

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): March 6, 2019

B. DISTRICT OFFICE, FILE NUMBER, FILE NAME: 1 of 3; SAC-2018-01625 Winding Woods Industrial TC-CC Tract

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: South Carolina County/parish/borough: **Dorchester County** City: **St. George**
Center coordinates of site (lat/long in degree decimal format): Lat. **33.1840° N**, Long. **-80.528° W**.
Universal Transverse Mercator:

Name of nearest waterbody: **Indian Field Swamp**

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **N/A**

Name of watershed or Hydrologic Unit Code (HUC): **3050206**

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): **10/16/2018**

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):¹

- TNWs, including territorial seas
- Wetlands adjacent to TNWs
- Relatively permanent waters² (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): .

2. Non-regulated waters/wetlands (check if applicable):³ [Including potentially jurisdictional features that upon assessment are NOT waters or wetlands]

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

Explain: **The project review area contains 9 wetlands that were determined to be isolated. The wetlands, Wetland H, I,**

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

² 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).

³ Supporting documentation is presented in Section III.F.

J, K, S, T, AA, GG, and II, are depressional wetlands that are surrounded by uplands. There are no ditches or swales coming out of the wetlands and there was no visible evidence that discrete hydrologic flow through the uplands to waters of the U.S. occurs. Also, there was no apparent shallow subsurface hydrologic flow and no apparent physical, chemical, or biological connection from the wetlands to waters of the U.S. In addition, the wetlands have no apparent ecological interconnection to waters of the U.S. For these reasons, Wetland H, I, J, K, S, T, AA, GG and II, totalling 13.38 acres, were determined to be isolated, non-jurisdictional and not regulated by Section 404 of the CWA .

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 waterbody⁴ 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.

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

Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW⁵:
Tributary stream order, if known:

(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):

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

Bed and banks
 OHWM⁶ (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.⁷ 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:
 oil or scum line along shore objects survey to available datum;
 fine shell or debris deposits (foreshore) physical markings;
 physical markings/characteristics vegetation lines/changes in vegetation types.
 tidal gauges
 other (list):

(iii) **Chemical Characteristics:**

⁵ 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.

⁶ 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.

⁷Ibid.

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: .

(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-RPWs⁸ 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.⁹

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):¹⁰

- 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: .

⁸See Footnote # 3.

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

¹⁰ 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: **H: 1.28 ac; I: 0.83 ac; J: 0.44 ac; K: 2.17 ac; S: 0.33 ac; T: 3.85 ac; AA: 1.5 ac; GG: 0.48 ac; and II: 2.5 ac; Total: 13.38 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: **Red Bay Environmental.**
- Data sheets prepared/submitted by or on behalf of the applicant/consultant. Concur with conclusions
 - 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: .
- USDA Natural Resources Conservation Service Soil Survey. Citation: **Noboco loamy sand, Lynchburg loamy sand, Goldsboro loamy sand.**
- National wetlands inventory map(s). Cite name: **PFO.**
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: .
- 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): .
 - or Other (Name & Date): .
- Previous determination(s). File no. and date of response letter: **SAC-2008-1924 issued January 29, 2009.**
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: The 904.56-acre project review area includes 9 wetlands, Wetland H, I, J, K, S, T, AA, GG, and II, totaling 13.38 acres, which were determined to be isolated and not jurisdictional; therefore these wetlands are not

regulated by Section 404 of the CWA. The jurisdictional status of the remainder of the aquatic resources located within the project review area are discussed on Forms 2 and 3.

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): March 6, 2019

B. DISTRICT OFFICE, FILE NUMBER, FILE NAME: JD Form 2 of 3; SAC-2018-001625 Winding Woods Industrial Park TC-CC

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: South Carolina County/parish/borough: **Dorchester County** City:
Center coordinates of site (lat/long in degree decimal format): Lat. **33.1840° N**, Long. **-80.528° W**.
Universal Transverse Mercator:

Name of nearest waterbody: **Spring Branch**

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

Name of watershed or Hydrologic Unit Code (HUC): **03050206**

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): **10/16/2018**

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):¹

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters² (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: **C(1): 39.92 ac; C(2): 26.39 ac; C(3) 2.46 ac; C(4) 2.38 ac; D(1): 13.54 ac; D (2): 1.33 ac; HH: 12.11 ac; KK: 0.15 ac; A: 2.94 ac; BB: 0.95 ac; DD: 0.52 ac; EE: 3.0 ac; FF: 84.84 ac; JJ: 30.71 ac.: Total: 221.24 acres**

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

Elevation of established OHWM (if known): .

2. Non-regulated waters/wetlands (check if applicable):³ [Including potentially jurisdictional features that upon assessment are NOT waters or wetlands]

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

² 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).

³ Supporting documentation is presented in Section III.F.

- Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: **There are five (5) linear features located within the project review area that were determined to be non-jurisdictional.**

Linear Feature, #5, connects with one of the roadside ditches on Spring Road. Linear Feature #5 appears to have been excavated from uplands and flows into Wetland FF. The linear feature had water present, but did not display a defined bed and bank or an OHWM. It also did not appear to have relatively permanent flow.

Linear Features # 2, #3, and #4 are located adjacent to one another and flow into one roadside ditch on Winding Woods Road. These linear features appear to have been excavated from uplands, did not display a defined bed and bank or an OHW mark. They also did not appear to have relatively permanent flow. Linear Feature #3 connects the roadside ditch to Wetland FF. Linear features #2 and #3 begin in uplands and end at the roadside ditch. Linear Feature #4 begins in uplands but shares a border with Wetland EE along a portion of the feature. Linear Feature #4 does provide a hydrologic surface connection from Wetland EE to other wetlands and waters. The jurisdictional status of Wetland EE is discussed in Sections B.2. and C. of this Basis Form 2 of 3.

For the reasons described, Linear Features #2, #3, #4 and #5 are not jurisdictional and not subject to regulation under Section 404 of the CWA.

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 waterbody⁴ 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.

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

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

* Spring Branch is the perennial tributary that is discussed on this form and it is located offsite*

(i) General Area Conditions:

Watershed size: 101,993 acres ;
Drainage area: 4,000 acres
Average annual rainfall: 50 inches
Average annual snowfall: inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

- Tributary flows directly into TNW.
Tributary flows through 3 tributaries before entering TNW.

Project waters are 2-5 river miles from TNW.
Project waters are 1 (or less) river miles from RPW.
Project waters are 2-5 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:

Identify flow route to TNW5: Spring Branch (Perennial RPW) to Indian Swamp (Perennial RPW) to Edisto River (TNW)..

Tributary stream order, if known:

(b) General Tributary Characteristics (check all that apply): The tributary is located offsite and it was not observed in the field. Offsite information such as topo maps, aerial photographs, and soil survey maps were used for the review.

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

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

Average width: Unknown feet
Average depth: Unknown feet
Average side slopes: Unknown, but likely <1% due to location within the coastal plain.

Primary tributary substrate composition (check all that apply): Likely silts and sands due to location within the coastal plain.

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Likely stable as the tributary appears to be natural with an expansive abutting forested wetland system that can minimize erosion.

Presence of run/riffle/pool complexes. Explain: No.

Tributary geometry: Meandering. Appears to be natural from review of aerial photographs.

Tributary gradient (approximate average slope): <1 %

(c) Flow:

Tributary provides for: Perennial flow
Estimate average number of flow events in review area/year: 20 (or greater)

Describe flow regime:
Other information on duration and volume:

Surface flow is: Confined. Characteristics:

Subsurface flow: Unknown. Explain findings:

- Dye (or other) test performed:

Tributary has (check all that apply): Likely has the following due to its location in the coastal plain and similar position in the landscape as nearby tributaries:

- Bed and banks
OHWM6 (check all indicators that apply):

5 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.

- | | |
|---|---|
| <input checked="" 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 checked="" 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): | |
- Discontinuous OHWM.⁷ 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 located offsite and it was not observed in the field. However, based on a review of topo maps, aerial photographs, and soil survey maps, the areas surrounding the tributary appear to be rural with forested and non-forested and with little surrounding development. Therefore, water quality is anticipated to be good.**

Identify specific pollutants, if known: .

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

- Riparian corridor. Characteristics (type, average width): **The riparian corridor was estimated to be approximately 1000 feet in total 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: **The tributary likely provides habitat for small organisms such as small fish, insects, and amphibians. Larger wildlife such as mammals and wading birds may also utilize the channels as a food and water source. The tributary may also provide a corridor for movement of aquatic organisms from adjacent wetlands to downstream waters.**

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: **C(1): 39.92 ac; C(2): 26.39 ac; C(3) 2.46 ac; C(4) 2.38 ac; D(1): 13.54 ac; D (2): 1.33 ac; HH: 12.11 ac; KK: 0.15 ac; A: 2.94 ac; BB: 0.95 ac; DD: 0.52 ac; EE: 3.0 ac; FF: 84.84 ac; JJ: 30.71 ac.: Total: 221.24 acres**

Wetland type. Explain: **Forested.**

Wetland quality. Explain: **Good. No degradation observed.**

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

(b) General Flow Relationship with Non-TNW: The Non-TNW is Spring Branch, which is located offsite.

Wetland A, C(1), C(2), C(3), C(4), D(1), D(2), DD, FF, HH, JJ and KK Flow is: Intermittent flow. Explain: **These wetlands are part of one large wetland system that continues offsite and is contiguous with Spring Branch. The large wetland system shares a border with Spring Branch at an offsite location. As such, flow from the wetlands to Spring Branch is intermittent and may occur seasonally and/or after rain events when surface water may be present in the wetlands.**

Surface flow is: **Discrete**

Characteristics:

⁶A 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.

