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

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

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): December 17, 2019

B. DISTRICT OFFICE, FILE NUMBER, FILE NAME: JD Form 1 of 2; SAC-RDE; SAC-2006-01056; Dinkins Site;

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: **South Carolina** County/parish/borough: **Sumter County** City: **Sumter**
Center coordinates of site (lat/long in degree decimal format): Lat. 33.9329 °N, Long. -80.4220 °W.
Universal Transverse Mercator: **17N 553440 3754686**
Name of nearest waterbody: **Lorings Millpond / Mush Swamp (RPW)**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Black River**
Name of watershed or Hydrologic Unit Code (HUC): **03040205-03 (Cane Savannah Creek)**
☒ 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: **November 19, 2019**
☐ Field Determination. Date(s):

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: **16.04** 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]**
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: **Within the site are the following non-jurisdictional features:**

[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.

1) A ~875 linear foot portion of a ~1,900 linear foot excavated drainage ditch that continues off-site through an adjacent parcel to the north, where it terminates into a culverted drainage ditch. This feature was excavated out of both uplands and wetlands historically for the purpose of land manipulation / silviculture. Recent pictures of this feature from the applicant's consultant depict a semi-maintained feature that receives occasional, but not continuous flow originating from strong seasonal rainstorms. Due to the lack of discernable flow and its anthropogenic origin, this feature has been deemed non-jurisdictional. While this feature is not jurisdictional, it does form a valuable surface and subsurface conveyance link from the on-site jurisdictional waters to an RPW located within an adjacent neighborhood to the north.

2) Three non-jurisdictional wetlands within the project site. (Analyzed on form 2 of 2)

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: **Black River**

Summarize rationale supporting determination: **U.S. Army Corps of Engineers Charleston District Navigability Study 1977 Report 6, Black River Basin, recommends that the Black River to classified as navigable waters of the U.S. between its mouth at River Mile (RM) 0 on the Pee Dee River near Georgetown to confluence of the Black River Swamp and the Pocataligo River at RM 107.7. The WOUS originating on site meets the headwaters of the Black River at RM 107.7.**

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent": **On-site wetland waters travel off-site a short distance via anthropogenic means (open and culvert ditching) and meet the OHWM of a unnamed RPW adjacent to the intersection of Brushwood Drive and Constitution Drive (33.9400, -80.4264). After meeting this RPW the absolute magnitude in the volume of flow, historical presence, and natural characteristics of the watercourse continue to intensify as WOUS makes its way downstream towards larger flood basins. After entering the unnamed RPW, WOUS drains directly into an impoundment directly abutting Loring Millpond, which has a direct hydrological connection with downstream Green Swamp (RPW), which then drains directly into the Pocotaligo River (RPW), a braided river system which provides hydrologic recharge to form the Black River, a TNW up to its headwaters at the confluence of the Black River Swamp and Pocotaligo River; WOUS intersects the OHWM of the headwaters of the Black River. While the initial surface connection of the on-site waters to the unnamed adjacent RPW has been historically modified and lessened in its volume due to anthropogenic land manipulation and residential development, the on-site WOUS and the broad sheet-flow within its drainage basin still provide substantial and important recharge to multiple 1st, 2nd and 3rd order jurisdictional waters and abutting wetlands, most imperatively the downstream TNW (Black River).**

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

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

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: **209,661 acres (Black River Watershed)**
Drainage area: **572** acres
Average annual rainfall: **40-50** inches
Average annual snowfall: **0** inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☒ Tributary flows through **4** tributaries before entering TNW.

Project waters are **30 (or more)** river miles from TNW.
Project waters are **1 (or less)** river miles from RPW.
Project waters are **25-30** aerial (straight) miles from TNW.
Project waters are **1 (or less)** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: **The project waters do not cross into adjacent states nor serve as cross-state boundaries**

