

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): December 23, 2014**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: JD Form 1 of 3; SAC 2014-00151-4E McLendon Young Tract**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: South Carolina County/parish/borough: **Florence** City:  
Center coordinates of site (lat/long in degree decimal format): Lat. **34.101395° N**, Long. **-79.917077° W**.  
Universal Transverse Mercator:

Name of nearest waterbody: **Unnamed tributary of Horse Branch**

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **The aquatic resources (Wetlands B & C) remain confined within the project boundary and do not flow into a TNW.**

Name of watershed or Hydrologic Unit Code (HUC): **03040202-04**

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s): **March 18, 2014**

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.  
Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are no** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

- TNWs, including territorial seas
- Wetlands adjacent to TNWs
- Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs
- Non-RPWs that flow directly or indirectly into TNWs
- Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- Impoundments of jurisdictional waters
- Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: linear feet: width (ft) and/or acres.  
Wetlands: acres.

**c. Limits (boundaries) of jurisdiction based on: Pick List, Pick List, Pick List**

Elevation of established OHWM (if known):N/A.

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

- Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.  
Explain: **Two (2) isolated wetlands (Wetland "B" = 2.53 a. and Wetland "C" = 0.71 a.). The forested freshwater wetlands B & C located within the project area have been determined to be completely surrounded by non-hydric soils,**

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

and no surface or shallow subsurface connection to any waters of the US (WOUS) was evident during the site visit or could be found after a review of the aerials, topographic map, or NWIs. Both of these depressional wetlands exhibited hydric soils, hydrophytic vegetation, and indicators of hydrology, including soils saturated at the surface, which satisfied the criteria set forth in the 1987 Wetland Delineation Manual. All water located within or draining toward these wetlands has no discernible or traceable outfall or connection to any WOUS. Additionally, the wetlands in the project area were found to be completely surrounded by upland agricultural fields and forested uplands further disrupting possible connections to any WOUS. Chemically, the wetlands do not affect any WOUS in the absorption/treatment of nutrients, runoff, or pollutants. Physically, the topographic location of the wetlands and their relation to other WOUS is such that water in these wetlands is retained and eventually percolates through the soil to groundwater only, at an unknown depth, providing little if any stormwater attenuation. Biologically, these wetlands are not essential in providing organic carbon in the form of their collective primary productivity to downstream waters, resulting in the nourishment of the downstream food web. Because of the lack of discernible outfall, topography grades and lack of evidence of chemical, physical, or biological connection, Wetland "B" and Wetland "C" were determined to be isolated, non-jurisdictional wetlands.

**SECTION III: CWA ANALYSIS**

**A. TNWs AND WETLANDS ADJACENT TO TNWs**

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

**1. TNW**

Identify TNW: .

Summarize rationale supporting determination: .

**2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”:

**B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):**

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

**1. Characteristics of non-TNWs that flow directly or indirectly into TNW**

**(i) General Area Conditions:**

Watershed size: **Pick List** ;

Drainage area: **Pick List**

Average annual rainfall: inches

Average annual snowfall: inches

**(ii) Physical Characteristics:**

**(a) Relationship with TNW:**

Tributary flows directly into TNW.

Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.

Project waters are **Pick List** river miles from RPW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Project waters are **Pick List** aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: **N/A**.

Identify flow route to TNW<sup>5</sup>:

Tributary stream order, if known: .

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

- Tributary is:  Natural  
 Artificial (man-made). Explain: .  
 Manipulated (man-altered). Explain: .

**Tributary** properties with respect to top of bank (estimate):

Average width: feet  
Average depth: feet  
Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):

- |  |  |                                   |
|--|--|-----------------------------------|
| <input type="checkbox"/> Silts             | <input type="checkbox"/> Sands                     | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Cobbles           | <input type="checkbox"/> Gravel                    | <input type="checkbox"/> Muck     |
| <input type="checkbox"/> Bedrock           | <input type="checkbox"/> Vegetation. Type/% cover: |                                   |
| <input type="checkbox"/> Other. Explain: . |  |                                   |

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .

Presence of run/riffle/pool complexes. Explain: .

Tributary geometry: **Pick List**. █

Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Pick List**

Estimate average number of flow events in review area/year: **Pick List**

Describe flow regime: .

Other information on duration and volume: .

Surface flow is: **Pick List**. Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

Dye (or other) test performed: .

Tributary has (check all that apply):

- |   |   |
|---|---|
| <input type="checkbox"/> Bed and banks  |   |
| <input type="checkbox"/> OHWM <sup>6</sup> (check all indicators that apply): |   |
| <input type="checkbox"/> clear, natural line impressed on the bank            | <input type="checkbox"/> the presence of litter and debris          |
| <input type="checkbox"/> changes in the character of soil                     | <input type="checkbox"/> destruction of terrestrial vegetation      |
| <input type="checkbox"/> shelving   | <input type="checkbox"/> the presence of wrack line                 |
| <input type="checkbox"/> vegetation matted down, bent, or absent              | <input type="checkbox"/> sediment sorting                           |
| <input type="checkbox"/> leaf litter disturbed or washed away                 | <input type="checkbox"/> scour                                      |
| <input type="checkbox"/> sediment deposition                                  | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> water staining                                       | <input type="checkbox"/> abrupt change in plant community           |
| <input type="checkbox"/> other (list):  |   |
| <input type="checkbox"/> Discontinuous OHWM. <sup>7</sup> Explain: .          |   |

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> High Tide Line indicated by:   | <input checked="" type="checkbox"/> Mean High Water Mark indicated by: |
| <input type="checkbox"/> oil or scum line along shore objects      | <input type="checkbox"/> survey to available datum;                    |
| <input type="checkbox"/> fine shell or debris deposits (foreshore) | <input type="checkbox"/> physical markings;                            |
| <input type="checkbox"/> physical markings/characteristics         | <input type="checkbox"/> vegetation lines/changes in vegetation types. |
| <input type="checkbox"/> tidal gauges                              |  |
| <input type="checkbox"/> other (list):                             |  |

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: .

<sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width): .
- Wetland fringe. Characteristics: .
- Habitat for:
  - Federally Listed species. Explain findings: .
  - Fish/spawn areas. Explain findings: .
  - Other environmentally-sensitive species. Explain findings: .
  - Aquatic/wildlife diversity. Explain findings: .

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size:            acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

- Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: .

Ecological connection. Explain: .

Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width): .
- Vegetation type/percent cover. Explain: .
- Habitat for:
  - Federally Listed species. Explain findings: .
  - Fish/spawn areas. Explain findings: .
  - Other environmentally-sensitive species. Explain findings: .
  - Aquatic/wildlife diversity. Explain findings: .

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately (            ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>

Summarize overall biological, chemical and physical functions being performed: \_\_\_\_\_

**C. SIGNIFICANT NEXUS DETERMINATION**

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: \_\_\_\_\_
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: \_\_\_\_\_
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: \_\_\_\_\_

**Documentation for the Record only: Significant nexus findings for seasonal RPWs and/or wetlands abutting seasonal RPWs:**  
\_\_\_\_\_

**D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):**

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:  
 TNWs: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft), Or, \_\_\_\_\_ acres.  
 Wetlands adjacent to TNWs: \_\_\_\_\_ acres.
2. **RPWs that flow directly or indirectly into TNWs.**  
 Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: \_\_\_\_\_

- Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters:            linear feet            width (ft).
  - Other non-wetland waters:            acres.
- Identify type(s) of waters: .

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters:            linear feet            width (ft).
  - Other non-wetland waters:            acres.
- Identify type(s) of waters: .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
  - Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
  - Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area:            acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area:            acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area:            acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.,” or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

**Explain:**

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: .
- Other factors. Explain: .

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup> Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

**Identify water body and summarize rationale supporting determination:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters:            linear feet            width (ft).
- Other non-wetland waters:            acres.
- Identify type(s) of waters:            .
- Wetlands:            acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:            .
- Other: (explain, if not covered above):            .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams):            linear feet            width (ft).
- Lakes/ponds:            acres.
- Other non-wetland waters:            acres. List type of aquatic resource:            .
- Wetlands: (**Wetland "B"**) **2.53 a.** + (**Wetland "C"**) **0.71 a.** = **3.24** acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams):            linear feet,            width (ft).
- Lakes/ponds:            acres.
- Other non-wetland waters:            acres. List type of aquatic resource:            .
- Wetlands:            acres.

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: **Report by ECS Carolinas, plat by Nesbitt Surveying Co, Inc.**
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:            .
- Corps navigable waters' study:            .
- U.S. Geological Survey Hydrologic Atlas:            .
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: **Sardis; The topographic map depicts Wetlands "B" and "C" as primarily forested uplands with no blue lines or other potential waters of the US depicted adjacent to these wetlands.**
- USDA Natural Resources Conservation Service Soil Survey. Citation: **Sheet 24; The soil survey depicts Wetland "B" as Coxville, a hydric soil, and Wetland "C" as Duplin, a non-hydric soil.**
- National wetlands inventory map(s). Cite name: **The NWIs depict Wetland "B" and Wetland "C" as uplands (U42P) .**
- State/Local wetland inventory map(s):            .
- FEMA/FIRM maps:            .
- 100-year Floodplain Elevation is:            (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): **SCDNR 2006, 99:11225:185; The aerials depict Wetlands "B" and "C" as forested depressional wetlands with no linear features adjacent to these wetlands.**
  - or  Other (Name & Date): **Site photos provided by ECS Carolinas collected Dec. 9 & 23, 2013.**
- Previous determination(s). File no. and date of response letter:            .
- Applicable/supporting case law:            .
- Applicable/supporting scientific literature:            .
- Other information (please specify):            .

- B. **ADDITIONAL COMMENTS TO SUPPORT JD:** Two (2) isolated wetlands (Wetland "B" = 2.53 a. and Wetland "C" = 0.71 a.). The forested freshwater wetlands B & C located within the project area have been determined to be completely surrounded by non-hydric soils, and no surface or shallow subsurface connection to any waters of the US (WOUS) was evident during the site visit or could be found after a review of the aerials, topographic map, or NWIs. Both of these depressional wetlands exhibited hydric soils, hydrophytic vegetation, and indicators of hydrology, including soils saturated at the surface, which satisfied the criteria set forth in the 1987 Wetland Delineation Manual. All water located within or draining toward these wetlands has no discernible or traceable outfall or connection to any WOUS. Additionally, the wetlands in the project area were found to be completely surrounded by upland agricultural fields and forested uplands further disrupting possible connections to any WOUS. Chemically, the wetlands do not affect any WOUS in the absorption/treatment of nutrients, runoff, or pollutants. Physically, the topographic location of the wetlands and their relation to other WOUS is such that water in these wetlands is retained and eventually percolates through the soil to groundwater only, at an unknown depth, providing little if any stormwater attenuation. Biologically, these wetlands are not essential in providing organic carbon in the form of their collective primary productivity to downstream waters, resulting in the nourishment of the downstream food web. Because of the lack of discernible outfall, topography grades and lack of evidence of chemical, physical, or biological connection, Wetland "B" and Wetland "C" were determined to be isolated, non-jurisdictional wetland.

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): December 23, 2014**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: JD Form 2 of 3; SAC 2014-00151-4E McLendon Young Tract**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: South Carolina County/parish/borough: **Florence** City:  
Center coordinates of site (lat/long in degree decimal format): Lat. **34.101395° N**, Long. **-79.917077° W**.  
Universal Transverse Mercator:

Name of nearest waterbody: **Unnamed tributary of Lake Swamp**

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Lynches River**

Name of watershed or Hydrologic Unit Code (HUC): **03040202-04**

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s): **March 18, 2014**

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: linear feet: width (ft) and/or acres.

Wetlands: (Jurisdictional Wetland "F") **0.07** acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual, Pick List, Pick List**

Elevation of established OHWM (if known):N/A.