⁷Ibid.

Wetland BB Flow is: **Intermittent flow**. Explain: Wetland BB shares a border with an offsite non-jurisdictional roadside ditch on Winding Woods Drive. The roadside ditch continues to Spring Road where it connects into the roadside ditches on Spring Road. The roadside ditches on Spring Road empty into Wetland JJ, which continues offsite and abuts Spring Branch. As such, flow from the wetland to Spring Branch through the non-jurisdictional roadside ditches and Wetland JJ is intermittent and may occur seasonally and/or after rain events when surface water may be present in the wetland.
Surface flow is: **Discrete and confined**

Wetland EE Flow is: **Intermittent flow**. Explain: Non-jurisdictional linear feature #4 shares a border with Wetland EE along a portion of the feature. Non-jurisdictional linear feature #4 flows into a non-jurisdictional roadside ditch on Winding Woods Drive. The roadside ditch continues to Spring Road where it connects into the roadside ditches on Spring Road. The roadside ditches on Spring Road empty into Wetland JJ, which continues offsite and abuts Spring Branch. As such, flow from the wetland to Spring Branch through the non-jurisdictional roadside ditches and Wetland JJ is intermittent and may occur seasonally and/or after rain events when surface water may be present in the wetland.

Surface flow is: **Discrete and confined**

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

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting Wetlands: **Wetland A, C(1), C(2), C(3), C(4), D(1), D(2), DD, FF, HH, JJ and KK**

Not directly abutting

Discrete wetland hydrologic connection. Explain: **Wetland BB has a discrete hydrologic connection to the perennial RPW through a series of roadside ditches, Wetland JJ and offsite wetlands. Wetland EE has a discrete hydrologic connection to the perennial RPW through non-jurisdictional linear feature #4, a series of roadside ditches, Wetland JJ and offsite wetlands.**

Ecological connection. Explain: **Because the onsite wetlands are part of a large and expansive wetland system that continues offsite, a corridor for wildlife and other organisms is present that would enable movement between the wetlands and the tributary and vice versa.**

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **5-10** 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 **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: **The water quality appeared to be good as the water was clear. The area surrounding the wetlands are rural with forested and non-forested areas with little surrounding development.**

Identify specific pollutants, if known:

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

Riparian buffer. Characteristics (type, average width): **Approximately 1000 feet total.**

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: **The wetlands may be utilized by various species of insects, amphibians, reptiles, mammals and birds, all of which may use the wetlands for all or part of their lives, such as for foraging, nesting and/or for shelter. Vegetation within the wetlands onsite includes, but is not limited to, *Pinus taeda*, *Acer rubrum*, *Morella cerifera*, *Scirpus cyperinus*, *Liquidambar styraciflua*, and *Nyssa sylvatica*. The vegetation within the wetlands is diverse and diverse wetlands often attract diverse wildlife.**

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

All wetland(s) being considered in the cumulative analysis: **23**

Approximately (**1443.56**) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Note: The wetlands listed below that are letters are wetlands that were delineated in the field and verified by the Corps on adjacent tracts that are subject to review by the Corps. Offsite Wetlands A, D and C are included in the jurisdictional determination (SAC-2018-1378) that has been issued. Wetlands N, P Q and M are located on an adjacent tract that has a jurisdictional determination that is pending (SAC-2018-01487).

| <u>Directly abuts? (Y/N)</u> | <u>Size (in acres)</u> | <u>Directly abuts? (Y/N)</u> | <u>Size (in acres)</u> |
|------------------------------|------------------------|------------------------------|------------------------|
| Offsite 1 (y) | 550 | | |
| Offsite 2 (y) | 580 | Offsite Wet M (y) | 23.25 |
| Offsite 3 (y) | 12 | | |
| Offsite 4 (y) | 13 | | |
| Offsite 5 (y) | 3 | | |
| Offsite Wet A (y) | 7.78 | | |
| Offsite Wet D (y) | 11.2 | | |
| Offsite Wet C (y) | 8.4 | | |
| Onsite Wet C(1) (y) | 39.92 | | |
| Onsite Wet C(2) (y) | 26.39 | | |
| Onsite Wet C(3) (y) | 2.46 | | |
| Onsite Wet C(4) (y) | 2.38 | | |
| Onsite Wet D(1) (y) | 13.54 | | |
| Onsite Wet D(2) (y) | 1.33 | | |
| Onsite Wet HH (y) | 12.11 | | |
| Onsite Wet KK (y) | 0.15 | | |
| Onsite Wet A (y) | 2.94 | | |
| Onsite Wet BB (n) | 0.95 | | |
| Onsite Wet DD (y) | 0.52 | | |
| Onsite Wet EE (n) | 3.0 | | |
| Onsite Wet FF (y) | 84.84 | | |
| Onsite Wet JJ (y) | 30.71 | | |

