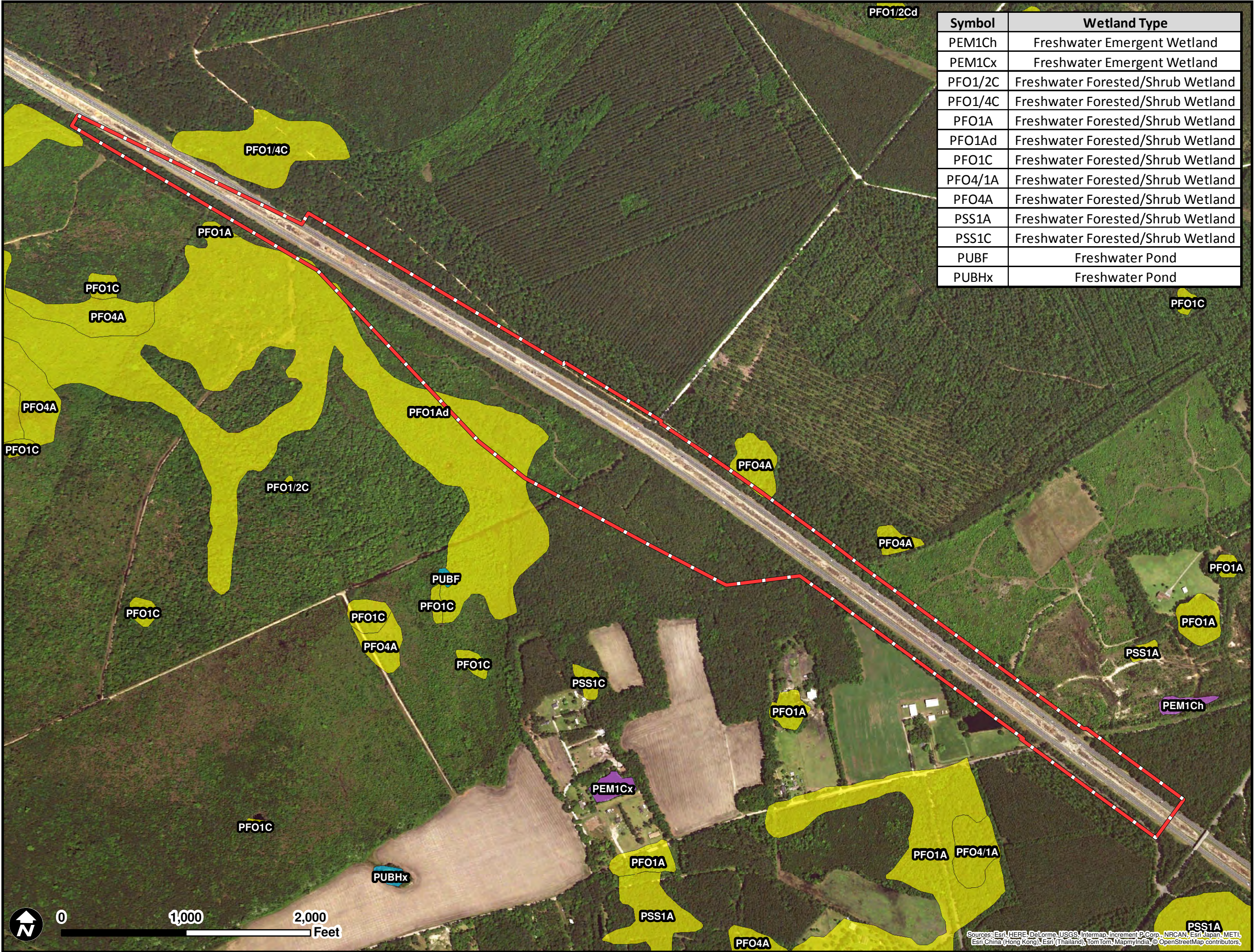
National Wetland Inventory

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond



Job No. 6250160096
Drawn: BWS
Reviewed: BPK
Date: 08/08/2016

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Symbol	Wetland Type
PEM1Ch	Freshwater Emergent Wetland
PEM1Cx	Freshwater Emergent Wetland
PFO1/2C	Freshwater Forested/Shrub Wetland
PFO1/4C	Freshwater Forested/Shrub Wetland
PFO1A	Freshwater Forested/Shrub Wetland
PFO1Ad	Freshwater Forested/Shrub Wetland
PFO1C	Freshwater Forested/Shrub Wetland
PFO4/1A	Freshwater Forested/Shrub Wetland
PFO4A	Freshwater Forested/Shrub Wetland
PSS1A	Freshwater Forested/Shrub Wetland
PSS1C	Freshwater Forested/Shrub Wetland
PUBF	Freshwater Pond
PUBHx	Freshwater Pond

