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): April 11, 2019

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: JD Form 1 of 3; SAC 2008-01180 Jafza Site

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: South Carolina County/parish/borough: **Orangeburg** City: **Santee**
Center coordinates of site (lat/long in degree decimal format): Lat. **33.4584°** N, Long. **-80.4663°** W.
Universal Transverse Mercator:
Name of nearest waterbody: **Webbs Creek**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:
Name of watershed or Hydrologic Unit Code (HUC): **03050111 and 03050205**
☒ 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: **February 25, 2019**
☒ Field Determination. Date(s): **February 1, 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 waters[2] (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: **There are 7 potentially jurisdictional wetlands located onsite that do not have any observable surface**

[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.

connections to other waters onsite. These 7 wetlands (Non-Jurisdictional Wetlands 1, 2, 3, 4, 5, 6, and 7 on the depiction titled "Aerial Exhibit") are immediately surrounded by upland areas. These 7 wetlands receive runoff from these upland areas, but their only outlet is through evapotransipiration. They do not have either a surface or apparent subsurface hydrological connection and no apparent ecological interconnectivity with other water features, including any waters of the US and no apparent connection to interstate or foreign commerce. Therefore, these wetlands were determined to be non-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 waterbody[4] 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 TNW[5]: .
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
☐ OHWM[6] (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.
[7] Ibid.

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:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

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

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

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

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

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

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

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

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

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .

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

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. Non-RPWs[8] 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 jurisidictional. 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: .

[8] See Footnote # 3.
[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.*

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: **Non-Jurisdictional Wetland 1: 3.86 acres, Non-Jurisdictional Wetland 2: 0.93 acres, Non-Jurisdictional Wetland 3: 3.41 acres, Non-Jurisdictional Wetland 4: 3.47 acres, Non-Jurisdictional Wetland 5: 0.87 acres, Non-Jurisdictional Wetland 6: 0.40 acres, Non-Jurisdictional Wetland 7: 0.45** 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: **Aerial Exhibit Jafza South Carolina Park in Orangeburg County (+/- 1281.53 acres) Santee, Orangeburg County, South Carolina**.
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant. Office concurs with conclusions reached.
☐ Office concurs with the 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 Topographic Map - Vance**.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **NRCS Soil Survey**.
☒ National wetlands inventory map(s). Cite name: **National Wetland Inventory**.
☐ 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): **Representative 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: There are 7 potentially jurisdictional wetlands located onsite that do not have any observable surface connections to other waters onsite. These 7 wetlands (Non-Jurisdictional Wetlands 1, 2, 3, 4, 5, 6, and 7 on the depiction titled "Aerial Exhibit") are immediately surrounded by upland areas. These 7 wetlands receive runoff from these upland areas, but their only outlet is through evapotransipiration. They do not have either a surface or apparent subsurface hydrological connection and no apparent ecological interconnectivity with other water features, including any waters of the US and no apparent connection to interstate or foreign commerce. Therefore, these wetlands were determined to be non-jurisdictional and not subject to regulation under Section 404 of the CWA. For other aquatic resources located on the reference site, please see Forms 2 and 3 of 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): April 11, 2019

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: JD Form 2 of 3; SAC 2008-01180 Jafza Site

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: South Carolina County/parish/borough: **Orangeburg** City: **Santee**
Center coordinates of site (lat/long in degree decimal format): Lat. **33.4584°** N, Long. **-80.4663°** W.
Universal Transverse Mercator:
Name of nearest waterbody: **unnamed tributary of Lake Marion**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Lake Marion**
Name of watershed or Hydrologic Unit Code (HUC): **03050111 and 03050205**
☒ 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: **March 14, 2019**
☒ Field Determination. Date(s): **February 1, 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 waters[2] (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: **JT-1: 215 LF, JT-1A: 1,378 LF, JT-1B: 1,275 LF, JT-1C: 3,576 LF, JT-2: 1,393 LF, Total tributary linear feet described on this form: 7,837** linear feet: width (ft) and/or **Impoundment of WOTUS: 0.32** acres.
   Wetlands: **JW-A: 0.25 acres, JW-B: 5.80 acres, JW-C: 1.17, JW-D: 1.09, JW-E: 0.78 acres, JW-F: 0.12 acres, JW-G: 16.01 acres, JW-H: 1.54, JW-I: 2.13 acres, JW-J: 1.38 acres: JW-K: 11.56 acres, JW-L: 5.12 acres, JW-M: 1.11 acres, JW-N: 12.49 acres, JW-O: 1.27 acres, JW-P: 6.95 acres, JW-Q: 8.67 acres, JW-S: 16.88 acres, JW-T: 0.21 acres, JW-U: 2.15 acres: JW-W: 5.85 acres, JW-X: 5.69 acres, Total wetland acreage described on this form: 107.97** 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**

[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).