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.  
Explain: **Two potentially jurisdictional linear features were assessed within the project area. These two features were determined during the site visit to be man-made and primarily constructed out of uplands. One wetland is located**

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

adjacent to the eastern linear feature. These linear features were excavated adjacent to agricultural fields and are not depicted on the topographic map. Therefore, these two linear features were determined to be non-jurisdictional ditches.

### SECTION III: CWA ANALYSIS

#### A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

##### 1. TNW

Identify TNW: Lynch River

Summarize rationale supporting determination: Supported by 1977 Corps Navigability Study .

##### 2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent": .

#### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

##### 1. Characteristics of non-TNWs that flow directly or indirectly into TNW

###### (i) General Area Conditions:

Watershed size: 142,565 acres ; HUC 03040202-04

Drainage area: 500 acres

Average annual rainfall: 44.89 inches

Average annual snowfall: 2.6 inches

###### (ii) Physical Characteristics:

###### (a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

Project waters are 10-15 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 5-10 aerial (straight) miles from TNW.

Project waters are 1 (or less) aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: N/A.

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<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW<sup>5</sup>: **The unnamed tributary flows into Lake Swamp, a perennial RPW, which flows into Sparrow Swamp, a perennial RPW. Sparrow Swamp flows directly into the Lynches River, a TNW.**  
Tributary stream order, if known: **The tributary is a 1<sup>st</sup> order stream.**

(b) General Tributary Characteristics (check all that apply):

Tributary is:  Natural  
 Artificial (man-made). Explain: .  
 Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):

Average width: **5** feet  
Average depth: **3** feet  
Average side slopes: **Vertical (1:1 or less).**

Primary tributary substrate composition (check all that apply):

Silts  Sands  Concrete  
 Cobbles  Gravel  Muck  
 Bedrock  Vegetation. Type/% cover:  
 Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: **The tributary was relatively stable with no erosion or sloughing banks observed.**

Presence of run/riffle/pool complexes. Explain: **No run/riffle/pool complexes were observed.**

Tributary geometry: **Meandering. A review of the aerial photographs reveals the tributary meanders through forested wetlands.**

Tributary gradient (approximate average slope): **0-1** %

(c) Flow:

Tributary provides for: **Perennial flow**

Estimate average number of flow events in review area/year: **20 (or greater)**

Describe flow regime: **The tributary was observed near its upstream end (at its intersection with Young Rd) and several flow indicators were noticed including the presence of an OHWM, a sinuous channel within bed and banks, a sandy bottom, wrack lines, the absence of leaf litter and debris in the channel, and flowing water. The tributary is also depicted as a solid blue line on the topographic map, which usually indicates perennial flow, and as a shaded linear feature on the aerials. This tributary is typical of very low-gradient perennial systems that have a low velocity..**

Other information on duration and volume: **This tributary is recharged by groundwater and also receives discrete and confined flow from several non-jurisdictional ditches and non-abutting wetlands. Overland sheetflow is also received from several abutting wetlands.**

Surface flow is: **Discrete and confined.** Characteristics: **Surface flow is restricted under normal circumstances between the bed and banks of the tributary.**

Subsurface flow: **Unknown.** Explain findings: .

Dye (or other) test performed: .

Tributary has (check all that apply):

Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):  
 clear, natural line impressed on the bank  the presence of litter and debris  
 changes in the character of soil  destruction of terrestrial vegetation  
 shelving  the presence of wrack line  
 vegetation matted down, bent, or absent  sediment sorting  
 leaf litter disturbed or washed away  scour  
 sediment deposition  multiple observed or predicted flow events  
 water staining  abrupt change in plant community  
 other (list):  
 Discontinuous OHWM.<sup>7</sup> Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by:  Mean High Water Mark indicated by:

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

<sup>6</sup> A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

- |  |  |
|--|--|
| <input type="checkbox"/> oil or scum line along shore objects      | <input type="checkbox"/> survey to available datum;                    |
| <input type="checkbox"/> fine shell or debris deposits (foreshore) | <input type="checkbox"/> physical markings;                            |
| <input type="checkbox"/> physical markings/characteristics         | <input type="checkbox"/> vegetation lines/changes in vegetation types. |
| <input type="checkbox"/> tidal gauges                              |  |
| <input type="checkbox"/> other (list):                             |  |

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: **The tributary is a blackwater system with clear, flowing water present. No oily film or discoloration was observed within the tributary at its intersection with Young Road. Land use in this watershed is comprised of approximately 53% agricultural land, 26% forested wetlands, 12% forested land, and 6% urban land. The remaining land uses in this watershed include scrub/shrub land, water, and non-forested wetlands. According to the SCDHEC website, there is a moderate potential for growth in this watershed.**

Identify specific pollutants, if known: **Because a large portion of the watershed is in agricultural production, the potential exists for herbicides and other pollutants used in agricultural practices to enter the off-site tributary. This land use requires regular manipulation of the soil, which creates an increase in suspended sediments within the downstream tributaries. A review of the SCDHEC website revealed a downstream monitoring station located on Lake Swamp (PD-345) that found that aquatic and recreational uses are fully supported. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions in this tributary.**

(iv) **Biological Characteristics. Channel supports (check all that apply):**

Riparian corridor. Characteristics (type, average width): **A review of the aeriels determined that this tributary supports a 150' wide riparian zone. This riparian zone contributes to the overall health of the aquatic system by filtering out pollutants and preventing erosion.**

Wetland fringe. Characteristics: **The majority of this tributary is surrounded by wetlands.**

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: .

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: **0.07** acres

Wetland type. Explain: **Palustrine.**

Wetland quality. Explain: **Slightly impaired; The project wetland was clearcut in the past.**

Project wetlands cross or serve as state boundaries. Explain: **The project wetland is located on site and does not cross or serve as state boundaries.**

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent flow.** Explain: **Hydrologic connectivity from the wetland into the abutting non-jurisdictional ditch is continuous, as the ditch was dug into the wetland. The cut face of the ditch is a continuous discharge point for hydrology present in the wetland. Flow through the ditch is normally during wetter months and after rainfall events..**

Surface flow is: **Overland sheetflow**

Characteristics: **Flow from the wetland into the abutting ditch is via overland sheetflow..**

Subsurface flow: **Unknown.** Explain findings: .

Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: **Jurisdictional Wetland "F" flows into the downstream tributary via a non-jurisdictional ditch. This ditch continues north where it flows into an unnamed tributary that flows into the Lake Swamp and then into Sparrow Swamp prior to reaching the Lynches River, a TNW.**

Ecological connection. Explain: .

Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **10-15** river miles from TNW.

Project wetlands are **5-10** aerial (straight) miles from TNW.

Flow is from: **Wetland to navigable waters.**

Estimate approximate location of wetland as within the **100 - 500-year** floodplain.

**(ii) Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: **Water was not observed on the surface of Jurisdictional Wetland "F" during the site visit. Land use in this watershed is comprised of approximately 53% agricultural land, 26% forested wetlands, 12% forested land, and 6% urban land. The remaining land uses in this watershed include scrub/shrub land, water, and non-forested wetlands. According to the SCDHEC website, there is a moderate potential for growth in this watershed.**

Identify specific pollutants, if known: **This wetland is located adjacent to several agricultural fields, which contribute herbicides and other pollutants, including sediments from soil manipulation activities, into the wetland. A review of the SCDHEC website revealed a downstream monitoring station located on Lake Swamp (PD-345) that found that aquatic and recreational uses are fully supported. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions in this tributary.**

**(iii) Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width):

Vegetation type/percent cover. Explain: **The dominant vegetation in this wetland is Facultative and consists of Quercus nigra, Acer rubrum, and Liquidambar styraciflua.**

Habitat for:

Federally Listed species. Explain findings:

Fish/spawn areas. Explain findings:

Other environmentally-sensitive species. Explain findings:

Aquatic/wildlife diversity. Explain findings: **This wetland system enhances wildlife diversity through timber type**

**changes and the transition between upland and aquatic systems..**

**3. Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **6**

Approximately ( **103.07** ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
N	0.07	Y	68
N	1.0		
N	9		
N	8		
N	17		

Summarize overall biological, chemical and physical functions being performed: **The perennial RPW that is an unnamed tributary of Lake Swamp, and its adjacent wetlands, are providing important biological, chemical, and physical functions within a predominately upland drainage area. According to the SCDHEC Watersheds website, this watershed consists of approximately 53% agricultural land, 26% forested wetlands, 12% forested land, and 6% urban land. The remaining land uses in this watershed include scrub/shrub land, non-forested wetlands, and water. The watershed is predominately rural with a large portion of the land in agriculture production. The majority of the wetlands within the drainage area are depressional wetlands that are situated relatively low in the landscape and receive and store runoff from the surrounding uplands. This water storage prevents flood flows from high rainfall events from moving quickly downstream. The perennial RPW and its adjacent wetlands act as a catch basin to help filter out pollutants from the neighboring agricultural land and adjacent forestry practices. This wetland system enhances wildlife diversity, acts as catch basin filtering sediment and pollutants from surrounding croplands, supports the downstream food web, and provides nutrient fixation, flood attenuation and flow maintenance functions. See III.C.3. below for more details.**

### C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: **The tributary (RPW) and all similarly situated and adjacent freshwater wetlands are collectively performing functions consistent with following: Biological- wetlands adjacent to this RPW include depressional wetlands. As such, a variety of biological functions are being performed which include providing breeding grounds and shelter for aquatic species and foraging areas for wetland dependent species. These wetlands and tributary are essential in providing organic**

carbons in the form of their collective primary productivity to downstream waters, resulting in the nourishment of the downstream food web. Chemical- wetlands and tributary within the review area are providing the important collective functions of removal of excess nutrients into the downstream TNW. These pollutants, which are contributed by runoff from surrounding uplands, are prevented from being discharged downstream due to suspended sediments and other pollutants being retained within the wetlands. The low velocity and gradient of the tributary also contributes to the removal of pollutants because the suspended pollutants have time to settle out of the water. This reduces nitrogen and phosphorus loading downstream and effectively prevents oxygen depletion that can result from eutrophication. Physical- Wetlands and tributary in the review area are collectively performing flow maintenance functions, including retaining runoff inflow and storing rain water temporarily. Flow maintenance results in the reduction of downstream peak flows (discharge and volumes), helping to maintain seasonal flow volumes and reducing the frequency of overbank events which flood adjacent properties. Increased water velocity also increases the rate of erosion downstream, which not only leads to a loss of land but also increases the amount of sediments and other pollutants in the TNW. Based on the collective functions described above and their importance to the biological, chemical, and physical integrity of the traditional navigable waters of the Lynches River, it has been determined that there is a significant nexus between the relevant reach of the tributary and all adjacent wetlands to the downstream TNW..

Documentation for the Record only: Significant nexus findings for seasonal RPWs and/or wetlands abutting seasonal RPWs:

**D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):**

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- TNWs:            linear feet            width (ft), Or,            acres.
- Wetlands adjacent to TNWs:            acres.

2. **RPWs that flow directly or indirectly into TNWs.**

Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: **The off-site tributary was determined to have perennial flow based on a review of the topographic map, aerials, and information obtained during the site visit. The topographic map depicts this tributary as a solid blue line, which usually indicates perennial flow. The aerials depict this tributary as a shaded linear feature. Observations of the tributary during the site visit near its upstream end (intersection with Young Road) include the presence of an OHWM, wrack lines, sediment sorting, a sinuous channel within bed and banks, and flowing water. This tributary flows east into Lake Swamp, a perennial RPW. Lake Swamp continues southeast where it flows into Sparrow Swamp, a perennial RPW, that flows into the Lynches River, a TNW.**

Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters:            linear feet            width (ft).
  - Other non-wetland waters:            acres.
- Identify type(s) of waters: .