Summarize overall biological, chemical and physical functions being performed: **The project review area that is subject to this jurisdictional determination is 904.57 acres in size. The subject review area is located within a drainage area of Spring Branch, which flows directly into Indian Hill Swamp and then to the Edisto River, the TNW. The relevant reach of Spring Branch has a drainage area of approximately 4,000 acres in size and contains approximately 1,443.56 acres of freshwater, non-tidal wetlands. The wetlands located within the drainage area of Spring Branch, which are included in this cumulative review, provide a variety of functions that are important for the downstream waters and the watershed as a whole. The wetlands not only provide habitat for various aquatic and terrestrial organisms, including a variety of insects, amphibians, reptiles, mammals and birds, but are also a source of food, nutrients, and carbon for organisms located downstream. The wetlands are especially important for the water quality of a watershed. Water runoff from adjacent uplands that may contain pollutants, sediments, excess nutrients, etc., that flows through the wetlands before entering the tributaries has the opportunity to be filtered out prior to flowing to downstream TNWs. In addition, excess water can temporarily be stored thereby minimizing potential flooding of downstream areas and can also slowly release water downstream to maintain seasonal flow volumes. Runoff water may also transport organisms, nutrients, and carbon from the wetlands into the tributaries, which continue to flow to downstream TNWs.**

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 project review area that is subject to this jurisdictional determination is 904.57 acres in size. The subject review area is located within a drainage area of Spring Branch, the perennial tributary, which flows directly into Indian Hill Swamp and then to the Edisto River, the TNW. The relevant reach of Spring Branch has a drainage area of approximately 4,000 acres in size and contains approximately 1,443.56 acres of freshwater, non-tidal wetlands. Offsite wetlands 1-5, A, C, D, M and onsite wetlands C(1), C(2), C(3), C(4), D(1), D(2), HH, KK, A, DD, FF and JJ are part of a large wetland system that is contiguous with and abuts Spring Branch. The abutting wetlands include wetlands within the project review area that is subject to this jurisdictional determination, wetlands located on adjacent tracts that have pending or issued jurisdictional determinations, or wetlands approximated from interpretation of soils survey, NWI maps and aerial photographs. In addition to the abutting wetlands, non-abutting wetlands are also located within the drainage area of Spring Branch. The non-abutting wetlands, which are the subject of this significant nexus determination include onsite wetlands BB and EE. The onsite non-abutting wetlands have a surface hydrologic connection with Spring Branch via non-jurisdictional linear features and/or a series of roadside ditches and other wetlands.**

Regardless of whether the wetlands are abutting or non-abutting, wetlands located within the drainage area of Spring Branch provide a variety of functions that are important for the downstream waters and the watershed as a whole. The wetlands not only provide habitat for various aquatic and terrestrial organisms, including a variety of insects, amphibians, reptiles, mammals and birds, but are also a source of food, nutrients, and carbon for organisms located downstream. The wetlands are especially important for the water quality of a watershed. Water runoff from adjacent uplands that may contain pollutants, sediments, excess nutrients, etc., that flows through the wetlands before entering the tributaries has the opportunity to be filtered out prior to flowing to downstream TNWs. In addition, excess water can temporarily be stored thereby minimizing potential flooding of downstream areas and can also slowly release water downstream to maintain seasonal flow volumes. Runoff water may also transport organisms, nutrients, and carbon from the wetlands into the tributaries, which continue to flow to downstream TNWs. The wetlands are especially important for the quality of a watershed.

According to the SCDHEC Watershed Information available online, there is a water quality monitoring station (E-032) in Indian Field Swamp located downstream from the project review area location. At E-032, aquatic life uses are partially supported due to dissolved oxygen excursions. There is also a significant increasing trend in pH. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions. In addition, a Total Maximum Daily Loads (TMDL) was developed by SCDHEC and approved by EPA for Indian Field Swamp at E-032. TMDLs determine the maximum amount of fecal coliform bacteria waterbodies can receive from sources and still meet water quality standards. There is one minor permitted wastewater treatment facility in the watershed. This watershed has no designated or potential MS4s (NPDES Phase II General Permit for Stormwater Discharges from Regulated Small Municipal Separate Storm Sewer Systems). Probable sources of fecal coliform bacteria that were identified in the watershed are grazing animals, especially cattle with access to streams, failing septic systems, urban runoff, and wildlife. The TMDL states that a reduction of 60% in fecal coliform loading is necessary for the stream to meet the recreational use standard.