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 reference property contains 2 borrow pits/ponds totaling 5.57 acres that are not subject to jurisdiction under Section 404 of the CWA, nor Section 10 of the RHA. 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. These features are determined to be a non-jurisdictional, upland excavated borrow pits/ponds, as they were wholly excavated in upland, currently do not support vegetative communities and are considered to be open water. For these reasons, the borrow pits/ponds were determined to be non-jurisdictional and not regulated by Section 404 of the CWA. In addition, the site contains a network on non-jurisdicitonal ditches that convey flow from the wetlands to the onsite tributary; however, these ditches themselves are not jurisdictional as they do not contain relatively permanent flow, nor contain an OHWM or bed and bank. These ditches were excavated wholly out of uplands. For these reasons, the ditches were considered non 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: **Lake Marion**.

Summarize rationale supporting determination: **Lake Marion is navigable in fact. Lake Marion was created when the Santee River was dammed to create both Lake Marion and Lake Moultrie**.

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent": **Wetland A contributes flow to an offsite, ditch that parallels I-95. This ditch has a direct surface hydrological connection to Lake Marion, the TNW. As such, Wetland A would be described as having a contiguous surface connection to Lake Marion, and thus, is considered adjacent. Also, the feature described on the exhibit identified as Jurisdicitonal Impoundment of WOTUS is an excavated portion of Wetland A, and is therefore, treated as an excavated wetland**.

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

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

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

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

If the waterbody[4] 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: onsite, unnamed braided tributary system

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[3] Supporting documentation is presented in Section III.F.

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

(i) General Area Conditions:
Watershed size: **91,330 acres ;**
Drainage area: **2,008 acres**
Average annual rainfall: **45-55** inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☒ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

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

Identify flow route to TNW[5]: **The onsite braided tributary system, identified as JT-1, JT-1A, JT-1B, JT-1C, and JT-2 originates onsite, travels through the site for 7,000 feet, flows offsite to the northeast for 5,000 feet, where it then discharges into Lake Marion, a 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: **The onsite tributary feature is likely man-altered, as it contained numerous spoil embankmants on the upper portion of the tributary banks, and contianed visible evidence of prior excavation, such as straightening the channel dimensions and depth to channel bottom.** .

Tributary properties with respect to top of bank (estimate):
Average width: **6** feet
Average depth: **8** feet
Average side slopes: **3:1 .**

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: No visible observations of erosion and/or other detrimental stability factors were observed during the site visit..
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Relatively straight. As referenced above, alteration to the prior natural tributary channel likely occurred in the past, thus effecting the dimensions of the tributary feature**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Perennial flow**
Estimate average number of flow events in review area/year: **20 (or greater)**
Describe flow regime: **Based on site observations and a review of resource material, as well as the size and inputs of the drainage area, it is determined that this braided tributary system has a perennial flow regime**.
Other information on duration and volume: .

Surface flow is: **Confined.** Characteristics: **Surface flow is confined to the channel. Historically, the braided tributary system may have exhibited discrete flow through surrounding riparian areas. However, prior land use history and tributary alterations have limited flow to the confined channel of the tributary**.

Subsurface flow: **Unknown**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☒ Bed and banks
☒ OHWM[6] (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.

☒ 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: **The surface water observed during the site visit revealed tannic properties from vegetative detritus within the tributary channel. However, no negative chemical characteristics were physically observed during the site visit. Based on surrounding land uses, likely detriments to water quality within the tributary include industrial wastewater discharges and herbicide and pesticide depositions from surrounding agricultural and silvicultural land uses. In addition, these activities typically require soil manipulation such as plowing and harvesting and as such, sedimentation in the braided tributary system would be expected** .

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: **The braided tributary system supports aquatic habitat for many fish species and as foraging habitat for avian species.** .

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: **JW-B: 5.80 acres, JW-C: 1.17, JW-D: 1.09, JW-E: 0.78 acres, JW-F: 0.12 acres, JW-G: 16.01 acres, JW-H: 1.54, JW-I: 2.13 acres, JW-J: 1.38 acres: JW-K: 11.56 acres, JW-L: 5.12 acres, JW-M: 1.11 acres, JW-N: 12.49 acres, JW-O: 1.27 acres, JW-P: 6.95 acres, JW-Q: 8.67 acres, JW-S: 16.88 acres, JW-T: 0.21 acres, JW-U: 2.15 acres: JW-W: 5.85 acres, JW-X: 5.69 acres, Total wetland acreage described on this form: 107.97** acres

Wetland type. Explain: **Palustrine forested**.