Identify flow route to TNW[5]:
Typical runoff from rain events results in surface sheet-flow across a low gradient and discharges directly into an immediately adjacent surface ditch. The on-site waters then move off-site generally in a northward direction via series of surface and culverted ditches through an adjacent forested parcel and across Hwy 441, and eventually through an adjacent neighborhood where flow becomes more historically natural. Adjacent to the intersection of Brushwood Drive and Constitution Drive (33.9400, -80.4264), within the adjacent neighborhood north of Hwy 441, WOUS flow into the neighborhoods storm-water management system (underground / culverted); at this point WOUS intersects an unnamed blue line (aquatic) feature on topographic maps, this marks the beginning of an unnamed man-altered perennial tributary. This tributary flows fairly unimpeded directly to waters/wetlands abutting Loring Millpond via ~2,086 linear feet of surface ditching, culverts, and temporary impoundments with outflows. After entering the tributary adjacent to the intersection of Brushwood and Constitution Drives, WOUS then drains into a pond with a ditched/culverted outflow (33.9406, -80.4282). WOUS continues its northward path through a section of surface ditches and short culverts under Beacon Drive, where it exits the neighborhood stormater system on the northward side of Beacon Drive (33.9435, -80.4292). WOUS then flows downslope through an excavated surface ditch into an unnamed impoundment (pond) with inflows/outflows; WOUS exits this impoundment via a culvert on the far eastern side of the impoundment (33.9458, -80.4262). WOUS then proceeds through a contiguous wetland area that directly abuts the OHWM of Loring Millpond (RPW) (33.9462, -80.4242). WOUS exits Loring Millpond to meet the OHWM of Mush Swamp (RPW) at the Hwy 204 bridge (33.9476, 80.42090). At 33.9448, -80.3983 Mush Swamp drains into Green Swamp (RPW). At 33.8781, -80.3576 the WOUS within Green Swamp drain into the headwaters of the Pocotaligo River (RPW). The Pocotaligo River and the Black River Swamp form the headwaters of the Black River (TNW) downstream at the Sumer-Clarendon County Line, approximately at 33.7071, -79.9896. WOUS flows into the Black River at the juncture of the Pocotaligo River and the Black River Swamp and provides recharge to Black River. The Black river is considered a TNW at this juncture point (RM 107.7)

Tributary stream order, if known: **1st Order**.

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☒ Manipulated (man-altered). Explain: **Human development throughout eastern Sumter has channelized, diverted, and moved this course of water to maintain it within a confined storm-water management system.**

Tributary properties with respect to top of bank (estimate):
Average width: **3** feet
Average depth: **1** feet
Average side slopes: **2:1.**

Primary tributary substrate composition (check all that apply):
☒ Silts ☒ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck

[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.

☐ Bedrock ☐ Vegetation. Type/% cover:
☒ Other. Explain: **Concrete culvers in sections**.

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: **Tributary has been altered to be contained within culverts / ditch.**
Presence of run/riffle/pool complexes. Explain: **None known**.
Tributary geometry: **Relatively straight. Man-altered for efficent movement of water towards drainage basin.**
Tributary gradient (approximate average slope): **Unknown** %

(c) Flow:
Tributary provides for: **Perennial flow**
Estimate average number of flow events in review area/year: **20 (or greater)**
Describe flow regime: **Flow regime follows frequent flashy rain events during rainy season typical of the region**.
Other information on duration and volume: .

Surface flow is: **Confined.** Characteristics: **Confined within culverts, ditches, and maintained tributaries**.

Subsurface flow: **No**. 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
- ☐ 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:**OHWM is not visable within culverted flow sections**.

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: **Tributary is involved in the capture and attenuation of silt, pollutants, and nutrients from the surrounding area that is a mixture of development and forested areas. Water source is obtained from surface flow, groundwater recharge, and storm-water runoff in this tributary**.
Identify specific pollutants, if known: **Because this tributary begins within a residential neighborhood and has not been tested for water quality and pollutants, this information is unknown.**

(iv) Biological Characteristics. Channel supports (check all that apply):
☐ Riparian corridor. Characteristics (type, average width): .
☒ Wetland fringe. Characteristics: **WOUS supports multiple fringe wetlands located off-site but directly abutting the WOUS conveyance**.
☒ Habitat for:
☐ Federally Listed species. Explain findings: .
☒ Fish/spawn areas. Explain findings: **WOUS supports a multi-county contiguous riparian and aquatic corridor from wetlands abutting Loring Millpond to the downstream Black River (TNW). Waters serve to provide hydrologic recharge required for terrestrial and aquatic wildlife.**
☐ Other environmentally-sensitive species. Explain findings: .
☒ Aquatic/wildlife diversity. Explain findings: **WOUS supports a multi-county contiguous riparian and aquatic corridor from wetlands abutting Loring Millpond to the downstream Black River (TNW). Waters serve to provide hydrologic recharge required for terrestrial and aquatic wildlife.**

[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.