Sources: Esri, HERE, DeLorme, USGS, Intermap, Inc., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, Mapbox India, OpenStreetMap contributors, and the GIS User Community



Figure 5. Aerial Map

Volvo Interchange

Berkeley & Dorchester County, South Carolina

Legend

- Project Boundary
- Interstate
- Roads



amec
foster
wheeler

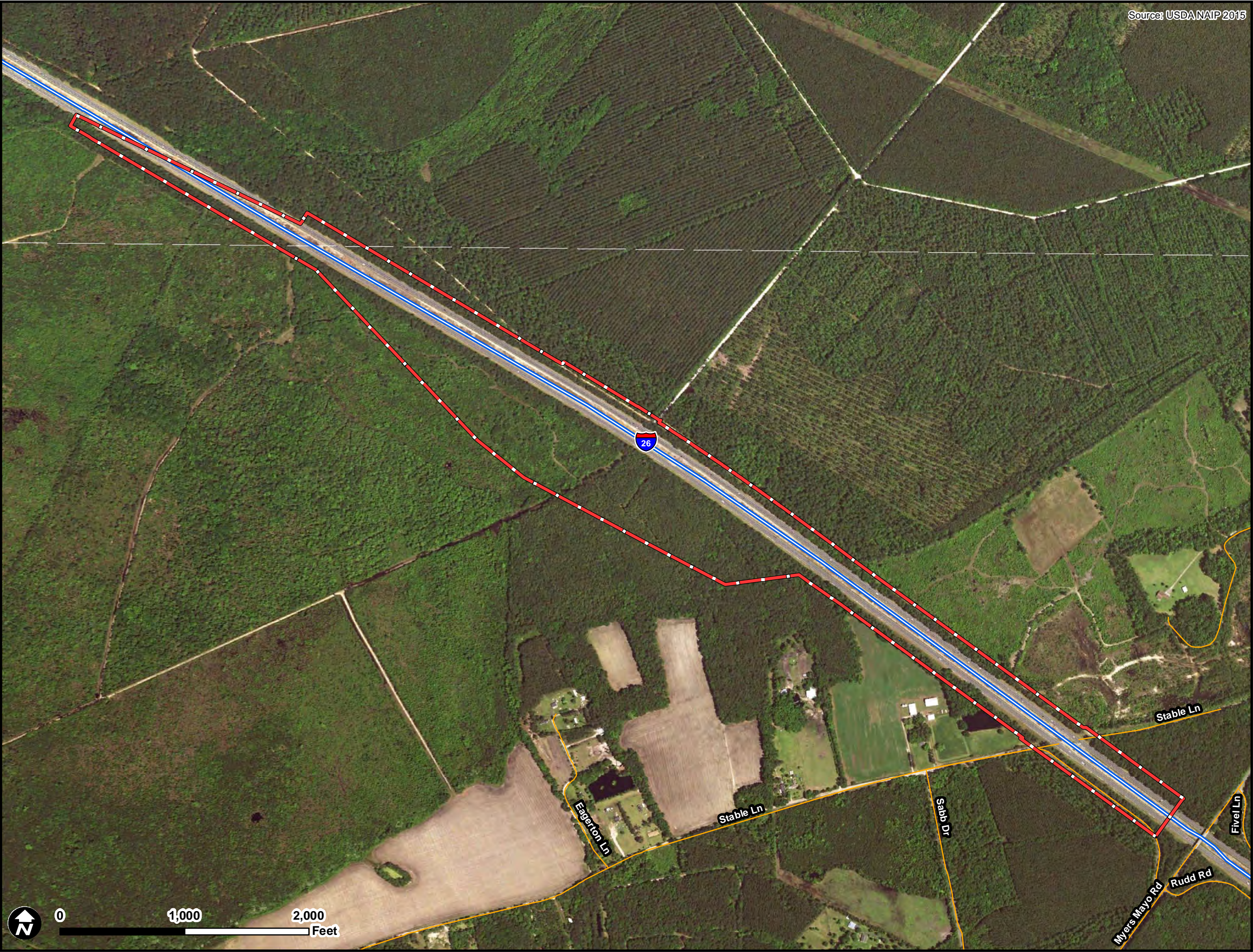
Job No. 6250160096

Drawn: BWS

Reviewed: BPK

Date: 08/08/2016

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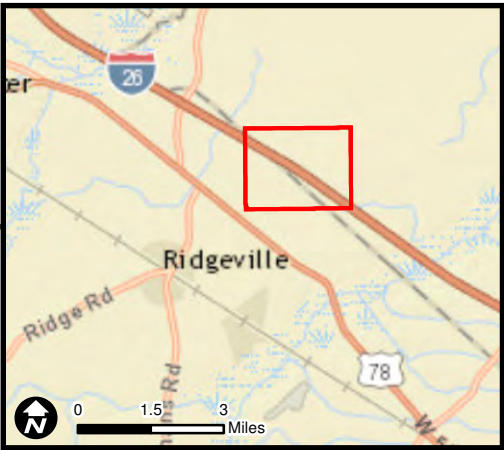


Figure 6. Aquatic Resources Map

Volvo Interchange

Berkeley & Dorchester County, South Carolina

Legend

- Project Boundary
- Project Boundary Vertex
- Jurisdictional Ditch
- Jurisdictional Wetland

Waters of the U.S. Disclaimer: This drawing represents the jurisdictional waters boundary collected in the field by Amec Foster Wheeler Environment & Infrastructure using sub-foot GPS equipment. Jurisdictional wetlands may extend beyond the project boundary; however, were not delineated nor shown on this map. This map should be used for preliminary planning purposes only.