Wetland quality. Explain: **Fully functional**.

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

(b) General Flow Relationship with Non-TNW:

Flow is: **Ephemeral flow**. Explain: **Wetlands JW-D, JW-M, and JW-N all contribute ephemeral flow into the same onsite non-jurisdictional ditch, NJD-1. This non-jurisdictional ditch then carries confined, ephemeral flow from the wetlands to the onsite braided tributary system. JW-E, JW-F, JW-G, and JW-H all contribute ephemeral flow into the same onsite non-jurisdictional ditch, NJD-2. This non-jurisdictional ditch discharges into another non-jurisdictional ditch, NJD-1, which then discharges into the onsite braided tributary system. Of note, JW-E and JW-F are separated from JW-G by a small access road that was previously constructed through the wetlands. Based on a jurisdictional determination NWP-2007-428, the US EPA determined on February 25, 2008, that wetlands separated by an artificial barrier, which is a road/berm in this instance, does not sever the areas from functioning as one wetland. As such, these wetlands are treated as one wetland, as the road does not sever jurisdiction of wetlands. JW-I contributes ephemeral flow into an onsite non-jurisdictional ditch, NJD-3. This non-jurisdictional ditch discharges into another non-jurisdictional ditch, NJD-1, which then discharges into the onsite braided**

[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.
[7]Ibid.

tributary system. JW-J contributes ephemeral flow into an onsite non-jurisdictional ditch, NJD-5. This non-jurisdictional ditch discharges into another non-jurisdictional ditch, NJD-12, which then discharges into the onsite braided tributary system. JW-O contributes ephemeral flow into an onsite non-jurisdictional ditch, NJD-9. This non-jurisdictional ditch discharges into another non-jurisdictional ditch, NJD-12, which then discharges into the onsite braided tributary system. JW-S contributes ephemeral flow into an onsite non-jurisdictional ditch, NJD-11. This non-jurisdictional ditch discharges into another non-jurisdictional ditch, NJD-12, which then discharges into the onsite braided tributary system. JW-T contributes ephemeral flow into an onsite non-jurisdictional ditch, NJD-10. This non-jurisdictional ditch discharges into another non-jurisdictional ditch, NJD-12, which then discharges into the onsite braided tributary system. JW-W contributes ephemeral flow into a non-jurisdictional ditch, NJD-12. This non-jurisdictional ditch directly discharges into the onsite braided tributary system. JW-X contributes ephemeral flow into an onsite non-jurisdictional ditch, NJD-14, through an existing culvert under an unmarked powerline access road. This non-jurisdictional ditch discharges into another non-jurisdictional ditch, NJD-12, which then discharges into the onsite braided tributary system. JW-U contributes ephemeral flow into a non-jurisdictional ditch, NJD-12, via a culvert. This non-jurisdictional ditch directly discharges into the onsite braided tributary system. JW-Q contributes ephemeral flow into an onsite non-jurisdictional ditch, NJD-7. This ditch discharges into another onsite non-jurisdictional ditch, NJD-8 which then discharges into another onsite non-jurisdictional ditch, NJD-12, which then discharges into the onsite braided tributary system. JW-P contributes ephemeral flow into an onsite non-jurisdictional ditch, NJD-6. This ditch discharges into another onsite non-jurisdictional ditch, NJD-8, which then discharges into another onsite non-jurisdictional ditch, NJD-12, which then discharges into the onsite braided tributary system. JW-L contributes ephemeral flow into an onsite non-jurisdictional ditch, NJD-4. This ditch discharges into another onsite non-jurisdictional ditch, NJD-17, which then discharges into the onsite braided tributary system. JW-K contributes ephemeral flow directly into the onsite braided tributary system, as it either abuts the braided tributary system directly or has a direct surface hydrologic connection to the onsite braided tributary system through a culvert at JT-1C. JW-B contributes ephemeral flow directly into the onsite braided tributary system, as it either abuts the braided tributary system directly or has a direct surface hydrologic connection to the onsite braided tributary system through a culvert at JT-1A.

Surface flow is**: Discrete and confined**
Characteristics: .

