

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):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: JD Form 1 of 2; SAC-2017-00303 Pintail Creek Golf Club

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: South Carolina County/parish/borough: **Jasper** City: **Hardeeville**

Center coordinates of site (lat/long in degree decimal format): 32.2180 ° **N**, -81.0775 ° **W**.

Universal Transverse Mercator:

Name of nearest waterbody: **Union Creek**

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

Name of watershed or Hydrologic Unit Code (HUC): 03060109-03

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: **May 9, 2018**

Field Determination. Date(s): **July 12, 2017**

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: **Jurisdictional Non-RPW Tributary D: 1200** linear feet: **20** width (ft) and/or **0.54** acres.

Wetlands: **Wetland B: 0.32 acres, Wetland H: 1.02 acres, Wetland I: 0.06 acres, Wetland K: 0.04 acres, Wetland M: 0.02 acres**

c. Limits (boundaries) of jurisdiction based on: **1987 Delineation Manual, Established by OHWM, 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: **The review area contains 1.42 acres of non-jurisdictional ponds (Pond A, N, J, C, F, and G). These ponds were excavated wholly out of uplands and do not meet the three parameters of a wetland. In addition, as stated in the Preamble to the November 13, 1986, Regulations found on page 41217 (Federal Register vol. 51 No. 219) "waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and resulting body of water meets the definition of waters of the United States" are generally not considered waters of the U.S. For these reasons, these features were not considered to be waters of the United States. In addition there are 3 non-jurisdictional ditches (Ditch XX: 0.1 acres, Ditch E: 0.15 acres, Ditch L: 0.17 acres) within the review area of this form. These ditches did not have any observable flow during the site visit, appeared to be excavated wholly out of upland, and did not exhibit a bed and bank, nor Ordinary High Water Mark.**

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: HUC 03060109-03 = 285,167 acres

Drainage area: 200 acres

Drainage area was approximated for the tributary that was evaluated as part of the Significant Nexus Determination performed for this Jurisdictional Determination. This area was drawn based on apparent flow pathways and drainage areas associated with the subject relevant reach using USGS quadrangle mapping, USGS National Hydrography Dataset mapping, aerial photography, and observations of connectivity and direction of flow made in the field. The intended value of the drainage area map is to document the full collection of

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

wetlands adjacent to the relevant reach and not to assert that the mapping represents more than approximation with respect to actual area.

Average annual rainfall: **51** inches
Average annual snowfall: **0.5** inches

(ii) **Physical Characteristics:**

(a) Relationship with TNW:

- Tributary flows directly into TNW.
 Tributary flows through **1** tributary 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: **Jurisdictional non-RPW tributary D flows into freshwater wetlands that are abutting, and thus adjacent, to the Savannah River, a Traditionally Navigable Water (TNW).**

Tributary stream order, if known: .

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

- Tributary is: Natural
 Artificial (man-made). Explain: **Based on a review of USGS Quad maps, aerial imagery, and onsite observations, it appears that Jurisdictional non-RPW tributary D was a straight-line excavated feature within wetlands with the intent of trapping ground and/or surface water. This feature contained an OHWM and bed and bank during site observations.**
 Manipulated (man-altered). Explain: .

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

Average width: **15** feet
Average depth: **6** feet
Average side slopes: **4:1 (or greater).**

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: **Jurisdictional non-RPW tributary D appears to be stable, due to the lowly sloping side banks and intermittent flow events.**

Presence of run/riffle/pool complexes. Explain: **None observed.**

Tributary geometry: **Relatively straight.**

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

(c) Flow:

Tributary provides for: **Intermittent but not seasonal flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime: **Jurisdictional non-RPW tributary D has an approximate drainage area of 200 acres which consists of numerous wetlands. However, most of this area is currently utilized as residential space, or for prior commercial golf course use. Jurisdictional non-RPW tributary D appears to be man-made, as it is wholly excavated out of wetlands, does not appear as a blue line feature on the USGS Quad map, and does not exhibit flow characteristics of perennial and/or seasonally flowing systems. Based on the above information, it has been determined that the tributary has an intermittent flow regime. Evidence of limited flow regime included characteristics such as leaf litter in the channel and a lack of scouring.**

Other information on duration and volume: .