A review of recent aerial photographs indicates that there are no ongoing development activities occurring within the drainage area. The drainage area is rural and consists of forested and non-forested areas. There appears to be minimal residential and commercial development. The subject review area and the adjacent tracts that are being reviewed by the Corps and/or have issued jurisdictional determinations are within a pre-determined industrial park area. Future development of the industrial park tracts are anticipated. Portions of the watershed, which contains the Town of Reevesville and St. George and a portion of the Town of Harleyville, have a moderate to high potential for growth, particularly industrial growth due to the proximity of the watershed to I-95 and existing railroad lines. The non-abutting wetlands, BB and EE located within the subject project review area have a significant nexus to downstream TNWs as they can provide a source of carbon and nutrients, can perform water quality functions, can provide water storage capabilities, can maintain seasonal flow volumes, and have the ability to transport organisms, carbon, nutrients, sediments, clean water, as well as any pollutants that may be present or could become present, to downstream TNWs. When wetlands are filled or altered, many of the services that they provide may be lost and the loss of those services affects downstream waters and TNWs.

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 tributary is located offsite. The tributary is named (Spring Branch) and appears on topo maps as a blue line stream. In addition, the drainage area for the relevant reach of Spring Branch is approximately 4000 acres, which includes uplands and a large wetland system. For these reasons, Spring Branch was determined to have perennial flow. Spring Branch flows to Indian Field Swamp which flows south to the Edisto River, the 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-RPWs⁸ 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: **Wetland A, C(1), C(2), C(3), C(4), D(1), D(2), DD, FF, HH, JJ and KK located within the project review area are part of one large, expansive wetland system that continues offsite and is contiguous with Spring Branch, the perennial RPW. Although the wetlands listed above form one large expansive wetland system, individual names were assigned to sections of the wetland when either a road crossed through the wetland, when the wetland crossed onto a tract with a different TMS # , or when the wetland re-enters the project review area. The large wetland system shares a border with Spring Branch, the perennial tributary, at an offsite location, thus water from the wetland can flow directly into the perennial tributary and vice versa. Therefore, the large wetland system, which includes the onsite wetlands listed above, is therefore considered to be abutting. These wetlands are jurisdictional and subject to regulation under Secion 404 of the CWA.**

The details of the wetland flow through the project and offsite are discussed below:

Wetland A crosses through the subject project review area and continues offsite to the south where it continues on to an adjacent tract that is not currently subject to review by the Corps. The wetland then re-enters the subject project review area where it becomes Wetland FF, which flows north to Wetland JJ and then offsite to Spring Branch, the perennial RPW.

Wetland HH is located on the northern side of the project review area. It flows south onto an adjacent tract that is not subject to review by the Corps. The offsite portion of the wetland continues south and is separated from Wetland C(2) by a road, Spring Road. Wetland KK, which is also part of this larger wetland made up of Wetland HH and the adjacent offsite wetland, is also separated from Wetland C(2) by Spring Road. However, based on jurisdictional determination, NWP-2007-00428, the US EPA determined on February 25, 2008, that wetlands separated by an artificial barrier, which is Spring Road in this case, does not sever the areas from functioning as one wetland. Therefore, the Wetlands HH and KK are part of Wetland C(2).

Wetland C(3) narrows at a point located towards the southern side of the project review area and is separated from Wetland DD by a road, Winding Woods Road. Wetland DD continues offsite onto an adjacent tract that is not subject to review by the Corps. The wetland then re-enters the subject project review area where it becomes

⁸See Footnote # 3.

Wetland FF, which flows north to Wetland JJ and then offsite to Spring Branch, the perennial RPW. Although a road, Winding Woods Road, separates Wetland C(3) from DD, based on jurisdictional determination, NWP-2007-00428, the US EPA determined on February 25, 2008, that wetlands separated by an artificial barrier, which is Winding Woods Road in this case, does not sever the areas from functioning as one wetland. Therefore, the Wetland C(3) and DD are part of one wetland.

Wetland FF flows north and is separated from Wetland JJ by a road, Spring Branch Road. However, based on jurisdictional determination, NWP-2007-00428, the US EPA determined on February 25, 2008, that wetlands separated by an artificial barrier, which is Spring Road in this case, does not sever the areas from functioning as one wetland.

Wetland JJ flows north offsite and is contiguous with/shares a border with Spring Branch. All of the abutting wetlands discussed herein flow through JJ.

- 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: **217.29 acres total (Wetlands A, C(1), C(2), C(3), C(4), D(1), D(2), DD, FF, HH, JJ and KK)**

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: **3.95 acres total (Wetlands BB and EE).**

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.⁹

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):¹⁰

- 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):

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

¹⁰ 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.