Subsurface flow: **Unknown**. Explain findings: .
☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:
☒ Directly abutting: **JW-B: 5.80 acres, JW-K: 11.56 acres**
☒ Not directly abutting: **JW-C: 1.17, JW-D: 1.09, JW-E: 0.78 acres, JW-F: 0.12 acres, JW-G: 16.01 acres, JW-H: 1.54, JW-I: 2.13 acres, JW-J: 1.38 acres, JW-L: 5.12 acres, JW-M: 1.11 acres, JW-N: 12.49 acres, JW-O: 1.27 acres, JW-P: 6.95 acres, JW-Q: 8.67 acres, JW-S: 16.88 acres, JW-T: 0.21 acres, JW-U: 2.15 acres: JW-W: 5.85 acres, JW-X: 5.69 acres**
☒ Discrete wetland hydrologic connection. Explain: **As described above, water discretely flows during rainfall events and other storm events from each wetland to a non-jurisdictional ditch, or a series of non-jurisdictional ditches, or to the braided tributary system**.
☐ 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 **2-5** 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: **During the site visit, the wetlands were saturated and/or inundated with surface water. Land use within the watersed primarily consists of prior farmed wetlands and existing forested wetland areas**.
Identify specific pollutants, if known: **Because a large portion of the watershed is comprised of agricultural and silvicultural land, the potential exists for herbicides and other pesticides, as well as runoff from land disturbing activities such as plowing and harvesting, to enter the on-site tributaries. Because agricultural and silvicultural lands require regular manipulation of the soils and/or vegetative manipulation, these activities can create an increase in suspended sediments. no direct evidence of visible contamination from these sources was observed in the wetlands during the site visit, however**.

(iii) Biological Characteristics. Wetland supports (check all that apply):
☐ Riparian buffer. Characteristics (type, average width): .
☒ Vegetation type/percent cover. Explain: **A majority of the onsite wetlands consisted of mixed hardwood pine forested wetlands, with some containing more evident hydrophytic species, such as bald cypress**.
☐ Habitat for:
☐ Federally Listed species. Explain findings: .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .

☒ Aquatic/wildlife diversity. Explain findings: **The onsite wetlands consisted primarily of foraging habitat for avian and aquatic species**.

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

All wetland(s) being considered in the cumulative analysis: **20-25**

Approximately (**184.54**) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)
JW-A (including impoundment/excavation of JW-A (N)	**0.57**		
JW-B (Y)	**5.80**		
JW-C (N)	**1.17**		
JW-D (N)	**1.09**		
JW-E (N)	**0.78**		
JW-F (N)	**0.12**		
JW-G (N)	**16.01**		
JW-H (N)	**1.54**		
JW-I (N)	**2.13**		
JW-J (N)	**1.38**		
JW-K (Y)	**11.56**		
JW-L (N)	**5.12**		
JW-M (N)	**1.11**		
JW-N (N)	**12.49**		
JW-O (N)	**1.27**		
JW-P (N)	**6.95**		
JW-Q (N)	**8.67**		
JW-S (N)	**16.88**		
JW-T (N)	**0.21**		
JW-U (N)	**2.15**		
JW-W (N)	**5.85**		
JW-X (N)	**5.69**		
Offsite Wetland 1	**76**		

Summarize overall biological, chemical and physical functions being performed: **The wetlands listed above are providing important biological, chemical, and physical functions for the drainage area and watershed. These wetlands act as a catch basin to help filter out pollutants from the neighboring uplands and hold runoff prior to it flowing downstream into the offsite tributary and ultimately into the TNW. Besides the obvious functions of stormwater attenuation, absorption, and overstory biomass input into the food web, these wetlands provide a uniquely important ecological connection to the downstream TNW. These wetlands are providing important biological, chemical, and physical functions within a watershed comprised primarily of agricultural land use. The biological functions being performed include providing breeding grounds and shelter for aquatic animals and diversifying the plant life within the watershed. As a result, these wetlands in the drainage area supply food sources for a variety of water dependent species, such as invertebrates, amphibians, reptiles, and mammals. The chemical functions being performed consist of the removal of excess pollutants, which are contributed by runoff from the surrounding uplands, from reaching the downstream tributary and ultimately, the TNW. This reduces nitrogen and phosphorus loading downstream and effectively prevents oxygen depletion that can result from eutrophication. Physically, these wetlands help reduce stormwater flow. Not only does this prevent the accumulation of sediment downstream, which can smother fish and other aquatic wildlife, but it also reduces the amount of pollutants downstream because these pollutants are usually transported by sediment particles.**.