Surface flow is: **Discrete and confined.** Characteristics: As described above, flow events in the non-RPW tributary appear to be, at most, intermittent in duration. Flow events are confined to Jurisdictional non-RPW tributary D.

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

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.

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

changes in the character of soil

shelving

vegetation matted down, bent, or absent

leaf litter disturbed or washed away

sediment deposition

water staining

other (list):

the presence of litter and debris

destruction of terrestrial vegetation

the presence of wrack line

sediment sorting

scour

multiple observed or predicted flow events

abrupt change in plant community

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:

oil or scum line along shore objects

fine shell or debris deposits (foreshore)

physical markings/characteristics

tidal gauges

other (list):

Mean High Water Mark indicated by:

survey to available datum;

physical markings;

vegetation lines/changes in vegetation types.

(iii) Chemical Characteristics:

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

Explain: **Surface water observed in the feature is discolored due to high tannin levels from organic decomposition.**

No other notes regarding water characteristics were noteworthy and/or observed during the site visit.

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: **Jurisdictional non-RPW tributary D likely provides support for**

water dependent species, including native fish communities that move within the relative reach and move downstream between the tributary and the TNW and between the stream and its adjacent wetlands, amphibians during breeding periods, and numerous wading birds and small mammals that feed on the aquatic species, including numerous categories of macroinvertebrates.

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: **Wetland B: 0.32 acres Wetland H: 1.02 acres, Wetland I: 0.06 acres, Wetland K: 0.04 acres,**

Wetland M: 0.02 acres

Wetland type. Explain: **Forested.**

Wetland quality. Explain: **Wetlands appear to be of high quality providing water quality and habitat functions.**

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent flow.** Explain: **Flow for the on-site jurisdictional wetlands would be during the wet season and in response to precipitation events when the soils within the wetlands become saturated and reach storage capacity. Jurisdictional Wetland B flows southwest through non-jurisdictional ditch XX into a non-jurisdictional pond A. The pond then has a culverted outfall where it discharges offsite into the channel of the jurisdictional non-RPW Tributary D. Jurisdictional Wetlands M, K, I, and H flow west and then south through non-jurisdictional ditch L into non-jurisdictional pond C, where it exits the pond via culvert and flows into the Jurisdictional non-RPW tributary D. Jurisdictional non-RPW tributary D is described above in Section B.1.b. During the wet season and in response to precipitation events, water would be transported via confined flow through Jurisdictional non-RPW tributary D to the TNW (Savannah River).**

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.

Surface flow is: **Discrete and confined**

Characteristics: **Surface flow is discrete within the wetlands and confined when it reaches the Jurisdictional non-RPW tributary that provides the hydrologic connection to the TNW. Flow for Wetlands B, H, I, K, and M would be during the wet season and in response to precipitation events when the soils within the wetlands become saturated and reach storage capacity. During the wet season and in response to precipitation events, water would be transported via discrete confined flow through Jurisdictional non-RPW tributary D and ultimately the TNW (Savannah River).**

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

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: **Flow for the on-site jurisdictional wetlands would be during the wet season and in response to precipitation events when the soils within the wetlands become saturated and reach storage capacity. Jurisdictional Wetland B flows southwest through non-jurisdictional ditch XX into non-jurisdictional pond A. The pond then has a culverted outfall where it discharges offsite into the channel of jurisdictional non-RPW Tributary D. Jurisdictional Wetlands M, K, I, and H flow west and then south through non-jurisdictional ditch L into non-jurisdictional pond C, where it exits the pond via culvert and flows into Jurisdictional non-RPW tributary D. Jurisdictional non-RPW tributary D is described above in Section B.1.b. During the wet season and in response to precipitation events, water would be transported via confined flow through Jurisdictional non-RPW tributary D to the TNW (Savannah River).**

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

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

Project waters are **1-2** aerial (straight) miles from TNW.