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: **16.04** acres
Wetland type. Explain: **Palustrine forested wetlands within Carolina Bay.**
Wetland quality. Explain: **Some-what drained due to anthropogenic land manipulation practices (ditching)**.
Project wetlands cross or serve as state boundaries. Explain: **Wetlands do not cross nor serve as state boundaries**.

(b) General Flow Relationship with Non-TNW:
Flow is: **Intermittent flow**. Explain: **Wetlands receive flow from heavy seasonal rainfall (late spring to early fall).**

Surface flow is**: Overland sheetflow**
Characteristics:. **Typical runoff from a low gradient, nearly flat wetland that discharges directly into a immediately adjacent ditch.**

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

(c) Wetland Adjacency Determination with Non-TNW:
☐ Directly abutting
☒ Not directly abutting
☒ Discrete wetland hydrologic connection. Explain: **On-site wetlands exit site and continue to RPW via a series of man-altered tributaries that are currently excavated ditches and culverts for the purpose of storm-water management.**
☐ 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 **25-30** 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. **Project site and its wetlands are within FEMA Zone X.**

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: **Surface water seen on photographs submitted by the applicant's consultant appeared to be dark in nature, due to amount of organic material contained within the wetland, which is typical of wetlands in this region. Quality of water within the wetland is unknown, however this site was previously used for silvaculture operations and may be influenced by chemicals used the management tree production.**
Identify specific pollutants, if known: **Unknown**

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

☐ Riparian buffer. Characteristics (type, average width): .
☒ Vegetation type/percent cover. Explain: **Wetlands in reach area are of homogenous mid-successon growth. Vegetation percent coverage ranges from 50-80% (estimated)**.
☒ Habitat for:
☐ Federally Listed species. Explain findings: .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☒ Aquatic/wildlife diversity. Explain findings: **Functioning wetland which supports typical aqautic fauna/flora species of South Carolina coastal floodplain.**

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

All wetland(s) being considered in the cumulative analysis: **14**
Approximately (**204.51**) 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)
Y	**9.54**	**N**	**16.04**
Y	**4.48**	**N**	**36.47**
Y	**6.54**	**N**	**3.40**
Y	**3.54**	**N**	**8.73**

Y	**13.53**	**N**	**10.79**
Y	**17.55**	**N**	**5.58**
N	**1.76**	**N**	**60.54**
N	**0.16**	**N**	**12.16**
N	**9.17**		

Summarize overall biological, chemical and physical functions being performed: **The ~2,086 linear foot tributary in the reach area and its 226 acre adjacent wetlands (17 wetlands; four on-site; see chart above) provide a broad variety of biological, chemical, and physical functions. This tributary and its wetlands provide breeding grounds and shelter for aquatic species and foraging areas for wetland dependent species. These wetlands are essential in providing organic carbon in the form of their collective primary productivity to downstream waters, resulting in the nourishment of the downstream food web. The wetlands in the review area provide the important function of collecting and eventually removing of excess nutrients which are contributed by surface and groundwater runoff from surrounding upland agricultural operations and residential housing. This reduction results in lowered nitrogen and phosphorus loading downstream and effectively prevents oxygen depletion that can result from eutrophication. While the RPW and some of its adjacent tributaries within the review area have been ditched, which likely has reduced the effectiveness of some of the wetlands nutrient removal functions, they still appear to be functioning ecosystems of high monetary and non-monetary (ecosystem) value. Furthermore, the wetlands in the review area are collectively performing flow maintenance functions, including sustaining essential flow for downstream tributaries, temporary water storage, and flooding abatement. Based on the collective functions described above and their importance to the biological, chemical, and physical integrity of the traditional navigable waters of the Black River, this office has determined that there is a Significant Nexus between the review area, its adjacent wetlands, and the downstream TNW.**

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: **On-site WOUS move readily from naturally occurring and man-altered RPW conveyances directly into known naturally occurring RPWs that directly intersect the OHWM of a TNW. The on-site wetlands are collectively performing important biological, chemical, and physical functions within a watershed largely comprised of agricultural land uses. 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 supply food sources for a variety of wetland dependent species, such as invertebrates, amphibians, reptiles, and mammals. These wetlands and tributary are essential in providing organic carbons in the form of their collective primary productivity to downstream waters, resulting in the**

nourishment of the downstream food web. The chemical functions being performed consist of the removal of excess pollutants, which are contributed by runoff from the surrounding uplands, from the downstream TNW. This reduces nitrogen and phosphorus loading downstream and effectively prevents oxygen depletion that can result from eutrophication. Physically, the adjacent wetlands help reduce storm-water flow, and the landscape position of these wetlands and their vegetation prevent soil from eroding and traveling downstream. 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. These wetlands temporarily store flood waters and reduce downstream peak flows by retaining large amounts of water within the soil and through evapotranspiration. This helps to maintain seasonal flow volumes. Based on the collective functions described above and their importance to the biological, chemical, and physical integrity of the traditional navigable waters of the Black River, it has been determined that there is a significant nexus between the relevant reach of the tributary and adjacent wetlands to the downstream TNW.