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: **Land use/land cover in the watershed includes: 25.1% agricultural land, 24.0% forested land, 22.2% forested wetland, 21.6% water, 5.2% urban land, 1.8% nonforested wetland, and 0.1% barren land. Immediate surrounding land uses are largely agricultural and/or silvicultural. However, the watershed analysis notes that the site is proposed for industrial development that will alter the current land use of the site and likely the surrounding areas. In addition, due to the predominance of agricultural and silvicultural land use in this watershed, in the drainage area, and immediately adjacent to the site, to the predominance of agricultural and silvicultural land use in this watershed and in the drainage area, herbicides and other pollutants are likely to enter the offsite tributary and downstream TNW. Adjacent properties in Santee are currently under commercial and residential develoment and the reference property itself is slated for future industrial development. Water quality monitoring stations (RL-04382, RL-05464, SC-041, RL-06424, SC-016, RL-05406, SC-036, Rl-06428, SC-021, RL-008054, SC-035, RL-04384, and RL-05402) within Lake Marion have documented reduced totals of dissolved oxygen and higher than average levels of phosphorous, nitrogen, and fecal coliform, due to surrounding urban and agricultural land uses. The onsite wetlands provide a number of benefits to the relevant reach documented within this form, as well as within the watershed itself. Services of these wetlands include sediment trapping, nutrient filtration, flood abatement, aquatic habitat, and carbon storage. These wetlands also provide an important ecological connection to the downstream TNW via important biological, chemical, and physical functions within a watershed comprised primarily of agricultural and silvicultural land use. The biological functions being performed include providing breeding grounds and shelter for aquatic animals and diversifying the plant life within the watershed. The onsite wetlands and other waters of the US within the drainage area also supply food sources for a variety of water dependent species, such as invertebrates, amphibians, reptiles, and mammals. The chemical functions being performed consist of the removal of excess pollutants, which are contributed by runoff from the surrounding agricultural areas, silvicultural areas and uplands, from reaching the downstream TNW. This reduces nitrogen and phosphorus loading downstream and effectively prevents oxygen depletion that can result from eutrophication. Physically, the wetlands help reduce stormwater flow. This prevents the accumulation of sediment downstream, which can smother fish and other aquatic wildlife, and also reduces the amount of pollutants downstream because these pollutants are usually transported by sediment particles. Therefore, based on the collective functions described above and their importance to the biological, chemical, and physical integrity of Lake Marion, a TNW, it has been determined that a significant nexus exists between the relevant reach of the onsite tributary, its adjacent wetlands, and the TNW**.

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

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

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   ☐ TNWs: linear feet width (ft), Or, acres.
   ☒ Wetlands adjacent to TNWs: **Wetland A: 0.25 acres, Jurisdictional Impoundment of WOTUS (excavated portion of Wetland A): 0.32** 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: **JT-1, JT-1A, JT-1B, JT-1C, and JT-2 is an onsite braided tributary system. The onsite tributary system accepts surface water from surrounding uplands and wetlands onsite and carries flow approximately 2 miles offsite to the northeast, where it ultimately discharges into Lake Marion, a TNW. The tributary system is mapped as a**

USGS unnamed blue line stream, and during the site visit was observed to have perennial flow, an OHWM, and bed and bank.

☐ 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: **JT-1: 215 LF, JT-1A: 1,378 LF, JT-1B: 1,275 LF, JT-1C: 3,576 LF, JT-2: 1,393 LF, Total tributary linear feet described on this form: 7,837** linear feet width (ft).

☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. Non-RPWs[8] 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 JW-B and JW-K have a physical surface hydrologic connection to the onsite braided tributary system described above. JW-B and JW-K are each seperated from the braided tributary system by an upland berm that was constructed within the wetlands, but have a hydrological connection to the braided tributary system through a culvert placed within the respective berm.**

☐ 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: **JW-B: 5.80 acres, JW-K: 11.56** 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 jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: **JW-C: 1.17, JW-D: 1.09, JW-E: 0.78 acres, JW-F: 0.12 acres, JW-G: 16.01 acres, JW-H: 1.54, JW-I: 2.13 acres, JW-J: 1.38 acres, JW-L: 5.12 acres, JW-M: 1.11 acres, JW-N: 12.49 acres, JW-O: 1.27 acres, JW-P: 6.95 acres, JW-Q: 8.67 acres, JW-S: 16.88 acres, JW-T: 0.21 acres, JW-U: 2.15 acres: JW-W: 5.85 acres, JW-X: 5.69** 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:

[8]See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[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 reference property contains 2 borrow pits/ponds totaling 5.57 acres that are not subject to jurisdiction under Section 404 of the CWA, nor Section 10 of the RHA. 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. These features are determined to be a non-jurisdictional, upland excavated borrow pits/ponds, as they were wholly excavated in upland, currently do not support vegetative communities and are considered to be open water. For these reasons, the borrow pits/ponds were determined to be non-jurisdictional and not regulated by Section 404 of the CWA. In addition, the site contains a network on non-jurisdicitonal ditches that convey water from the wetlands to the onsite tributary; however, these ditches themselves are not jurisdictional as they do not contain relatively permanent flow, nor contain an OHWM or bed and bank. These ditches were excavated wholly out of uplands. For these reasons, the ditches were considered non jurisdictional and not subject to regulation under Section 404 of the CWA.**

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: **Aerial Exhibit Jafza South Carolina Park in Orangeburg County (+/- 1281.53 acres) Santee, Orangeburg County, South Carolina**.
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant. Office concurs with conclusions reached.
☐ Office concurs with the data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.