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

Estimate approximate location of wetland as within the **500-year or greater** 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: **There was no apparent evidence of poor or degraded water quality in the wetlands during the site visit.**

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: **The wetlands provide support for wetland dependent species, including amphibians during breeding periods, and numerous wading birds and small mammals that feed on the aquatic species, including numerous categories of macroinvertebrates.**

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

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

Approximately (**200**) 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> |
|------------------------------|------------------------|------------------------------|------------------------|
| JD Wetland B (N) | 0.32 | | |
| JD Wetland H (N) | 1.02 | | |
| JD Wetland I (N) | 0.06 | | |
| JD Wetland K (N) | 0.04 | | |
| JD Wetland M (N) | 0.02 | | |
| Offsite Wetland | 100 | | |
| Feature (Y) | | | |

Summarize overall biological, chemical and physical functions being performed: **JD Wetlands B, H, I, K, and M, as well as the offsite wetland system, intercept runoff from the surrounding uplands. This water helps to concentrate and**

route detritus from the uplands, as well as that produced by the wetland vegetation itself, to the waters and TNW further down the landscape. Specifically, large quantities of decomposing biomass are conveyed to Jurisdictional non-RPW tributary D and TNW thereby providing important primary productivity toward the biological maintenance of the food web supported by the TNW. The residence time of water may be relatively short during periods of peak flow when water levels are highest, and therefore would favor rapid delivery of pollutants, including both dissolved and particulate chemicals typically found in roadside runoff as well as those typically found in areas previously utilized as a golf course. However, during much of the year flow volumes are much lower and residence times are substantially increased, allowing dissolved and suspended pollutants to interact with sediments and vegetation, thus likely ameliorating the poorer water quality conditions present during higher flow periods. Additional important chemical and physical water quality functions such as denitrification, carbon storage, and sediment and phosphorous retention are also provided by JD Wetlands B, H, I, K, and M, as well as the offsite wetland system. Lastly, the aforementioned wetlands provide habitat for a variety of aquatic species, as well as potential foraging habitat for endangered species such as American Wood Stork (*Mycteria americana*), thus providing a beneficial biological service to the watershed.

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: **Per SCDHEC's Watershed Evaluation, this watershed is experiencing rapid growth. Specifically, most of this growth is summarized as residential and commercial development, as well as industrial use, especially near the greater Savannah area. As a result, impacts to the watershed include lower levels of dissolved oxygen and runoff contamination due to increased development. JD Wetlands B, H, I, K, and M, as well as the offsite wetland, intercept runoff from the surrounding uplands. Important chemical and physical water quality functions such as denitrification, carbon storage, and sediment and phosphorous retention are also provided by Jurisdictional non-RPW tributary D and JD Wetlands B, H, I, K, and M, as well as the offsite wetland. Also, these features help to concentrate and route detritus from the uplands, as well as that produced by the wetland vegetation itself, to Jurisdictional non-RPW tributary D and TNW further downstream. Specifically, large quantities of decomposing biomass are conveyed to Jurisdictional non-RPW tributary D and TNW thereby providing important primary productivity toward the biological maintenance of the food web supported by the TNW. The residence time of water may be relatively short during periods of peak flow when water levels are highest, and therefore would favor rapid delivery of pollutants, including both dissolved and particulate chemicals typically found in roadside runoff as well as those typically found in moderately developed suburban to rural landscapes. However, during much of the year flow volumes are much lower and residence times are substantially increased, allowing dissolved and suspended pollutants to interact with sediments and vegetation, thus likely ameliorating the poorer water quality conditions present during higher flow periods. Considering the amount of development currently occurring and expected to occur in this area in the near future, the functions of the wetlands in the project area play an important role relating to downstream water quality. Based on the biological, chemical, and physical functions described above, this office has concluded that a Significant Nexus exists between this relevant reach, its similarly situated adjacent wetlands and the downstream TNW Savannah River.**

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: **1200** linear feet **20** 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:

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: **JD Wetland B = 0.32 acres, JD Wetland H = 1.02 acres, JD Wetland I = 0.06 acres, JD Wetland K = 0.04 acres, JD Wetland M = 0.02 acres.**

7. **Impoundments of jurisdictional waters.⁹**

⁸See Footnote # 3.