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

[8]See Footnote # 3.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
   ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

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

7. **Impoundments of jurisdictional waters.[9]**
   As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
   ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
   ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
   ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).
   Explain:

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

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

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

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

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):

[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.*

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: **Maps, data sheets, and site information provided by the applicant's consultant, S&ME, Incorporated. Map titled: "**SAC-2006-01056 / Dinkins Site**", dated October 7, 2019.**

☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☒ Office concurs with data sheets/delineation report. **Four data sheets submitted; two upland / two wetland. The Corps concurs with all findings.**
☐ Office does not concur with data sheets/delineation report.

☐ Data sheets prepared by the Corps: .

☒ Corps navigable waters' study: **Charleston District Navigability Study 1977 Report 6, Black River Basin**.

☒ U.S. Geological Survey Hydrologic Atlas: **03040205-03 (Cane Savannah Creek)**
☐ USGS NHD data.
☒ USGS 8 and 12 digit HUC maps.

☒ U.S. Geological Survey map(s). Cite scale & quad name: **Sumter West Quadrangle USGS topographic maps depict a forested site with wetland symbology within a depressional elliptical featured labeled as "Cypress Bay". These elliptical depressions are regionally known as Carolina Bays and often feature both jurisdictional and isolated palustrine forested wetlands.**

☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **USDA / NRCS Sumter County soil survey, sheet 69, depicts Pantego loamy soil within the project site. Pantego loamy soil is not listed as hydric on the 2017 South Carolina hydric soils list for Sumter County. However, per the USDA Pantego series is a very poorly drained, moderately permeable, weathered, organically-overlain soil that commonly has a near surface water-table during the wet season. Additionally, there are minor intrusions of Duplin fine sandy loam and Troup sand within the project site, both of these sandy friable soils are considered non-hydric on the 2017 South Carolina soils list and typically found in uplands.**

☒ National wetlands inventory map(s). Cite name: **National wetland inventory maps depict the majority of the site (within the geographic boundary of the Carolina Bay) as man-altered palustrine forested wetlands (PFO4Bd).**

☐ State/Local wetland inventory map(s): .

☐ FEMA/FIRM maps: .

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

☒ Photographs: ☒ Aerial (Name & Date): **SC DNR 2006 Aerials; Google Earth 2004-2018;**
or ☒ Other (Name & Date): **Site photos provided by S&ME; Google Street-view 2014;**

☐ Previous determination(s). File no. and date of response letter: **AJD 2006-01056, dated March 9, 2007.**

☐ Applicable/supporting case law:

☒ Applicable/supporting scientific literature

☒ Other information (please specify): **LiDAR depicts primarily a site within an elliptical depression (Carolina Bay). One linear feature verified as an excavated ditch can be clearly seen leading from the site across Hwy 441 by means of a culvert (verified on Google Earth) to an adjacent neighborhoods storm-water drainage system that was verified to be a man-altered natural tributary by aerials, topographic maps, LiDAR, and Google Earth / Google Street-view.**

B. ADDITIONAL COMMENTS TO SUPPORT JD:

This ~92.62 acre project site is described as a Carolina Bay that has been ditched for forestry (silviculture) operations. Within the site are four wetlands meeting the Corps criteria of federally defined wetlands. Three of these wetlands are isolated (non-jurisdictional) and are discussed in form 2 of 2; the fourth wetland, 16.04 acres total, has been analyzed for its jurisdiction within this form.