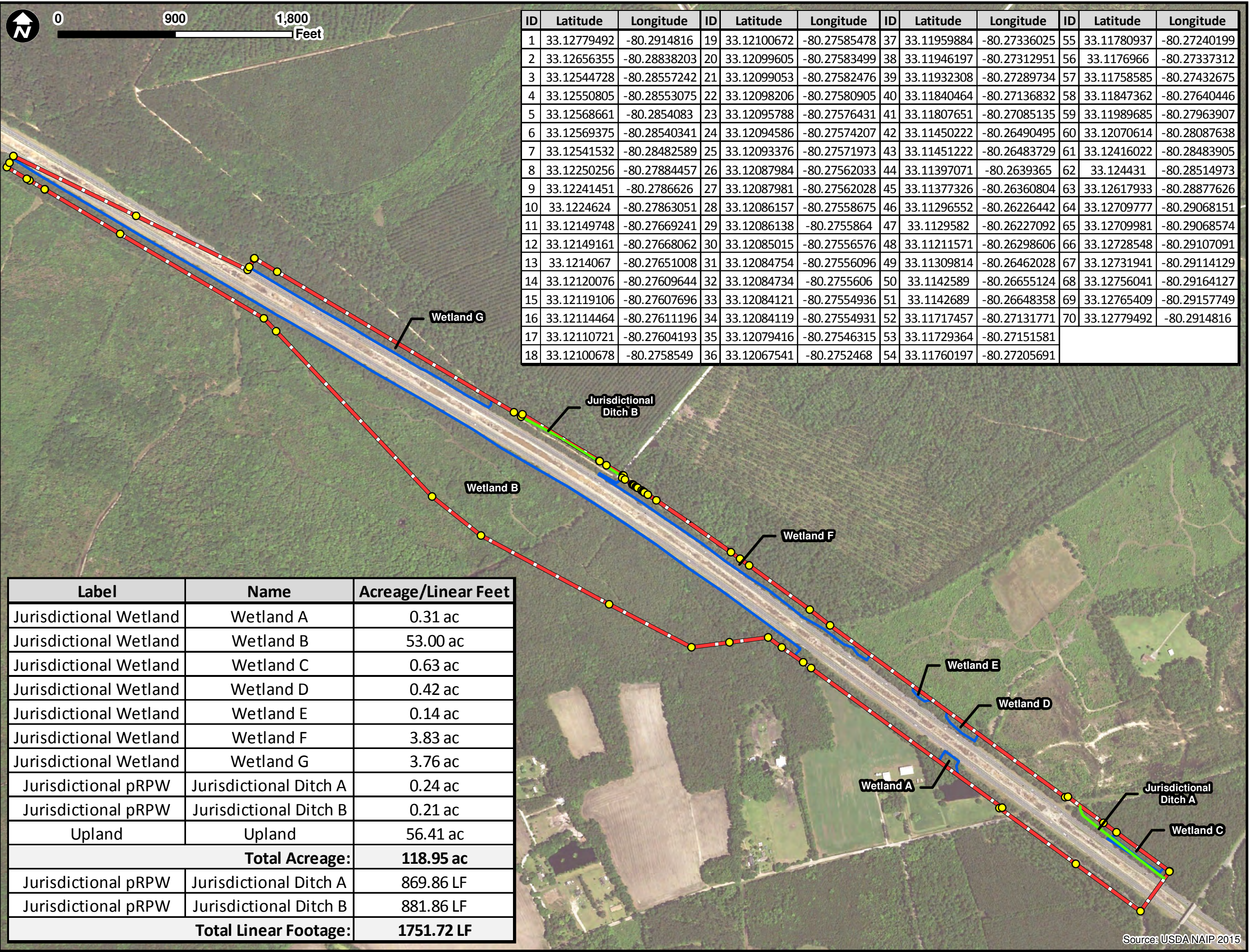
Job No. 6250160096

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Reviewed: BPK

Date: 08/08/2016

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ID	Latitude	Longitude	ID	Latitude	Longitude	ID	Latitude	Longitude	ID	Latitude	Longitude
1	33.12779492	-80.2914816	19	33.12100672	-80.27585478	37	33.11959884	-80.27336025	55	33.11780937	-80.27240199
2	33.12656355	-80.28838203	20	33.12099605	-80.27583499	38	33.11946197	-80.27312951	56	33.1176966	-80.27337312
3	33.12544728	-80.28557242	21	33.12099053	-80.27582476	39	33.11932308	-80.27289734	57	33.11758585	-80.27432675
4	33.12550805	-80.28553075	22	33.12098206	-80.27580905	40	33.11840464	-80.27136832	58	33.11847362	-80.27640446
5	33.12568661	-80.2854083	23	33.12095788	-80.27576431	41	33.11807651	-80.27085135	59	33.11989685	-80.27963907
6	33.12569375	-80.28540341	24	33.12094586	-80.27574207	42	33.11450222	-80.26490495	60	33.12070614	-80.28087638
7	33.12541532	-80.28482589	25	33.12093376	-80.27571973	43	33.11451222	-80.26483729	61	33.12416022	-80.28483905
8	33.12250256	-80.27884457	26	33.12087984	-80.27562033	44	33.11397071	-80.2639365	62	33.124431	-80.28514973
9	33.12241451	-80.2786626	27	33.12087981	-80.27562028	45	33.11377326	-80.26360804	63	33.12617933	-80.28877626
10	33.1224624	-80.27863051	28	33.12086157	-80.27558675	46	33.11296552	-80.26226442	64	33.12709777	-80.29068151