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

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): **The review area contains 1.42 acres of non-jurisdictional ponds (Pond A, N, J, C, F, and G). These ponds were excavated wholly out of uplands and do not meet the three parameters of a wetland. In addition, as stated in the Preamble to the November 13, 1986, Regulations found on page 41217 (Federal Register vol. 51 No. 219) "waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and resulting body of water meets the definition of waters of the United States" are generally not considered waters of the U.S. For these reasons, these features were not considered to be waters of the United States. In addition there are 3 non-jurisdictional ditches (Ditch XX: 0.1 acres, Ditch E: 0.15 acres, Ditch L: 0.17 acres) within the review area of this form. These ditches did not have any observable flow during the site visit, appeared to be excavated wholly out of upland, and did not exhibit a bed and bank, nor Ordinary High Water Mark.**

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:

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: **Wetland Survey on 96.59 Acres Known As TMS #039-00-01-003 and 032**

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.

- Data sheets prepared/submitted by or on behalf of the applicant/consultant. Office concurs with conclusions reached.
 - 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: **USGS Topo Quad - Limehouse**
- USDA Natural Resources Conservation Service Soil Survey. Citation: **NRCS Soil Survey, Jasper County.**
- National wetlands inventory map(s). Cite name: **NWI Wetlands Mapper.**
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: .
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date):
or Other (Name & Date): **Site Photographs.**
- Previous determination(s). File no. and date of response letter: .
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD:

Based on the biological, chemical, and physical functions described above, this office has concluded that a Significant Nexus exists between this tributary, its adjacent wetlands and the downstream TNW Savannah River. Therefore it has been determined that the tributary and wetlands B, H, I, K, and M are jurisdictional and subject to regulation under Section 404 of the Clean Water Act (CWA). In addition, 1.42 acres of non-jurisdictional upland excavated ponds exist within the drainage area that are not subject to regulation under Section 404 of the CWA. Lastly, there are 3 non-jurisdictional ditches that are not subject to regulation under Section 404 of the CWA in this drainage review area. The remaining wetlands and features are discussed on form 2 of 2.

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):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: JD Form 2 of 2; SAC-2017-00303 Pintail Creek Golf Club

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: South Carolina County/parish/borough: **Jasper** City: **Hardeeville**

Center coordinates of site (lat/long in degree decimal format): 32.2180 ° **N**, -81.0775 ° **W**.

Universal Transverse Mercator:

Name of nearest waterbody: **Union Creek**

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

Name of watershed or Hydrologic Unit Code (HUC): 03060109-03

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: **May 9, 2018**

Field Determination. Date(s): **July 12, 2017**

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 U: 1400 linear feet, Tributary DD: 1600 linear feet:** width (ft) and/or **Pond JJ: 0.37 acres, Pond EE: 0.89 acres, Pond V: 1.1 acres, Pond BB: 0.14 acres, Pond P: 0.7 acres.**

Wetlands: **Wetland O: 0.05 acres, Wetland S: 0.12 acres, Wetland Y: 0.09 acres, Wetland AA: 0.03 acres, Wetland CC: 0.37 acres, Wetland X: 0.01 acres, Wetland W: 0.01 acres, Wetland FF: 1.18 acres, Wetland II: 0.54 acres**

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual, Established by OHWM., 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: **The review area contains 0.7 acres of non-jurisdictional ponds (Pond Q, R, KK, and HH). These ponds were excavated wholly out of uplands and do not meet the three parameters of a wetland. In addition, as stated in the Preamble to the November 13, 1986, Regulations found on page 41217 (Federal Register vol. 51 No. 219) "waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and resulting body of water meets the definition of waters of the United States" are generally not considered waters of the U.S. For these reasons, these features were not considered to be waters of the United States. In addition there is 1 non-jurisdictional ditch (Ditch Z: 0.06 acres) within the review area of this form. This ditch did not have any observable flow during the site visit, appeared to be excavated wholly out of upland, and did not exhibit a bed and bank, nor Ordinary High Water Mark.**

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: HUC 03060109-03 = 285,167 acres

Drainage area: 3,000 acres

Drainage area was approximated for the tributary that was evaluated as part of the Significant Nexus Determination performed for this Jurisdictional Determination. This area was drawn based on apparent flow pathways and drainage areas associated with the subject relevant reach using USGS quadrangle mapping, USGS National Hydrography Dataset mapping, aerial photography, and observations of connectivity and direction of flow made in the field. The intended value of the drainage area map is to document the full collection of

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

wetlands adjacent to the relevant reach and not to assert that the mapping represents more than approximation with respect to actual area.