Non-regulated waters comments: 1) a ~875 linear foot portion of a ~1,900 linear foot excavated drainage ditch that continues off-site through an adjacent parcel to the north, where it terminates into a culverted drainage ditch. This feature was excavated out of both uplands and wetlands historically for the purpose of land manipulation / silviculture. Recent pictures of this feature from the applicant's consultant depict a semi-maintained feature that receives occasional, but not continuous flow originating from strong seasonal rainstorms. Due to the lack of discernable flow and its anthropogenic origin, this feature has been deemed non-jurisdictional. While this feature is not jurisdictional, it does form a valuable surface and subsurface conveyance link from the on-site jurisdictional waters to an RPW located within an adjacent neighborhood to the north. 2) Three non-jurisdictional wetlands within the project site. (Analyzed on form 2 of 2)

Significant nexus comments: TNW determination: U.S. Army Corps of Engineers Charleston District Navigability Study 1977 Report 6, Black River Basin, recommends that the Black River to classified as navigable waters of the U.S. between its mouth at River Mile (RM) 0 on the Pee Dee River near Georgetown to confluence of the Black River Swamp and the Pocotaligo River at RM 107.7. The WOUS originating on site meets the headwaters of the Black River at RM 107.7. **Wetland adjacent to TNW:** On-site wetland waters travel off-site a short distance via anthropogenic means (open and culvert ditching) and meet the OHWM of a unnamed RPW adjacent to the intersection of Brushwood Drive and Constitution Drive (33.9400, -80.4264). After meeting this RPW, the absolute magnitude in the volume of flow, historical presence, and natural characteristics of the watercourse continue to intensify as WOUS makes its way downstream towards larger flood basins. After entering the unnamed RPW, WOUS drains directly into an impoundment directly abutting Loring Millpond, which has a direct hydrological connection with downstream Green Swamp (RPW), which then drains directly into the Pocotaligo River (RPW), a braided river system which provides hydrologic recharge to form the Black River, a TNW up to its headwaters at the confluence of the Black River Swamp and Pocotaligo River; WOUS intersects the OHWM of the headwaters of the Black River. While the initial surface connection of the on-site waters to the unnamed adjacent RPW has been historically modified and lessened in its volume due to anthropogenic land manipulation and residential development, the on-site WOUS and the broad sheet-flow within its drainage basin still provide substantial and important recharge to multiple 1st, 2nd and 3rd order jurisdictional waters and abutting wetlands, most imperatively the downstream TNW (Black River). **Flow route to TNW:** Typical runoff from rain events results in surface sheet-flow across a low gradient and discharges directly into an immediately adjacent surface ditch. The on-site waters then move off-site generally in a northward direction via series of surface and culverted ditches through an adjacent forested parcel and across Hwy 441, and eventually through an adjacent neighborhood