3. **Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters:            linear feet            width (ft).
  - Other non-wetland waters:            acres.
- Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.

Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

<sup>8</sup>See Footnote # 3.

Provide acreage estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: **0.07** acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.,” or  
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or  
 Demonstrate that water is isolated with a nexus to commerce (see E below).

**Explain:**

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.  
 from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.  
 which are or could be used for industrial purposes by industries in interstate commerce.  
 Interstate isolated waters. Explain: \_\_\_\_\_  
 Other factors. Explain: \_\_\_\_\_

**Identify water body and summarize rationale supporting determination:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).  
 Other non-wetland waters: \_\_\_\_\_ acres.  
Identify type(s) of waters: \_\_\_\_\_  
 Wetlands: \_\_\_\_\_ acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.  
 Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.  
 Prior to the Jan 2001 Supreme Court decision in “SWANCC,” the review area would have been regulated based solely on the “Migratory Bird Rule” (MBR).  
 Waters do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction. Explain: \_\_\_\_\_  
 Other: (explain, if not covered above): **Two potentially jurisdictional linear features were assessed within the project area.**

**These two features were determined during the site visit to be man-made and primarily constructed out of uplands. One wetland is located adjacent to the eastern linear feature. These linear features were excavated adjacent to agricultural fields and are not depicted on the topographic map. Therefore, these two linear features were determined to be non-jurisdictional ditches.**

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).  
 Lakes/ponds: \_\_\_\_\_ acres.  
 Other non-wetland waters: \_\_\_\_\_ acres. List type of aquatic resource: \_\_\_\_\_  
 Wetlands: \_\_\_\_\_ acres.

<sup>9</sup> To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup> Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams):          linear feet,          width (ft).
- Lakes/ponds:          acres.
- Other non-wetland waters:          acres. List type of aquatic resource:          .
- Wetlands:          acres.

#### **SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: **Report by ECS Carolinas, plat by Nesbitt Surveying Co, Inc.**
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:          .
- Corps navigable waters' study:          .
- U.S. Geological Survey Hydrologic Atlas:          .
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: **Sardis; The topographic map depicts Wetland "F" as an old Carolina bay with no blue lines or other potential waters of the US depicted adjacent to this wetland.**
- USDA Natural Resources Conservation Service Soil Survey. Citation: **Sheet 24; The soil survey depicts Wetland "F" as Coxville, a hydric soil.**
- National wetlands inventory map(s). Cite name: **The NWIs depict Wetland "F" as uplands (U42P) .**
- State/Local wetland inventory map(s):          .
- FEMA/FIRM maps:          .
- 100-year Floodplain Elevation is:          (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): **SCDNR 2006, 99:11225:185; The aerials depict Wetland "F" as a portion of an agricultural field.**  
or  Other (Name & Date): **Site photos provided by ECS Carolinas collected Dec. 9 & 23, 2013; USACE site photos taken on March 18, 2014.**
- Previous determination(s). File no. and date of response letter:          .
- Applicable/supporting case law:          .
- Applicable/supporting scientific literature:          .
- Other information (please specify):          .

**B. ADDITIONAL COMMENTS TO SUPPORT JD: The off-site tributary was determined to have perennial flow based on a review of the topographic map, aerials, and information obtained during the site visit. The topographic map depicts this tributary as a solid blue line, which usually indicates perennial flow. The aerials depict this tributary as a shaded linear feature. Observations of the tributary during the site visit near its upstream end (intersection with Young Road) include the presence of an OHWM, wrack lines, sediment sorting, a sinuous channel within bed and banks, and flowing water. This tributary flows east into Lake Swamp, a perennial RPW. Lake Swamp continues southeast where it flows into Sparrow Swamp, a perennial RPW, that flows into the Lynches River, a TNW.**

Two potentially jurisdictional linear features were assessed within the project area. These two features were determined during the site visit to be man-made and primarily constructed out of uplands. Jurisdictional Wetland "F" directly abuts the eastern linear feature. These linear features were excavated adjacent to agricultural fields and are not depicted on the topographic map. Therefore, these two linear features were determined to be non-jurisdictional ditches. The two non-jurisdictional ditches continue north where they intersect and flow into a perennial RPW that is an unnamed tributary of Lake Swamp, a perennial RPW. Jurisdictional Wetland "F" was determined to have a significant nexus, via a direct hydrologic connection, to the downstream TNW in Section IIIC above .

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): December 23, 2014**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: JD Form 3 of 3; SAC 2014-00151-4E McLendon Young Tract**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: South Carolina County/parish/borough: **Florence** City:  
Center coordinates of site (lat/long in degree decimal format): Lat. **34.101395° N**, Long. **-79.917077° W**.  
Universal Transverse Mercator:

Name of nearest waterbody: **Unnamed tributary of Horse Branch**

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Lynches River**

Name of watershed or Hydrologic Unit Code (HUC): **03040202-04**

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s): **March 18, 2014**

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: linear feet: width (ft) and/or acres.

Wetlands: (Jurisdictional Wetland "D") 4.27 + (Jurisdictional Wetland "E") 0.11 a. + (Jurisdictional Wetland "A") 0.51

a. + (Jurisdictional Wetland "Z") 0.83 a. = 5.72 acres.

**c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual, Pick List, Pick List**

Elevation of established OHWM (if known):N/A.

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: **Several potentially jurisdictional linear features were assessed within the project area. These features were**

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

determined during the site visit to be man-made and primarily constructed out of uplands. One of these linear features is depicted on the topographic map as a blue line, which usually represents perennial flow; however this feature, as well as the others, was viewed during the site visit and determined to flow less than three months continuously per year. Terrestrial vegetation was viewed in the bottom of these features and no OHWM was observed. These linear features were excavated adjacent to agricultural fields. Therefore, these linear features were determined to be non-jurisdictional ditches.