Average annual rainfall: **51** inches
Average annual snowfall: **0.5** inches

(ii) **Physical Characteristics:**

(a) Relationship with TNW:

- Tributary flows directly into TNW.
 Tributary flows through tributary 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: **Tributary U, DD flows onsite generally from south to north, accepting surface hydrology from wetlands directly abutting the feature. Tributary U accepts water from Pond P and Wetland O, flows through Wetland S and Pond V, and continues offsite through a culvert. The tributary then re-enters the site (Tributary DD), where it flows through Pond EE and Pond JJ, and it then enters into a drainage culvert. The sRPW tributary then flows offsite to the east, crossing U.S. Hwy 17 through an underground culvert. The tributary then discharges into an offsite wetland feature that is part of a larger contiguous wetland system that is directly abutting the TNW, the Savannah River.**

Tributary stream order, if known: .

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

- Tributary is: Natural
 Artificial (man-made). Explain: .
 Manipulated (man-altered). Explain: **Based on a review of USGS Quad maps, aerial imagery,**

and onsite observations, it appears that Tributary UU/D was manipulated in order to accept surface runoff and drainage in order to assist with water control for the previously utilized golf course facility onsite. However, the feature did appear to exhibit seasonal flow, bed and bank, and an OHWM during the site visit.

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

Average width: **4** feet
Average depth: **4** feet
Average side slopes: **3:1** .

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: No evidence of high erosion events were evident within the sRPW tributary. Tributary appears relatively stable due to seasonal flow regime and side slope gradient.

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

Tributary geometry: **Relatively straight.**

Tributary gradient (approximate average slope): 1-2 %

(c) Flow:

Tributary provides for: **Seasonal flow**

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

Describe flow regime: **Tributary U/DD has a drainage area that is currently utilized for residential space, as well as for a prior commercial golf course. Tributary U/DD appears to be man-altered, as it was utilized to assist with surface runoff and drainage for the previous golf course facility. The tributary exhibits flow characteristics of seasonally flowing system, such as interspersed sediment sorting and lack of aquatic vegetation. Based on the above information, it has been determined that the tributary has a seasonal flow regime.**

Other information on duration and volume: .

Surface flow is: **Confined**. 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.

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

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

changes in the character of soil

shelving

vegetation matted down, bent, or absent

leaf litter disturbed or washed away

sediment deposition

water staining

other (list):

Discontinuous OHWM.⁷ Explain:

the presence of litter and debris

destruction of terrestrial vegetation

the presence of wrack line

sediment sorting

scour

multiple observed or predicted flow events

abrupt change in plant community

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

High Tide Line indicated by:

oil or scum line along shore objects

fine shell or debris deposits (foreshore)

physical markings/characteristics

tidal gauges

other (list):

Mean High Water Mark indicated by:

survey to available datum;

physical markings;

vegetation lines/changes in vegetation types.

(iii) **Chemical Characteristics:**

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

Explain: **Unknown**.

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: **Tributary U/DD likely provides support for water dependent**

species, including native fish communities that move within the relative reach and move downstream between the tributary and the TNW and between the stream and its adjacent wetlands, amphibians during breeding periods, and numerous wading birds and small mammals that feed on the aquatic species, including numerous categories of macroinvertebrates.

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: **Wetland O: 0.05 acres, Wetland S: 0.12 acres, Wetland T: 0.09 acres, Wetland Y: 0.09 acres, Wetland X: 0.01 acres, Wetland W: 0.01 acres, Wetland AA: 0.03 acres, Wetland CC: 0.37 acres, Wetland FF: 1.18 acres, Wetland II: 0.54 acres, Pond: JJ: 0.37 acres, Pond EE: 0.89 acres, Pond V: 1.1 acres, Pond BB: 0.14 acres, Pond P: 0.7 acres.**

Wetland type. Explain: **Wetlands O, S, T, Y, X, W, AA, CC, FF, and II are all forested wetlands. Ponds BB, P, V, EE, and JJ are excavated wetlands that do not meet the three parameters of wetland, as they are open water aquatic habitat.**

Wetland quality. Explain: **Wetlands appear to be of high quality providing water quality and habitat functions.**