where flow becomes more historically natural. Adjacent to the intersection of Brushwood Drive and Constitution Drive (33.9400, -80.4264), within the adjacent neighborhood north of Hwy 441, WOUS flow into the neighborhoods storm-water management system (underground / culverted); at this point WOUS intersects an unnamed blue line (aquatic) feature on topographic maps, this marks the beginning of an unnamed man-altered perennial tributary. This tributary flows fairly unimpeded directly to waters/wetlands abutting Loring Millpond via ~2,086 linear feet of surface ditching, culverts, and temporary impoundments with outflows. After entering the tributary adjacent to the intersection of Brushwood and Constitution Drives, WOUS then drains into a pond with a ditched/culverted outflow (33.9406, -80.4282). WOUS continues its northward path through a section of surface ditches and short culverts under Beacon Drive, where it exits the neighborhood stormater system on the northward side of Beacon Drive (33.9435, -80.4292). WOUS then flows downslope through an excavated surface ditch into an unnamed impoundment (pond) with inflows/outflows; WOUS exits this impoundment via a culvert on the far eastern side of the impoundment (33.9458, -80.4262). WOUS then proceeds through a contiguous wetland area that directly abuts the OHWM of Loring Millpond (RPW) (33.9462, -80.4242). WOUS exits Loring Millpond to meet the OHWM of Mush Swamp (RPW) at the Hwy 204 bridge (33.9476, 80.42090). At 33.9448, -80.3983 Mush Swamp drains into Green Swamp (RPW). At 33.8781, -80.3576 the WOUS within Green Swamp drain into the headwaters of the Pocotaligo River (RPW). The Pocotaligo River and the Black River Swamp form the headwaters of the Black River (TNW) downstream at the Sumer-Clarendon County Line, approximately at 33.7071, -79.9896. WOUS flows into the Black River at the juncture of the Pocotaligo River and the Black River Swamp and provides recharge to Black River. The Black river is considered a TNW at this juncture point (RM 107.7) **Summarize overall biological, chemical and physical functions being performed:** The ~2,086 linear foot tributary in the reach area and its 204.51 acre adjacent wetlands (17 wetlands, four on-site; see chart above) provide a broad variety of biological, chemical, and physical functions. This tributary and its wetlands provide breeding grounds and shelter for aquatic species and foraging areas for wetland dependent species. These wetlands are essential in providing organic carbon in the form of their collective primary productivity to downstream waters, resulting in the nourishment of the downstream food web. The wetlands in the review area provide the important function of collecting and eventually removing of excess nutrients which are contributed by surface and groundwater runoff from surrounding upland agricultural operations and residential housing. This reduction results in lowered nitrogen and phosphorus loading downstream and effectively prevents oxygen depletion that can result from eutrophication. While the RPW and some of its adjacent tributaries within the review area have been ditched, which likely has reduced the effectiveness of some of the wetlands nutrient removal functions, they still appear to be functioning ecosystems of high monetary and non-monetary (ecosystem) value. Furthermore, the wetlands in the review area are collectively performing flow maintenance functions, including sustaining essential flow for downstream tributaries, temporary water storage, and flooding abatement. Based on the collective functions described above and their importance to the biological, chemical, and physical integrity of the traditional navigable waters of the Black River, this office has determined that there is a Significant Nexus between the review area, its adjacent wetlands, and the downstream TNW. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW:** On-site WOUS move readily from naturally occurring and man-altered RPW conveyances directly into known naturally occurring RPWs that directly intersect the OHWM of a TNW. The on-site wetlands are collectively performing important biological, chemical, and physical functions within a watershed largely comprised of agricultural land uses. 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 supply food sources for a variety of wetland dependent species, such as invertebrates, amphibians, reptiles, and mammals. These wetlands and tributary are essential in providing organic carbons in the form of their collective primary productivity to downstream waters, resulting in the nourishment of the downstream food web. The chemical functions being performed consist of the removal of excess pollutants, which are contributed by runoff from the surrounding uplands, from the downstream TNW. This reduces nitrogen and phosphorus loading downstream and effectively prevents oxygen depletion that can result from eutrophication. Physically, the adjacent wetlands help reduce storm-water flow, and the landscape position of these wetlands and their vegetation prevent soil from eroding and traveling downstream. 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. These wetlands temporarily store flood waters and reduce downstream peak flows by retaining large amounts of water within the soil and through evapotranspiration. This helps to maintain seasonal flow volumes. Based on the collective functions described above and their importance to the biological, chemical, and physical integrity of the traditional navigable waters of the Black River, it has been determined that there is a significant nexus between the relevant reach of the tributary and adjacent wetlands to the downstream TNW.

Data source comments: Map: "SAC-2006-01056 / Dinkins Site", dated October 7, 2019. **Data Sheets:** Four data sheets submitted; two upland / two wetland. The Corps concurs with all findings. **Corps navigable waters study:** Charleston District Navigability Study 1977 Report 6, Black River Basin. **HUC:** 03040205-03 (Cane Savannah Creek). **Topo:** Sumter West Quadrangle USGS topographic maps depict a forested site with wetland symbology within a depressional elliptical featured labeled as "Cypress Bay". These elliptical depressions are regionally known as Carolina Bays and often feature both jurisdictional and isolated palustrine forested wetlands. **Soils:** USDA / NRCS Sumter County soil survey, sheet 69, depicts Pantego loamy soil within the project site. Pantego loamy soil is not listed as hydric on the 2017 South Carolina hydric soils list for Sumter County. However, per the USDA Pantego series is a very poorly drained, moderately permeable, weathered, organically-overlain soil that commonly has a near surface water-table during the wet season. Additionally, there are minor intrusions of Duplin fine sandy loam and Troup sand within the project site, both of these sandy friable soils are considered non-hydric on the 2017 South Carolina soils list and typically found in uplands. **NWI:** National wetland inventory maps depict the majority of the site (within the geographic boundary of the Carolina Bay) as man-altered palustrine forested wetlands (PFO4Bd). **Photos / aerials:** SC DNR 2006 Aerials; Google Earth 2004-2018; Site photos provided by S&ME; Google Street-view 2014; **Previous determination:** AJD 2006-01056, dated March 9, 2007. **Other information:** LiDAR depicts a mostly site within an elliptical depression (Carolina Bay). One linear feature verified as an excavated ditch can be clearly seen leading from the site across Hwy 441 by means of a culvert (verified on Google Earth) to an adjacent neighborhoods storm-water drainage system that was verified to be a man-altered natural tributary by aerials, topographic maps, LiDAR, and Google Earth / Google Street-view.