- 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: 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: **Red Bay Environmental.**
- Data sheets prepared/submitted by or on behalf of the applicant/consultant. Concur with conclusions.
 - 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: **St. George**
- USDA Natural Resources Conservation Service Soil Survey. Citation: **Grifton fine sandy loam, Rains sand loam.**
- National wetlands inventory map(s). Cite name: **PFO.**
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: .
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): **Google Earth 2018, Digital Globe 2018.**
 - Other (Name & Date): .
- Previous determination(s). File no. and date of response letter: **SAC-2016-01016 issued January 11, 2017; SAC-2018-01378 issued December 18, 2018**
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify): **Pending jurisdictional determination SAC-2018-01487.**

B. ADDITIONAL COMMENTS TO SUPPORT JD: The project review area contains 221.24 acres of wetlands that were determined to be jurisdictional and subject to regulation under Section 404 of the CWA. The project review area also contains linear features that were determined to be non-jurisdictional and not subject to regulation under Section 404 of the CWA. The jurisdictional status of the onsite tributary and Wetlands L(1) and L(2) are discussed on Form 3. The isolated, non-jurisdictional wetlands that are also present are discussed in Form 1.

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): March 6, 2019

B. DISTRICT OFFICE, FILE NUMBER, FILE NAME: JD Form 3 of 3; SAC-2018-001625 Winding Woods Industrial Park TC-CC

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: South Carolina County/parish/borough: **Dorchester County** City:
Center coordinates of site (lat/long in degree decimal format): Lat. **33.1840° N**, Long. **-80.528° W**.
Universal Transverse Mercator:

Name of nearest waterbody: **Gum Branch**

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

Name of watershed or Hydrologic Unit Code (HUC): **03050206**

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): **10/16/2018**

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):¹

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters² (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: **Tributary 1** linear feet: **2850** width (ft) and/or **0.7** acres.

Wetlands: **L(1): 19.28 ac; L(2): 0.15 ac; Total: 19.44 acres** (Wetland L(1) and L(2) are part of one wetland, L, that crosses two different TMS#s).

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

Elevation of established OHWM (if known): .

2. Non-regulated waters/wetlands (check if applicable):³ [Including potentially jurisdictional features that upon assessment are NOT waters or wetlands]

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

² 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).

³ Supporting documentation is presented in Section III.F.

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

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 waterbody⁴ 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

Tributary 1 is the non-TNW discussed on this form and it is located onsite. It is labeled "Tributary 1" on the final depiction.

(i) General Area Conditions:

Watershed size: 101,993 acres ;

Drainage area: 735 acres

Average annual rainfall: 50 inches

Average annual snowfall: inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 4 tributaries before entering TNW.

Project waters are 2-5 river miles from TNW.

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

Project waters are 2-5 aerial (straight) miles from TNW.

⁴ 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)** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW⁵: **Onsite Tributary 1 (to Gum Branch to Indian Swamp (Perennial RPW) to Edisto River (TNW)).**

Tributary stream order, if known: .

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

Tributary is: Natural
 Artificial (man-made). Explain: .
 Manipulated (man-altered). Explain: **Tributary 1 appears to be maintained for drainage purposes. A berm/ excavated material spoil area is present along the top of the bank indicating that the tributary has been excavated at some point in the past.**

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

Average width: 10feet

Average depth: 6 feet

Average side slopes: **2:1**

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 channel of Tributary 1 appeared to be fairly stable. Some erosion is likely near the culvert on US Highway 78.**

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

Tributary geometry: **Relatively straight.**

Tributary gradient (approximate average slope): **< 1**

(c) Flow:

Tributary provides for: **Perennial flow**

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

Describe flow regime: .

Other information on duration and volume: .

Surface flow is: **Confined.** Characteristics: .

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

Dye (or other) test performed: .

Tributary has (check all that apply):

Bed and banks
 OHWM⁶ (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.⁷ 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:
 oil or scum line along shore objects survey to available datum;
 fine shell or debris deposits (foreshore) physical markings;
 physical markings/characteristics vegetation lines/changes in vegetation types.

⁵ 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.

⁶A 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.

⁷Ibid.

- tidal gauges
- other (list):

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: **The water quality appeared to be good. The portion of the subject review area within the drainage area of this Tributary 1 consists of a forested wetland, vegetated and non-vegetated uplands. Based on a review of topo maps, aerial photographs, and soil survey maps, the areas surrounding the tributary offsite appear to be rural with forested and non-forested uplands with little surrounding development.**

Identify specific pollutants, if known:

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

- Riparian corridor. Characteristics (type, average width): **The riparian corridor was estimated to be approximately 1000 feet in total 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: **Tributary 1 likely provides habitat for small organisms such as small fish, insects, and amphibians. Larger wildlife such as mammals and wading birds may also utilize the channels as a food and water source. The tributary may also provide a corridor for movement of aquatic organisms from adjacent wetlands to downstream waters.**

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: **L(1): 19.28 ac; L(2): 0.15 ac; Total: 19.44 acres (Wetland L(1) and L(2) are part of one wetland, L, that crosses two different TMS#s).**

Wetland type. Explain: **Forested**

Wetland quality. Explain: **Good. No degradation observed.**

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW: (The Non-TNW is onsite Tributary 1)

Flow is: **Intermittent flow**. Explain: **The flow from the wetland to the tributary is intermittent and may occur seasonally and/or after rain events when surface water may be present in the wetlands.**

Surface flow is: **Discrete**

Characteristics:

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

- Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting Wetlands:

Not directly abutting

Discrete wetland hydrologic connection. Explain:

Ecological connection. Explain:

Separated by berm/barrier. Explain: **Wetland L(1) and L (2), which form one wetland, L, are separated from the Tributary 1 by what appears to be a berm/ spoil material that was excavated from the tributary and placed in wetlands.**

(d) Proximity (Relationship) to TNW

Project wetlands are **2-5** river miles from TNW.