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

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent flow**. Explain: **Flow for the on-site jurisdictional wetlands would be during the wet season and in response to precipitation events when the soils within the wetlands become saturated and reach storage capacity. Jurisdictional Wetlands O, S, T, Y, X, W, FF, and II, as well as Ponds P, V, EE, and JJ all are directly abutting Tributary U/DD. These wetlands and excavated wetlands flow into Tributary U/DD as it travels from south to north on the property. Tributary U/DD is described above in Section B.1.b. Tributary U/DD then carries flow offsite to the east into a larger contiguous wetland**

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.

system that is abutting and therefore adjacent to the TNW (Savannah River). Wetlands AA and CC, as well as Pond BB, are adjacent, but not abutting, Tributary U/DD. Wetland AA and CC, and Pond BB, intermittently flow through non-jurisdictional Ditch Z into Pond V, and ultimately, Tributary U/DD.

Surface flow is: **Discrete and confined**

Characteristics: Surface flow is discrete within the wetlands and confined when it reaches Tributary U/DD. Jurisdictional Wetlands O, S, T, Y, X, W, FF, and II, as well as Ponds BB, P, V, EE, and JJ all are directly abutting the sRPW tributary. These wetlands and excavated wetlands flow into Tributary U/DD as it travels from the south end of the property, flowing north. The tributary then flows through a culvert offsite, re-enters the property, flows through Pond EE, continues north along the property line, flows through Pond JJ, and enters a culvert, where it flows offsite to the east, eventually discharging into wetlands abutting and adjacent to the Savannah River, a TNW. Tributary U/DD is described above in Section B.1.b. For Jurisdictional Wetlands AA and CC, as well as Pond BB, surface flow from these features is discrete and confined through non-Jurisdictional Ditch Z. Flow through Ditch Z is intermittent and is described above. Ditch Z then discharges into Pond V, which abuts Tributary U/DD.

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

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

- Directly abutting
- Not directly abutting
 - Discrete wetland hydrologic connection. Explain:
 - Ecological connection. Explain:
 - Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **2-5** river miles from TNW.
 Project waters are **1-2** aerial (straight) miles from TNW.
 Flow is from: **Wetland to navigable waters**.
 Estimate approximate location of wetland as within the **500-year or greater** 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: **There was no apparent evidence of poor or degraded water quality in the wetlands during the site visit.**

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: **The wetlands and ponds provide support for wetland dependent species, including amphibians during breeding periods, and numerous wading birds and small mammals that feed on the aquatic species, including numerous categories of macroinvertebrates.**

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

All wetland(s) being considered in the cumulative analysis: 16

For the purpose of this determination, three wetlands outside of the project area within the relative reach drainage area are being evaluated as adjacent to the relative reach. This estimate is approximate, based on a review of aerial and NWI imagery, and is likely an underestimate.

Approximately (**3,000**) 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> |
|------------------------------|------------------------|------------------------------|------------------------|
| JD Wetland O (Y) | 0.05 | JD Pond BB (N) | 0.14 |
| JD Wetland S (Y) | 0.12 | JD Pond P (Y) | 0.7 |
| JD Wetland T (Y) | 0.09 | JD Pond V (Y) | 1.10 |
| JD Wetland Y (Y) | 0.09 | JD Pond EE (Y) | 0.89 |
| JD Wetland X (Y) | 0.01 | JD Pond JJ (Y) | 0.37 |
| JD Wetland W (Y) | 0.01 | Offsite Wetland (Y) | 1500 |
| JD Wetland AA (N) | 0.03 | | |

| | |
|-------------------|------|
| JD Wetland CC (N) | 0.37 |
| JD Wetland FF (Y) | 1.18 |
| JD Wetland II (Y) | 0.54 |

Summarize overall biological, chemical and physical functions being performed: JD Wetlands O, S, T, Y, X, W, AA, CC, FF, and II and Jurisdictional Ponds BB, P, V, EE, and JJ intercept runoff from the surrounding uplands. This water helps to concentrate and route detritus from the uplands, as well as that produced by the wetland vegetation itself, to the waters and TNW further down the landscape. Specifically, large quantities of decomposing biomass are conveyed to the SRPW tributary and TNW thereby providing important primary productivity toward the biological maintenance of the food web supported by the TNW. The residence time of water may be relatively short during periods of peak flow when water levels are highest, and therefore would favor rapid delivery of pollutants, including both dissolved and particulate chemicals typically found in roadside runoff as well as those typically found in areas previously utilized as a golf course. However, during much of the year flow volumes are much lower and residence times are substantially increased, allowing dissolved and suspended pollutants to interact with sediments and vegetation, thus likely ameliorating the poorer water quality conditions present during higher flow periods. Lastly, the aforementioned wetlands provide habitat for a variety of aquatic species, as well as potential foraging habitat for endangered species such as American Wood Stork (*Mycteria americana*), thus providing a beneficial biological service to the watershed.