This site was analyzed on two basis forms (1-2 of 2) per the provided site maps, using current remote data, provided site information, and a previous determination form.

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

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

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): December 17, 2019

B. DISTRICT OFFICE, FILE NUMBER, FILE NAME: JD Form 2 of 2; SAC-RDE; SAC-2006-01056; Dinkins Site;

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: **South Carolina** County/parish/borough: **Sumter County** City: **Sumter**
Center coordinates of site (lat/long in degree decimal format): Lat. 33.9329 °N, Long. -80.4220 °W.
Universal Transverse Mercator: **17N 553440 3754686**
Name of nearest waterbody: **Lorings Millpond / Mush Swamp (RPW)**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Black River**
Name of watershed or Hydrologic Unit Code (HUC): **03040205-03 (Cane Savannah Creek)**
☒ 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: **November 19, 2019**
☐ Field Determination. Date(s):

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: **Within the site are the following non-jurisdictional features:**

[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.

1) A ~875 linear foot portion of a ~1,900 linear foot excavated drainage ditch that continues off-site through an adjacent parcel to the north, where it terminates into a culverted drainage ditch. This feature was excavated out of both uplands and wetlands historically for the purpose of land manipulation / silviculture. Recent pictures of this feature from the applicant's consultant depict a semi-maintained feature that receives occasional, but not continuous flow originating from strong seasonal rainstorms. Due to the lack discernable flow and its anthropogenic origin, this feature has been deemed non-jurisdictional. While this feature is not jurisdictional, it does form a valuable surface and subsurface conveyance link from the on-site jurisdictional waters to an RPW located within an adjacent neighborhood to the north.

2) Three isolated (non-jurisdictional) wetlands totaling 21.49 acres (12.16, 9.17, and 0.16 acres) delineated by the applicant's consultant. Indicators of the wetlands included: hydrologic soil consisting of sandy loam meeting the criteria of F3 – Depleted Matrix, broadly distributed hydrophytic plant life meeting a dominance test for greater than 50% and a prevalence test for less than or equal to 3.0, and hydrological indicators including saturation (A3), geomorphic position (D2), and the FAC-Neutral test (D3). 10-15 feet outside of the delineated wetland boundary hydrologic indicators were not observed. All water contained within the wetland is retained within the wetland boundary and percolates to an unknown depth. Because of the lack of discernable outfall, topography grades, and lack of evidence of chemical or biological connection, the wetland was determined to be isolated non-jurisdictional and not connected to any other waters of the U.S. The on-site isolated wetland was also determined to have NO substantial nexus to interstate (or foreign) commerce. The on-site wetland DOES NOT connect to, nor provide aquatic recharge to, any natural or man-made/altered aquatic conveyance feature such as a ditch, canal, or tributary. Additionally, these wetlands were assessed in a previous JD (SAC-2006-01056) and deemed non-jurisdictional in a letter from the Corps dated March 9, 2007.

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.

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

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

(i) General Area Conditions:
Watershed size: **Pick List ;**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

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

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

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

[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.

☐ leaf litter disturbed or washed away
☐ sediment deposition
☐ water staining
☐ other (list):
☐ 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: .

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: .

[7]Ibid.

(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:

[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): .

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: **21.49 acres** (12.16 + 9.17 + 0.16 = 21.49 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: **Maps, data sheets, and site information provided by the applicant's consultant, S&ME, Incorporated. Map titled: "**SAC-2006-01056 / Dinkins Site**", dated October 7, 2019.**
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☒ Office concurs with data sheets/delineation report. **Four data sheets submitted; two upland / two wetland. The Corps concurs with all findings.**
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☒ Corps navigable waters' study: **Charleston District Navigability Study 1977 Report 6, Black River Basin**.
☒ U.S. Geological Survey Hydrologic Atlas: **03040205-03 (Cane Savannah Creek)**
☐ USGS NHD data.
☒ USGS 8 and 12 digit HUC maps.