[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 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 Topographic Map - Vance**.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **NRCS Soil Survey**.
☒ National wetlands inventory map(s). Cite name: **National Wetland Inventory**.
☐ 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): **Representative 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: The review area described on this form contains 19 wetlands that have been determined to have a significant nexus to a downstream TNW. In addition, the form includes 2 other wetlands that were physically abutting an onsite tributary system, both of which were determined to be waters of the United States. Also, the form describes 1 wetland (including the excavated portion of the wetland) that are adjacent to the TNW, Lake Marion. Lastly, the form describes 2 non-jurisdictional borrow ponds/pits and a network of non-jurisdictional ditches that were all excavated wholly out of upland and were determined not to be subject to regulation under Section 404 of the CWA.

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): April 11, 2019

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: JD Form 3 of 3; SAC 2008-01180 Jafza Site

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: South Carolina County/parish/borough: **Orangeburg** City: **Santee**
Center coordinates of site (lat/long in degree decimal format): Lat. **33.4584°** N, Long. **-80.4663°** W.
Universal Transverse Mercator:
Name of nearest waterbody: **Horse Range Swamp**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Edisto River**
Name of watershed or Hydrologic Unit Code (HUC): **03050111 and 03050205**
☒ 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: **March 14, 2019**
☒ Field Determination. Date(s): **February 1, 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 waters[2] (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: **JW-R: 10.40 acres, JW-V: 1.13 acres, JW-Y: 10.28 acres, JW-Z: 9.06 acres, JW-AA: 0.73 acres, JW-BB: 0.58 acres, JW-CC: 3.32 acres, Total wetland acreage described on this form: 35.75** 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: **The site contains a network on non-jurisdictional ditches that convey water from the wetlands to the onsite tributary; however, these ditches themselves are not jurisdictional as they do not contain relatively permanent flow, nor contain an OHWM or bed and bank. These ditches were excavated wholly out of uplands. For these reasons, the ditches were considered non 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 waterbody[4] 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: Offsite, named Tributary (Horse Range Swamp)

(i) General Area Conditions:
Watershed size: **183,907 acres ;**
Drainage area: **2,059 acres**
Average annual rainfall: **45-55** 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 **30 (or more)** river miles from TNW.
Project waters are **2-5** river miles from RPW.
Project waters are **20-25** aerial (straight) miles from TNW.
Project waters are **2-5** aerial (straight) miles from RPW.

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

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

Identify flow route to TNW[5]: **The offsite tributary, identified as a USGS blue line stream named Horse Range Swamp, carries flow for approximately 3 miles south, where it discharges into another USGS blue line stream, Providence Swamp, which carries flow southeast for approximately 3 miles, where it discharges into Four Hole Swamp, a named braided triubtary system. Four Hole Swamp carries flow for spproximately 25 miles, where it ultimately discharges into the Edisto River, a 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 properties with respect to top of bank (estimate):
Average width: **4** feet
Average depth: **3** feet
Average side slopes: **3:1 .**

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: No visible observations of erosion and/or other detrimental stability factors were observed during the site visit..
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Meandering. Based on a review of Lidar elevation mapping, the offsite tributary appears to be a meandering natural channel. However, no direct observations for the offsite tributary was made and based on historical land uses in the area, the offsite tributary may have historically been man-altered and thus straightened to increase flow capacity and/or flow rates.**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Perennial flow**
Estimate average number of flow events in review area/year: **20 (or greater)**
Describe flow regime: **Based a review of resource material, as well as the size and inputs of the drainage area, it is determined that this tributary has a perennial flow regime**.
Other information on duration and volume: .

Surface flow is: **Discrete and confined.** Characteristics: **Surface flow is likely confined to the channel during normal flow events. However, discrete flow may occur during abnormally high rainfall events, wehre the surrounding riparian forested areas and wetlands accept stormwater and flow is no longer confined to the channel**.

Subsurface flow: **Unknown**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply): (Horse Range Swamp (offsite)) – not observed, but likely has:
☒ Bed and banks
☒ OHWM[6] (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: .

[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.
[7]Ibid.

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: **No direct observations of the offsite tributary were made during the site visit. However, based on surrounding land uses, likely detriments to water quality within the offsite tributary include herbicide and pesticide depositions from surrounding agricultural and silvicultural land uses. In addition, these activities typically require soil manipulation such as plowing and harvesting and as such, sedimentation in the offsite tributary would be expected** .