Project waters are **2-5** aerial (straight) miles from TNW.

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

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: **The water quality appeared to be good as the water was clear. The area surrounding the wetlands are rural with forested and non-forested areas with little surrounding development.**

Identify specific pollutants, if known:

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

- Riparian buffer. Characteristics (type, average width): **Approximately 1000 feet total.**
- 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: **The wetlands may be utilized by various species of insects,**

amphibians, reptiles, mammals and birds, all of which may use the wetlands for all or part of their lives, such as for foraging, nesting and/or for shelter. Vegetation within the wetlands onsite includes, but is not limited to, *Pinus taeda*, *Acer rubrum*, *Morella cerifera*, *Scirpus cyperinus*, *Liquidambar styraciflua*, and *Nyssa sylvatica*. The vegetation within the wetlands is diverse and diverse wetlands often attract diverse wildlife.

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

All wetland(s) being considered in the cumulative analysis: 7

Approximately (96.41) 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> |
|-------------|------------------------------|------------------------|------------------------------|------------------------|
| Onsite L(1) | (N) | 19.28 | | |
| Onsite L(2) | (N) | 0.15 | | |
| Offsite M | (N) | 23.19 | | |
| Offsite N | (N) | 15.56 | | |
| Offsite P | (N) | 0.91 | | |
| Offsite Q | (N) | 0.32 | | |
| Offsite I | (N) | 37 | | |

Summarize overall biological, chemical and physical functions being performed: Note: **The drainage area discussed on this Form 3 of 3 includes a portion of the subject project review area for this jurisdictional determination, SAC-2018-01625, as well as project review area on an adjacent parcel that is subject to a pending jurisdictional determination, SAC-2018-01487.**

The unnamed tributary, which was determined to have perennial flow, begins offsite and upstream of the subject project review area, flows through the west side of the subject project review area, flows under US Highway 78, flows offsite through a parcel not being reviewed by this office, then into the subject review area of SAC-2018-01487 where it flows into Gum Branch. Gum Branch flows directly into Indian Hill Swamp and then to the Edisto River, the TNW. The relevant reach of the unnamed tributary has a drainage area of approximately 735 acres in size and contains approximately 96.41 acres of freshwater, non-tidal wetlands and approximately 11,000 linear feet of perennial tributary. The wetlands located within the drainage area of the unnamed perennial tributary, which are included in this cumulative review, provide a variety of functions that are important for the downstream waters and the watershed as a whole. The wetlands not only provide habitat for various aquatic and terrestrial organisms, including a variety of insects, amphibians, reptiles, mammals and birds, but are also a source of food, nutrients, and carbon for organisms located downstream. The wetlands are especially important for the water quality of a watershed. Water runoff from adjacent uplands that may contain pollutants, sediments, excess nutrients, etc., that flows through the wetlands before entering the tributaries has the opportunity to be filtered out prior to flowing to downstream TNWs. In addition, excess water can temporarily be stored thereby minimizing potential flooding of downstream areas and can also slowly release water downstream to maintain seasonal flow volumes. Runoff water may also transport organisms, nutrients, and carbon from the wetlands into the tributaries, which continue to flow to downstream TNWs.

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: **Note: The drainage area discussed on this Form 3 of 3 includes a portion of the subject project review area for this jurisdictional determination, SAC-2018-01625, as well as project review area on an adjacent parcel that is subject to a pending jurisdictional determination, SAC-2018-01487.**