11	33.12149748	-80.27669241	29	33.12086138	-80.2755864	47	33.1129582	-80.26227092	65	33.12709981	-80.29068574
12	33.12149161	-80.27668062	30	33.12085015	-80.27556576	48	33.11211571	-80.26298606	66	33.12728548	-80.29107091
13	33.1214067	-80.27651008	31	33.12084754	-80.27556096	49	33.11309814	-80.26462028	67	33.12731941	-80.29114129
14	33.12120076	-80.27609644	32	33.12084734	-80.2755606	50	33.1142589	-80.26655124	68	33.12756041	-80.29164127
15	33.12119106	-80.27607696	33	33.12084121	-80.27554936	51	33.1142689	-80.26648358	69	33.12765409	-80.29157749
16	33.12114464	-80.27611196	34	33.12084119	-80.27554931	52	33.11717457	-80.27131771	70	33.12779492	-80.2914816
17	33.12110721	-80.27604193	35	33.12079416	-80.27546315	53	33.11729364	-80.27151581			
18	33.12100678	-80.2758549	36	33.12067541	-80.2752468	54	33.11760197	-80.27205691			

Label	Name	Acreage/Linear Feet
Jurisdictional Wetland	Wetland A	0.31 ac
Jurisdictional Wetland	Wetland B	53.00 ac
Jurisdictional Wetland	Wetland C	0.63 ac
Jurisdictional Wetland	Wetland D	0.42 ac
Jurisdictional Wetland	Wetland E	0.14 ac
Jurisdictional Wetland	Wetland F	3.83 ac
Jurisdictional Wetland	Wetland G	3.76 ac
Jurisdictional pRPW	Jurisdictional Ditch A	0.24 ac
Jurisdictional pRPW	Jurisdictional Ditch B	0.21 ac
Upland	Upland	56.41 ac
Total Acreage:		118.95 ac
Jurisdictional pRPW	Jurisdictional Ditch A	869.86 LF
Jurisdictional pRPW	Jurisdictional Ditch B	881.86 LF
Total Linear Footage:		1751.72 LF