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: **The tributary supports aquatic habitat for many fish species and as foraging habitat for avian species.** .

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: **JW-R: 10.40 acres, JW-V: 1.13 acres, JW-Y: 10.28 acres, JW-Z: 9.06 acres, JW-AA: 0.73 acres, JW-BB: 0.58 acres, JW-CC: 3.32 acres** acres

Wetland type. Explain: **Palustrine forested**.

Wetland quality. Explain: **Fully functional**.

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

(b) General Flow Relationship with Non-TNW:

Flow is: **Ephemeral flow**. Explain: **Wetlands JW-R, JW-Y, and JW-Z all contribute ephemeral flow into a non-jurisdictional ditch, NJD-15. This non-jurisdictional ditch directly discharges into the offsite tributary, Horse Range Swamp. JW-V contributes ephemeral flow into an onsite non-jurisdictional ditch, NJD-16. This non-jurisdictional ditch discharges into an onsite non-jurisdictional ditch, NJD-15, which then discharges into the offsite tributary, Horse Range Swamp. JW-AA and JW-BB are part of a larger, contiguous offsite wetland system. This offsite wetland system contributes ephemeral flow into an offsite ditch. This offsite ditch then discharges directly into the offsite tributary, Horse Range Swamp. JW-CC is part of a larger, contiguous offsite wetland system. This offsite wetland system contributes ephemeral flow into an offsite ditch. This offsite ditch then discharges directly into the offsite tributary, Horse Range Swamp**.

Surface flow is**: Discrete and confined**

Characteristics: .

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

☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

☐ Directly abutting

☒ Not directly abutting: **JW-R: 10.40 acres, JW-V: 1.13 acres, JW-Y: 10.28 acres, JW-Z: 9.06 acres, JW-AA: 0.73 acres, JW-BB: 0.58 acres, JW-CC: 3.32 acres**

☒ Discrete wetland hydrologic connection. Explain: **As described above, water discretely flows during rainfall events and other storm events through each wetland. This water then discharges either into a system of non-jurisdictional ditches directly, or into offsite contiguous wetland systems that then discharge into offsite ditches. Both the onsite and offsite ditches then directly discharge into the offsite named tributary, Horse Range Swamp, as described above**.

☐ Ecological connection. Explain: .

☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **30 (or more)** river miles from TNW.

Project waters are **20-25** 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: **During the site visit, the wetlands were saturated and/or inundated with surface water. Land use within the watersed primarily consists of prior farmed wetlands and existing forested wetland areas**.

Identify specific pollutants, if known: **Because a large portion of the watershed is comprised of agricultural and silvicultural land, the potential exists for herbicides and other pesticides, as well as runoff from land disturbing activities such as plowing and harvesting, to enter the on-site tributaries. Because agricultural and silvicultural lands require regular manipulation of the soils and/or vegetative manipulation, these activities can create an increase in suspended sediments. no direct evidence of visible contamination from these sources was observed in the wetlands during the site visit, however**.

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

☐ Riparian buffer. Characteristics (type, average width): .

☒ Vegetation type/percent cover. Explain: **A majority of the onsite wetlands consisted of mixed hardwood pine forested wetlands, with some containing more evident hydrophytic species, such as bald cypress**.

☐ Habitat for:

☐ Federally Listed species. Explain findings: .

☐ Fish/spawn areas. Explain findings: .

☐ Other environmentally-sensitive species. Explain findings: .

☒ Aquatic/wildlife diversity. Explain findings: **The onsite wetlands consisted primarily of foraging habitat for avian and aquatic species**.

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

All wetland(s) being considered in the cumulative analysis: **8**

Approximately (**665.62**) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)
JW-R (N)	**10.40**	**JW-BB (N)**	**0.58**
JW-V (N)	**1.13**	**JW-CC (N)**	**3.32**
JW-Y (N)	**10.28**	**Offsite Wetland 1**	**630.12**
JW-Z (N)	**9.06**		
JW-AA (N)	**0.73**		

Summarize overall biological, chemical and physical functions being performed: **The wetlands listed above are providing important biological, chemical, and physical functions for the drainage area and watershed. These wetlands act as a catch basin to help filter out pollutants from the neighboring uplands and hold runoff prior to it flowing downstream into the offsite tributary and ultimately into the TNW. Besides the obvious functions of stormwater attenuation, absorption, and overstory biomass input into the food web, these wetlands provide a uniquely important ecological connection to the downstream TNW. These wetlands are providing important biological, chemical, and physical functions within a watershed comprised primarily of agricultural land use. The biological functions being performed include providing breeding grounds and shelter for aquatic animals and diversifying the plant life within the watershed. As a result, these wetlands in the drainage area supply food sources for a variety of water dependent species, such as invertebrates, amphibians, reptiles, and mammals. The chemical functions being performed consist of the removal of excess pollutants, which are contributed by runoff from the surrounding uplands, from reaching the downstream tributary and ultimately, the TNW. This reduces nitrogen and phosphorus loading downstream and effectively prevents oxygen depletion that can result from eutrophication. Physically, these wetlands help reduce stormwater flow. Not only does this prevent the accumulation of sediment downstream, which can smother fish and other aquatic wildlife, but it also reduces the amount of pollutants downstream because these pollutants are usually transported by sediment particles.**.