### SECTION III: CWA ANALYSIS

#### A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

##### 1. TNW

Identify TNW: **Lynches River.**

Summarize rationale supporting determination: **Lynches River limits of Navigation have been previously determined and documented in the Corps Navigability Study of 1977.**

##### 2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent": .

#### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

##### 1. Characteristics of non-TNWs that flow directly or indirectly into TNW

###### (i) General Area Conditions:

Watershed size: **142,565 acres** ; HUC **03040202-04**

Drainage area: **1560 acres**

Average annual rainfall: **44.89** inches

Average annual snowfall: **2.6** inches

###### (ii) Physical Characteristics:

###### (a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through **2** tributaries before entering TNW.

Project waters are **10-15** river miles from TNW.

---

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Project waters are **1 (or less)** river miles from RPW.  
Project waters are **5-10** aerial (straight) miles from TNW.  
Project waters are **1 (or less)** aerial (straight) miles from RPW.  
Project waters cross or serve as state boundaries. Explain: *N/A*.

Identify flow route to TNW<sup>5</sup>: **The perennial RPW named Horse Branch flows into Lake Swamp, a perennial RPW, which flows into Sparrow Swamp, a perennial RPW. Sparrow Swamp flows directly into the Lynches River, a TNW.**

Tributary stream order, if known: **The tributary is a 1<sup>st</sup> order stream. Approximately two linear features are depicted on the topographic map as flowing into Horse Branch; however, these are depicted as upland excavated, agricultural ditches on the aerials and do not change the stream order.**

(b) General Tributary Characteristics (check all that apply):

Tributary is:  Natural  
 Artificial (man-made). Explain: .  
 Manipulated (man-altered). Explain: **The upstream and downstream portions of Horse Branch have a sinuous channel located within forested wetlands and are natural; however, the middle portion of Horse Branch has been straightened to flow through agricultural fields.**

Tributary properties with respect to top of bank (estimate):

Average width: **5** feet  
Average depth: **3** feet  
Average side slopes: **Vertical (1:1 or less).**

Primary tributary substrate composition (check all that apply):

Silts  Sands  Concrete  
 Cobbles  Gravel  Muck  
 Bedrock  Vegetation. Type/% cover:  
 Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: **The tributary was relatively stable with no erosion or sloughing banks observed.**

Presence of run/riffle/pool complexes. Explain: **No run/riffle/pool complexes were observed.**

Tributary geometry: **Meandering. A review of the aerial photographs reveals the tributary meanders through forested wetlands at its upstream and downstream ends; however, the middle portion of this tributary has been straightened to flow through agricultural fields.**

Tributary gradient (approximate average slope): **0-1** %

(c) Flow:

Tributary provides for: **Perennial flow**

Estimate average number of flow events in review area/year: **20 (or greater)**

Describe flow regime: **Horse Branch is depicted on the topographic map as a solid blue line, which usually indicates perennial flow, and as a named tributary. The aerials depict this tributary as a shaded linear feature.**

Other information on duration and volume: **This tributary is recharged by groundwater and also receives discrete and confined flow from several non-jurisdictional ditches and non-abutting wetlands. Overland sheetflow is also received from several abutting wetlands.**

Surface flow is: **Discrete and confined.** Characteristics: **Surface flow is restricted under normal circumstances between the bed and banks of the tributary.**

Subsurface flow: **Unknown.** Explain findings: .

Dye (or other) test performed: .

Tributary has (check all that apply):

Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):  
 clear, natural line impressed on the bank  the presence of litter and debris  
 changes in the character of soil  destruction of terrestrial vegetation  
 shelving  the presence of wrack line  
 vegetation matted down, bent, or absent  sediment sorting  
 leaf litter disturbed or washed away  scour

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

<sup>6</sup> A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

- |  |   |
|--|---|
| <input type="checkbox"/> sediment deposition                         | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> water staining                              | <input type="checkbox"/> abrupt change in plant community           |
| <input type="checkbox"/> other (list):                               |   |
| <input type="checkbox"/> Discontinuous OHWM. <sup>7</sup> Explain: . |   |

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> High Tide Line indicated by:   | <input checked="" type="checkbox"/> Mean High Water Mark indicated by: |
| <input type="checkbox"/> oil or scum line along shore objects      | <input type="checkbox"/> survey to available datum;                    |
| <input type="checkbox"/> fine shell or debris deposits (foreshore) | <input type="checkbox"/> physical markings;                            |
| <input type="checkbox"/> physical markings/characteristics         | <input type="checkbox"/> vegetation lines/changes in vegetation types. |
| <input type="checkbox"/> tidal gauges                              |  |
| <input type="checkbox"/> other (list):                             |  |

**(iii) Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: **The tributary is a blackwater system with clear, flowing water present. Land use in this watershed is comprised of approximately 53% agricultural land, 26% forested wetlands, 12% forested land, and 6% urban land. The remaining land uses in this watershed include scrub/shrub land, water, and non-forested wetlands. According to the SCDHEC website, there is a moderate potential for growth in this watershed. .**

Identify specific pollutants, if known: **Because a large portion of the watershed is in agricultural production, the potential exists for herbicides and other pollutants used in agricultural practices to enter the off-site tributary. This land use requires regular manipulation of the soil, which creates an increase in suspended sediments within the downstream tributaries. A review of the SCDHEC website revealed a downstream monitoring station located on Lake Swamp (PD-345) that found that aquatic and recreational uses are fully supported. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions in this tributary.**

**(iv) Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width): **A review of the aeriels determined that the majority of this tributary supports a 150' wide riparian zone. This riparian zone contributes to the overall health of the aquatic system by filtering out pollutants and preventing erosion.**
- Wetland fringe. Characteristics: **The majority of this tributary is surrounded by wetlands.**
- Habitat for:
  - Federally Listed species. Explain findings: .
  - Fish/spawn areas. Explain findings: .
  - Other environmentally-sensitive species. Explain findings: .
  - Aquatic/wildlife diversity. Explain findings: .