The relevant reach of the unnamed tributary has a drainage area of approximately 735 acres in size and contains approximately 96.41 acres of freshwater, non-tidal wetlands and approximately 11,000 linear feet of perennial tributary. The unnamed tributary, which was determined to have perennial flow, begins offsite and upstream of the subject project review area, flows through the west side of the subject project review area, flows under US Highway 78, flows offsite through a parcel not being reviewed by this office, then into the subject review area of SAC-2018-01487 where it flows into Gum Branch. Gum Branch flows directly into Indian Hill Swamp and then to the Edisto River, the TNW. The 7 wetlands located within the drainage area of the unnamed perennial tributary included in this cumulative review are considered non-abutting wetlands as they are separated from the tributary by a berm/excavated material spoils. Th wetlands include onsite Wetlands L(1) and L(2) and offsite Wetlands M, N, P and Q, which are located within the project review area of SAC-2018-01487, as well as an additional offsite Wetland 1. The wetlands provide a variety of functions that are important for the downstream waters and the watershed as a whole. The wetlands not only provide habitat for various aquatic and terrestrial organisms, including a variety of insects, amphibians, reptiles, mammals and birds, but are also a source of food, nutrients, and carbon for organisms located downstream. The wetlands are especially important for the water quality of a watershed. Water runoff from adjacent uplands that may contain pollutants, sediments, excess nutrients, etc., that flows through the wetlands before entering the tributaries has the opportunity to be filtered out prior to flowing to downstream TNWs. In addition, excess water can temporarily be stored thereby minimizing potential flooding of downstream areas and can also slowly release water downstream to maintain seasonal flow volumes. Runoff water may also transport organisms, nutrients, and carbon from the wetlands into the tributaries, which continue to flow to downstream TNWs.

According to the SCDHEC Watershed Information available online, there is a water quality monitoring station (E-032) in Indian Field Swamp located downstream from the project review area location. At E-032, aquatic life uses are partially supported due to dissolved oxygen excursions. There is also a significant increasing trend in pH. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions. In addition, a Total Maximum Daily Loads (TMDL) was developed by SCDHEC and approved by EPA for Indian Field Swamp at E-032. TMDLs determine the maximum amount of fecal coliform bacteria waterbodies can receive from sources and still meet water quality standards. There is one minor permitted wastewater treatment facility in the watershed. This watershed has no designated or potential MS4s (NPDES Phase II General Permit for Stormwater Discharges from Regulated Small Municipal Separate Storm Sewer Systems. Probable sources of fecal coliform bacteria that were identified in the watershed are grazing animals, especially cattle with access to streams, failing septic systems, urban runoff, and wildlife. The TMDL states that a reduction of 60% in fecal coliform loading is necessary for the stream to meet the recreational use standard.

A review of recent aerial photographs indicates that there are no ongoing development activities occurring within the drainage area. The drainage area is rural and consists of forested and non-forested areas. There appears to be minimal residential and commercial development nearby. The subject review area, including the portion within the drainage area

of this Form 3 of 3, and the adjacent tract that is being reviewed by the Corps, SAC-2018-01487 are within a pre-determined industrial park area. Future development of the industrial park tracts are anticipated. Portions of the watershed, which contains the Town of Reevesville and St. George and a portion of the Town of Harleyville, have a moderate to high potential for growth, particularly industrial growth due to the proximity of the watershed to I-95 and existing railroad lines. The non-abutting wetlands, onsite Wetlands L(1), L(2) and offsite Wetlands M, N, P, Q, and 1, have a significant nexus to downstream TNWs as they can provide a source of carbon and nutrients, can perform water quality functions, can provide water storage capabilities, can maintain seasonal flow volumes, and have the ability to transport organisms, carbon, nutrients, sediments, clean water, as well as any pollutants that may be present or could become present, to downstream TNWs. When wetlands are filled or altered, many of the services that they provide may be lost and the loss of those services affects downstream waters and TNWs.

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 feature located onsite (Tributary 1) appears as a blue line tributary on topographic maps. It is approximately 10 feet wide, has a defined bed and bank and had flowing at the time of the site visit. The feature crosses under US 78 by means of a large culvert. The feature is also visible on aerial photographs. For these reasons, the feature was determined to be a tributary (Tributary 1) with perennial flow and is jurisdictional by definition.**

- 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: **2,850** linear feet width (ft).
 - Other non-wetland waters: acres.
- Identify type(s) of waters:

3. Non-RPWs⁸ 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:

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 **L(1): 19.28 ac; L(2): 0.15 ac; 19.44 acres Total**

⁸See Footnote # 3.

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.⁹

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):¹⁰

- 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): _____

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.

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

¹⁰ 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.

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: **Red Bay Environmental.**
- Data sheets prepared/submitted by or on behalf of the applicant/consultant. Concur with conclusions.
 - 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: **St. George.**
- USDA Natural Resources Conservation Service Soil Survey. Citation: **Grifton fine sandy loam, Rains sand loam.**
- National wetlands inventory map(s). Cite name: **PFO.**
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): **Google Earth 2018, Digital Globe 2018.**
or Other (Name & Date):
- Previous determination(s). File no. and date of response letter: **SAC-2016-01016 issued January 11, 2017; SAC-2018-01378 issued December 18, 2018**
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify): **Pending jurisdictional determination SAC-2018-01487.**

B. ADDITIONAL COMMENTS TO SUPPORT JD: The project review area contains 19.44 acres of wetlands and 2,850 linear feet of perennial tributary that were determined to be jurisdictional and subject to regulation under Section 404 of the CWA. The remaining wetlands and features present within the project review area are discussed on Forms 1 and 2.