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: Per SCDHEC's Watershed Evaluation, this watershed is experiencing rapid growth. Specifically, most of this growth is summarized as residential and commercial development, as well as industrial use, especially near the greater Savannah area. As a result, impacts to the watershed include lower levels of dissolved oxygen and runoff contamination due to increased development. JD Wetlands O, S, T, Y, X, W, AA, CC, FF, and II and Jurisdictional Ponds BB, P, V, EE, and JJ intercept runoff from the surrounding uplands. Important chemical and physical water quality functions such as denitrification, carbon storage, and sediment and phosphorous retention are also provided by these features. The features also help to concentrate and route detritus from the uplands, as well as that produced by the wetland vegetation itself, to the waters and TNW further down the landscape. Specifically, large quantities of decomposing biomass are conveyed to Tributary U/DD and TNW thereby providing important primary productivity toward the biological maintenance of the

food web supported by the TNW. The residence time of water may be relatively short during periods of peak flow when water levels are highest, and therefore would favor rapid delivery of pollutants, including both dissolved and particulate chemicals typically found in roadside runoff as well as those typically found in areas previously utilized as a golf course. However, during much of the year flow volumes are much lower and residence times are substantially increased, allowing dissolved and suspended pollutants to interact with sediments and vegetation, thus likely ameliorating the poorer water quality conditions present during higher flow periods. Lastly, the aforementioned wetlands and ponds provide habitat for a variety of aquatic species, as well as potential foraging habitat for endangered species such as American Wood Stork (*Mycteria americana*), thus providing a beneficial biological service to the watershed.

Considering the amount of development currently occurring and expected to occur in this area in the near future, the functions of the wetlands in the project area play an important role relating to downstream water quality. Based on the biological, chemical, and physical functions described above, this office has concluded that a Significant Nexus exists between this relevant reach, its similarly situated adjacent wetlands and the downstream TNW Savannah River.

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: **The onsite Tributary U/DD was identified during the site visit to contain an OHWM, bed and bank, and seasonal flow characteristics. Tributary U/DD appears to drain both uplands and wetlands, and appears to have been man-altered in the past. The feature carries relatively permanent flow from the onsite wetlands to an offsite contiguous wetland system that is abutting and therefore adjacent to the TNW, the Savannah River.**

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

- Tributary waters: **Tributary U: 1400 linear feet, Tributary DD: 1600** 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: **JD Wetlands O, S, T, Y, X, W, FF, and II and Jurisdictional Ponds P, V, EE, and JJ all have a contiguous surface water connection with Tributary U/DD described above. These wetlands and ponds flow intermittently into Tributary U/DD, which flows into offsite wetlands and subsequently into the TNW (Savannah River).**

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.

⁸See Footnote # 3.

- 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: Wetland AA: 0.03 acres, Wetland CC: 0.37 acres, Pond BB: 0.14 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:

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): **The review area contains 0.7 acres of non-jurisdictional ponds (Pond Q, R, KK, and HH). These ponds were excavated wholly out of uplands and do not meet the three parameters of a wetland. In addition, as stated in the Preamble to the November 13, 1986, Regulations found on page 41217 (Federal Register vol. 51 No. 219) "waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and resulting body of water meets the definition of waters of the United States" are generally not considered waters of the U.S. For these reasons, these features were not considered to be waters of the United States. In addition there is 1 non-jurisdictional ditch (Ditch Z: 0.06 acres) within the review area of this form. This ditch did not have any observable flow during the site visit, appeared to be excavated wholly out of upland, and did not exhibit a bed and bank, nor Ordinary High Water Mark.**

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.

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.