**2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

**(i) Physical Characteristics:**

**(a) General Wetland Characteristics:**

Properties:

Wetland size: **(Jurisdictional Wetland "D") 4.27 + (Jurisdictional Wetland "E") 0.11 a. + (Jurisdictional Wetland "A") 0.51 a. + (Jurisdictional Wetland "Z") 0.83 a. = 5.72 acres**

Wetland type. Explain: **Palustrine.**

Wetland quality. Explain: **Fully Functional; The hydrology in these four forested wetlands has not been impacted by the presence of drainage ditches on site.**

Project wetlands cross or serve as state boundaries. Explain: **The project wetlands are located on site and do not cross or serve as state boundaries.**

**(b) General Flow Relationship with Non-TNW:**

Flow is: **Intermittent flow.** Explain: **Hydrologic connectivity from the wetlands into the abutting non-jurisdictional ditches is continuous. Flow through these ditches is normally during wetter months and after rainfall events..**

Surface flow is: **Overland sheetflow**

Characteristics: **Flow from the wetland into the abutting ditch is via overland sheetflow..**

Subsurface flow: **Unknown.** Explain findings: .

Dye (or other) test performed: .

**(c) Wetland Adjacency Determination with Non-TNW:**

- Directly abutting
- Not directly abutting

<sup>7</sup>Ibid.

Discrete wetland hydrologic connection. Explain: **Jurisdictional Wetlands "A", "D", "E", and "Z" flow into the downstream tributary via non-jurisdictional ditches on site. These ditches intersect at the southern property boundary and continue south where it becomes a perennial RPW named Horse Branch. Horse Branch flows into the Lake Swamp and then into Sparrow Swamp prior to reaching the Lynches River, a TNW.**

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) **Proximity (Relationship) to TNW**

Project wetlands are **10-15** river miles from TNW.

Project waters are **5-10** aerial (straight) miles from TNW.

Flow is from: **Wetland to navigable waters.**

Estimate approximate location of wetland as within the **100 - 500-year** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: **Water was observed on the surface of Jurisdictional Wetlands "D" and "Z" during the site visit. Water was clear with no oily film or discoloration. Land use in this watershed is comprised of approximately 53% agricultural land, 26% forested wetlands, 12% forested land, and 6% urban land. The remaining land uses in this watershed include scrub/shrub land, water, and non-forested wetlands. According to the SCDHEC website, there is a moderate potential for growth in this watershed.**

Identify specific pollutants, if known: **This wetland is located adjacent to several agricultural fields, which contribute herbicides and other pollutants, including sediments from soil manipulation activities, into the wetland. A review of the SCDHEC website revealed a downstream monitoring station located on Lake Swamp (PD-345) that found that aquatic and recreational uses are fully supported. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions in this tributary.**

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width):

Vegetation type/percent cover. Explain: **The dominant vegetation in these wetlands is Facultative and consists of Quercus nigra, Acer rubrum, and Liquidambar styraciflua.**

Habitat for:

Federally Listed species. Explain findings:

Fish/spawn areas. Explain findings:

Other environmentally-sensitive species. Explain findings:

Aquatic/wildlife diversity. Explain findings: **This wetland system enhances wildlife diversity through timber type changes and the transition between upland and aquatic systems..**

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **9**

Approximately ( **240.22** ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
N	4.27	Y	90
N	0.83	Y	113.5
N	0.51	N	20
N	0.11		
N	6.4		
N	4.6		

Summarize overall biological, chemical and physical functions being performed: **The perennial RPW named Horse Branch, and its adjacent wetlands, are providing important biological, chemical, and physical functions within a predominately upland drainage area. According to the SCDHEC Watersheds website, this watershed consists of approximately 53% agricultural land, 26% forested wetlands, 12% forested land, and 6% urban land. The remaining land uses in this watershed include scrub/shrub land, non-forested wetlands, and water. The watershed is predominately rural with a large portion of the land in agriculture production. The majority of the wetlands within the drainage area are depressional wetlands that are situated relatively low in the landscape and receive and store runoff from the surrounding uplands. This water storage prevents flood flows from high rainfall events from moving quickly downstream. The perennial RPW and its adjacent wetlands act as a catch basin to help filter out pollutants from the neighboring agricultural land and adjacent forestry practices. This wetland system enhances wildlife diversity, acts as catch basin filtering sediment and pollutants from surrounding croplands, supports the downstream food web, and provides nutrient fixation, flood attenuation and flow maintenance functions. See III.C.3. below for more details..**

### C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

**Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:**

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: **The perennial RPW named Horse Branch and all similarly situated and adjacent freshwater wetlands are collectively performing functions consistent with following: Biological-** wetlands adjacent to this RPW include **depressional wetlands. As such, a variety of biological functions are being performed which include providing breeding grounds and shelter for aquatic species and foraging areas for wetland dependent species. These wetlands and tributary are essential in providing organic carbons in the form of their collective primary productivity to downstream waters, resulting in the nourishment of the downstream food web. Chemical-** wetlands and tributary within the review area are providing the important collective functions of removal of excess nutrients into the downstream TNW. These pollutants, which are contributed by runoff from surrounding uplands, are prevented from being discharged downstream due to suspended sediments and other pollutants being retained within the wetlands. The low velocity and gradient of the tributary also contributes to the removal of pollutants because the suspended pollutants have time to settle out of the water. This reduces nitrogen and phosphorus loading downstream and effectively prevents oxygen depletion that can result from eutrophication. Physical- Wetlands and tributary in the review area are collectively performing flow maintenance functions, including retaining runoff inflow and storing rain water temporarily. Flow maintenance results in the reduction of downstream peak flows (discharge and volumes), helping to maintain seasonal flow volumes and reducing the frequency of overbank events which flood adjacent properties. Increased water velocity also increases the rate of erosion downstream, which not only leads to a loss of land but also increases the amount of sediments and other pollutants in the TNW. Based on the collective functions described above and their importance to the biological, chemical, and physical integrity of the traditional navigable waters of the Lynches River, it has been determined that there is a significant nexus between the relevant reach of the tributary and all adjacent wetlands to the downstream TNW..