Source: USDA NAIP 2015



Figure 7. Data Points & Photo Locations Map

Volvo Interchange

Berkeley & Dorchester County, South Carolina

Legend

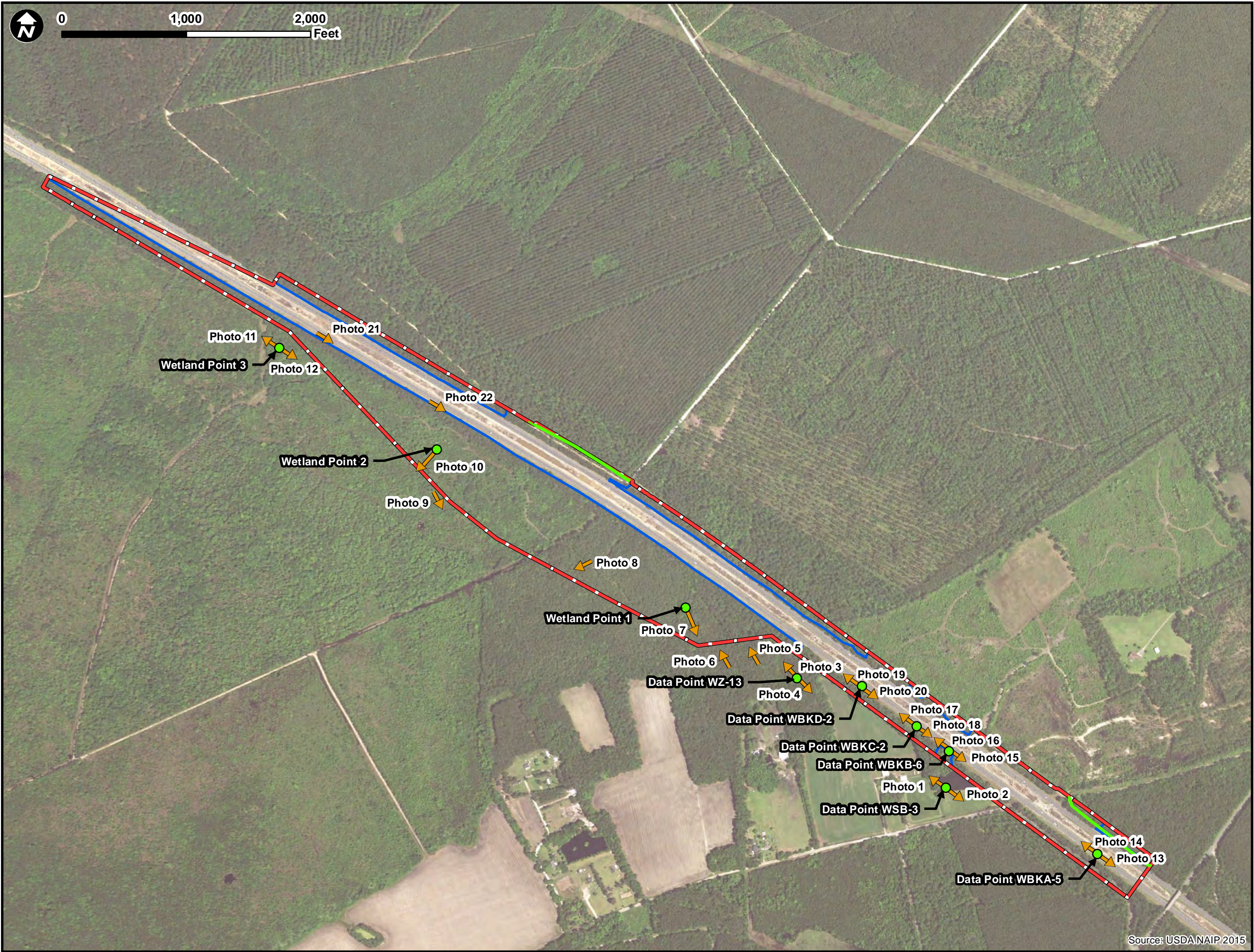
- Project Boundary
- Jurisdictional Ditch
- Jurisdictional Wetland
- Photo Location
- Data Point

Waters of the U.S. Disclaimer: This drawing represents the jurisdictional waters boundary collected in the field by Amec Foster Wheeler Environment & Infrastructure using sub-foot GPS equipment. Jurisdictional wetlands may extend beyond the project boundary; however, were not delineated nor shown on this map. This map should be used for preliminary planning purposes only.