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: **Land use/land cover in the watershed includes: 33.7% forested land, 30.8% forested wetland (swamp), 29.2% agricultural land, 5.0% urban land, 0.6% barren land, 0.4% nonforested wetland (marsh), and 0.3% water. There are a total of 501.4 stream miles and 931.9 acres of lake waters in this watershed. Immediate surrounding land uses are largely agricultural and/or silvicultural. However, the watershed analysis notes that the site is proposed for industrial development that will alter the current land use of the site and likely the surrounding areas. Also, there are nearby industrial developments upstream of the drainage area outside of the town of Santee, including other residential and commercial developments as well. In addition, due to the predominance of agricultural and silvicultural land use in this watershed, in the drainage area, and immediately adjacent to the site, herbicides and other pollutants are likely to enter the offsite tributary and downstream TNW. This is supported by evidence of excess phosphorous and reduced disolved oxygen at the Providnce Swamp surface water monitoring station. Fecal coliform levels within the watershed are also documented to be elevated above TMDLs and are linked to the presence of cattle farms and wastewater treatment systems that discharge into the watershed. The onsite wetlands provide a number of benefits to the relevant reach documented within this form, as well as within the watershed itself. Services of these wetlands include sediment trapping, nutrient filtration, flood abatement, aquatic habitat, and carbon storage. These wetlands also provide an important ecological connection to the downstream TNW via important biological, chemical, and physical functions within a watershed comprised primarily of agricultural and silvicultural land use. The biological functions being performed include providing breeding grounds and shelter for aquatic animals and diversifying the plant life within the watershed. The onsite wetlands and other waters of the US within the drainage area also supply food sources for a variety of water dependent species, such as invertebrates, amphibians, reptiles, and mammals. The chemical functions being performed consist of the removal of excess pollutants, which are contributed by runoff from the surrounding agricultural areas, silvicultural areas and uplands, from reaching the downstream TNW. This reduces nitrogen and phosphorus loading downstream and effectively prevents oxygen depletion that can result from eutrophication. Physically, the wetlands help reduce stormwater flow. This prevents the accumulation of sediment downstream, which can smother fish and other aquatic wildlife, and also reduces the amount of pollutants downstream because these pollutants are usually transported by sediment particles. Therefore, based on the collective functions described above and their importance to the biological, chemical, and physical integrity of the traditional navigable waters of the Edisto River, it has been determined that there is a significant nexus between the relevant reach of Horse Range Swamp and the onsite adjacent wetlands**.

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 offsite tributary, Horse Range Swamp, is a named USGS blue line stream. While observations of the feature were not made during the site visit, it appears to exhibit perennial flow characteristics, based on the hydrologic inputs from the surrounding drainage area and review of aerial imagery of the feature**.

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

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. Non-RPWs[8] 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 jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: **JW-R: 10.40 acres, JW-V: 1.13 acres, JW-Y: 10.28 acres, JW-Z: 9.06 acres, JW-AA: 0.73 acres, JW-BB: 0.58 acres, JW-CC: 3.32** 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]

[8]See Footnote # 3.
[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.*

☐ 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 site contains a network on non-jurisdicitonal ditches that convey water from the wetlands to the onsite tributary; however, these ditches themselves are not jurisdictional as they do not contain relatively permanent flow, nor contain an OHWM or bed and bank. These ditches were excavated wholly out of uplands. For these reasons, the ditches were considered non jurisdictional and not subject to regulation under Section 404 of the CWA.**

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: **Aerial Exhibit Jafza South Carolina Park in Orangeburg County (+/- 1281.53 acres) Santee, Orangeburg County, South Carolina**.
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant. Office concurs with conclusions reached.
☐ Office concurs with the 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 Topographic Map - Vance**.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **NRCS Soil Survey**.
☒ National wetlands inventory map(s). Cite name: **National Wetland Inventory**.
☐ 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): **Representative 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: The review area described on this form contains 7 wetlands that have been determined to have a significant nexus to a downstream TNW. For a discussion of other aquatic resources onsite, please reference Forms 1 or 2 of 3.