**Documentation for the Record only: Significant nexus findings for seasonal RPWs and/or wetlands abutting seasonal RPWs:**

### D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:  
 TNWs: linear feet width (ft), Or, acres.  
 Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**

Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: **The off-site tributary named Horse Branch was determined to have perennial flow based on a review of the topographic map, aeriels, and NWIs. The topographic map depicts this tributary as a solid blue line, which usually indicates perennial flow. The aeriels depict this tributary as a shaded linear feature. The NWIs depict the majority of Horse Branch as flowing within palustrine wetlands. This tributary flows southeast into Lake Swamp, a perennial RPW. Lake Swamp continues southeast where it flows into Sparrow Swamp, a perennial RPW, that flows into the Lynches River, a TNW.**

Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

Tributary waters:            linear feet            width (ft).

Other non-wetland waters:            acres.

Identify type(s) of waters:            .

3. **Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

Tributary waters:            linear feet            width (ft).

Other non-wetland waters:            acres.

Identify type(s) of waters:            .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.

Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:            .

Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:            .

Provide acreage estimates for jurisdictional wetlands in the review area:            acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: **(Jurisdictional Wetland "D") 4.27 + (Jurisdictional Wetland "E") 0.11 a. + (Jurisdictional Wetland "A") 0.51 a. + (Jurisdictional Wetland "Z") 0.83 a. = 5.72 acres.**

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area:            acres.

7. **Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

Demonstrate that impoundment was created from “waters of the U.S.,” or

Demonstrate that water meets the criteria for one of the categories presented above (1-6), or

Demonstrate that water is isolated with a nexus to commerce (see E below).

**Explain:**

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: .
- Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters:            linear feet            width (ft).
- Other non-wetland waters:            acres.  
    Identify type(s) of waters: .
- Wetlands:            acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- Other: (explain, if not covered above): **Several potentially jurisdictional linear features were assessed within the project area. These features were determined during the site visit to be man-made and primarily constructed out of uplands. One of these linear features is depicted on the topographic map as a blue line, which usually represents perennial flow; however this feature, as well as the others, was viewed during the site visit and determined to flow less than three months continuously per year. Terrestrial vegetation was viewed in the bottom of these features and no OHWM was observed. These linear features were excavated adjacent to agricultural fields. Therefore, these linear features were determined to be non-jurisdictional ditches.**

**These features were determined during the site visit to be man-made and primarily constructed out of uplands. One of these linear features is depicted on the topographic map as a blue line, which usually represents perennial flow; however this feature, as well as the others, was viewed during the site visit and determined to flow less than three months continuously per year. Terrestrial vegetation was viewed in the bottom of these features and no OHWM was observed. These linear features were excavated adjacent to agricultural fields. Therefore, these linear features were determined to be non-jurisdictional ditches.**

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams):            linear feet            width (ft).
- Lakes/ponds:            acres.
- Other non-wetland waters:            acres. List type of aquatic resource: .
- Wetlands:            acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams):            linear feet,            width (ft).
- Lakes/ponds:            acres.
- Other non-wetland waters:            acres. List type of aquatic resource: .
- Wetlands:            acres.

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: **Report by ECS Carolinas, plat by Nesbitt Surveying Co, Inc.**
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas: .
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.

<sup>10</sup> Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

U.S. Geological Survey map(s). Cite scale & quad name: **Sardis; The topographic map depicts these wetlands as cleared and forested uplands. One non-jurisdictional ditch on site is depicted as a solid blue line, but none of the other linear features on site are depicted on the topo map.**

USDA Natural Resources Conservation Service Soil Survey. Citation: **Sheet 24; The soil survey depicts these wetlands as Coxville, a hydric soil.**

National wetlands inventory map(s). Cite name: **The NWIs depict Jurisdictional Wetlands "D" and "Z" as palustrine forested wetlands that are partially drained/ditched. Jurisdictional Wetlands "A" and "E" are depicted as uplands (U21) .**

State/Local wetland inventory map(s): .

FEMA/FIRM maps: .

100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)

Photographs:  Aerial (Name & Date): **SCDNR 2006, 99:11225:185; The aerials depict these wetlands as forested.**

or  Other (Name & Date): **Site photos provided by ECS Carolinas collected Dec. 9 & 23, 2013; USACE site photos taken on March 18, 2014.**

Previous determination(s). File no. and date of response letter: .

Applicable/supporting case law: .

Applicable/supporting scientific literature: .

Other information (please specify): .

**B. ADDITIONAL COMMENTS TO SUPPORT JD: The off-site tributary named Horse Branch was determined to have perennial flow based on a review of the topographic map, aerials, and NWIs. The topographic map depicts this tributary as a solid blue line, which usually indicates perennial flow. The aerials depict this tributary as a shaded linear feature. The NWIs depict the majority of Horse Branch as flowing within palustrine wetlands. This tributary flows southeast into Lake Swamp, a perennial RPW. Lake Swamp continues southeast where it flows into Sparrow Swamp, a perennial RPW, that flows into the Lynches River, a TNW.**

Several potentially jurisdictional linear features were assessed within the project area. These features were determined during the site visit to be man-made and primarily constructed out of uplands. One of these linear features is depicted on the topographic map as a blue line, which usually represents perennial flow; however this feature, as well as the others, was viewed during the site visit and determined to flow less than three months continuously per year. Terrestrial vegetation was viewed in the bottom of these features and no OHWM was observed. These linear features were excavated adjacent to agricultural fields. Therefore, these linear features were determined to be non-jurisdictional ditches. All of the non-jurisdictional ditches in the project area flow into the non-jurisdictional ditch that is depicted on site as a blue line, which continues south off of the property and becomes a tributary named Horse Branch. This perennial RPW flows east into the Lake Swamp, a perennial RPW. Jurisdictional Wetlands "A", "D", "E", and "Z" were determined to have a significant nexus, via a direct hydrologic connection, to the downstream TNW in Section IIIC above .