Job No. 6250160096
 Drawn: BWS
 Reviewed: BPK
 Date: 08/08/2016

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Source: USDA NAIP 2015



Figure 8. Connection to Navigable Waters Map

Volvo Interchange

Berkeley & Dorchester County, South Carolina

Legend

- Project Boundary
- Path to Navigable Water
- USGS Major Streams



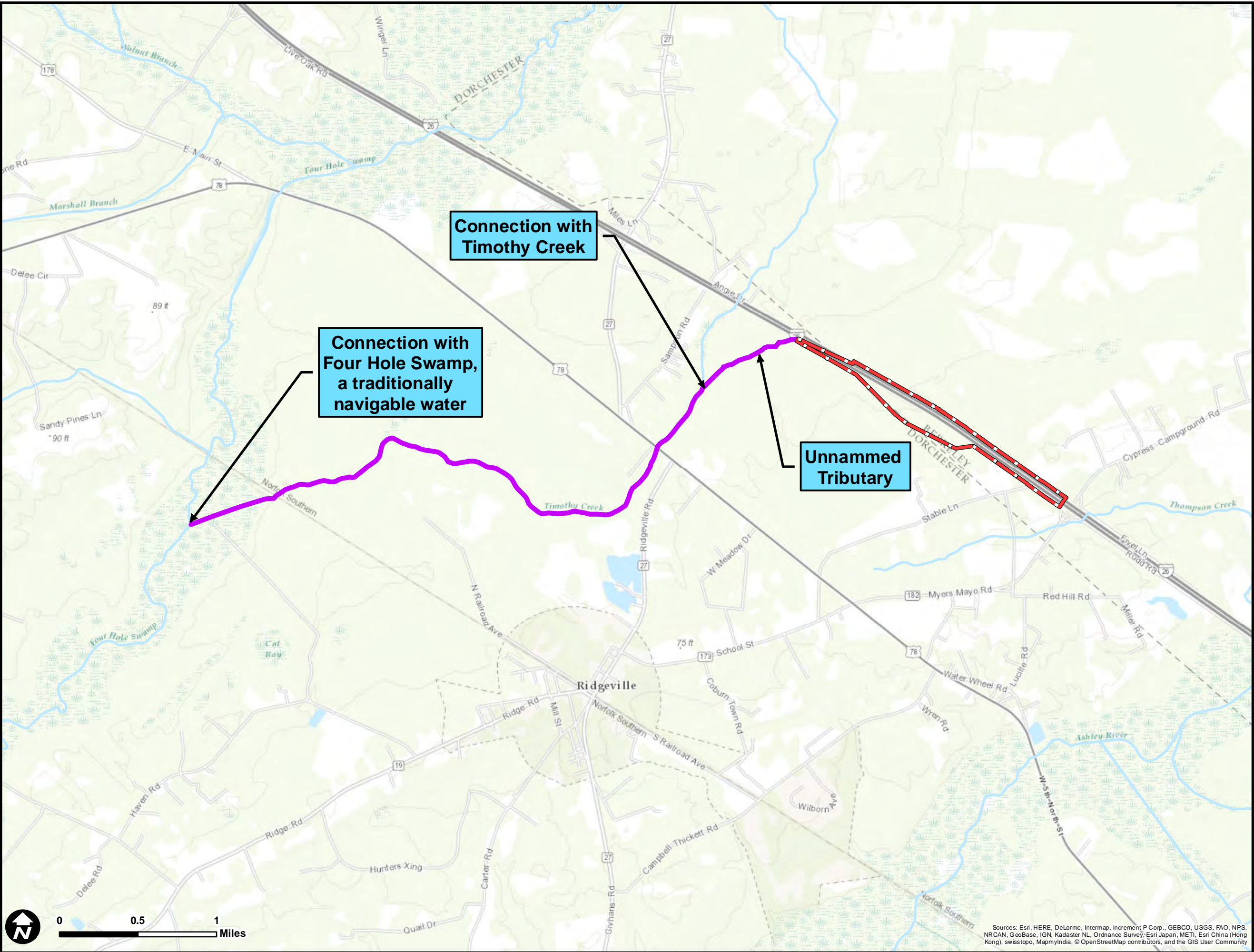
Job No. 6250160096

Drawn: BWS

Reviewed: BPK

Date: 08/08/2016

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