[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.*

☒ U.S. Geological Survey map(s). Cite scale & quad name: **Sumter West Quadrangle USGS topographic maps depict a forested site with wetland symbology within a depressional elliptical featured labeled as "Cypress Bay". These elliptical depressions are regionally known as Carolina Bays and often feature both jurisdictional and isolated palustrine forested wetlands.**
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **USDA / NRCS Sumter County soil survey, sheet 69, depicts Pantego loamy soil within the project site. Pantego loamy soil is not listed as hydric on the 2017 South Carolina hydric soils list for Sumter County. However, per the USDA Pantego series is a very poorly drained, moderately permeable, weathered, organically-overlain soil that commonly has a near surface water-table during the wet season. Additionally, there are minor intrusions of Duplin fine sandy loam and Troup sand within the project site, both of these sandy friable soils are considered non-hydric on the 2017 South Carolina soils list and typically found in uplands.**
☒ National wetlands inventory map(s). Cite name: **National wetland inventory maps depict the majority of the site (within the geographic boundary of the Carolina Bay) as man-altered palustrine forested wetlands (PFO4Bd).**
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): **SC DNR 2006 Aerials; Google Earth 2004-2018;**
or ☒ Other (Name & Date): **Site photos provided by S&ME; Google Street-view 2014;**
☐ Previous determination(s). File no. and date of response letter: **AJD 2006-01056, dated March 9, 2007.**
☐ Applicable/supporting case law:
☒ Applicable/supporting scientific literature
☒ Other information (please specify): **LiDAR depicts a mostly site within an elliptical depression (Carolina Bay). One linear feature verified as an excavated ditch can be clearly seen leading from the site across Hwy 441 by means of a culvert (verified on Google Earth) to an adjacent neighborhoods storm-water drainage system that was verified to be a man-altered natural tributary by aerials, topographic maps, LiDAR, and Google Earth / Google Street-view.**

B. ADDITIONAL COMMENTS TO SUPPORT JD:

This ~92.62 acre project site is described as a Carolina Bay that has been ditched for forestry (silviculture) operations. Within the site are four wetlands meeting the Corps criteria of federally defined wetlands. Three of these wetlands are isolated (non-jurisdictional) and are discussed in in this form; the fourth wetland has been analyzed for its jurisdiction within form 1 of 2.

Non-regulated waters comments: 1) a ~875 linear foot portion of a ~1,900 linear foot excavated drainage ditch that continues off-site through an adjacent parcel to the north, where it terminates into a culverted drainage ditch. This feature was excavated out of both uplands and wetlands historically for the purpose of land manipulation / silviculture. Recent pictures of this feature from the applicant's consultant depict a semi-maintained feature that receives occasional, but not continuous flow originating from strong seasonal rainstorms. Due to the lack discernable flow and its anthropogenic origin, this feature has been deemed non-jurisdictional. While this feature is not jurisdictional, it does form a valuable surface and subsurface conveyance link from the on-site jurisdictional waters to an RPW located within an adjacent neighborhood to the north. 2) Three isolated (non-jurisdictional) wetlands totaling 21.49 acres (12.16, 9.17, and 0.16 acres) delineated by the applicant's consultant. Indicators of the wetlands included: hydrologic soil consisting of sandy loam meeting the criteria of F3 – Depleted Matrix, broadly distributed hydrophytic plant life meeting a dominance test for greater than 50% and a prevalence test for less than or equal to 3.0, and hydrological indicators including saturation (A3), geomorphic position (D2), and the FAC-Neutral test (D3). 10-15 feet outside of the delineated wetland boundary hydrologic indicators were not observed. All water contained within the wetland is retained within the wetland boundary and percolates to an unknown depth. Because of the lack of discernable outfall, topography grades, and lack of evidence of chemical or biological connection, the wetland was determined to be isolated non-jurisdictional and not connected to any other waters of the U.S. The on-site isolated wetland was also determined to have NO substantial nexus to interstate (or foreign) commerce. The on-site wetland DOES NOT connect to, nor provide aquatic recharge to, any natural or man-made/altered aquatic conveyance feature such as a ditch, canal, or tributary. Additionally, these wetlands were assessed in a previous JD (SAC-2006-01056) and deemed non-jurisdictional in a letter from the Corps dated March 9, 2007.

Data source comments: Map: "SAC-2006-01056 / Dinkins Site", dated October 7, 2019. **Data Sheets:** Four data sheets submitted; two upland / two wetland. The Corps concurs with all findings. **Corps navigable waters study:** Charleston District Navigability Study 1977 Report 6, Black River Basin. **HUC:** 03040205-03 (Cane Savannah Creek). **Topo:** Sumter West Quadrangle USGS topographic maps depict a forested site with wetland symbology within a depressional elliptical featured labeled as "Cypress Bay". These elliptical depressions are regionally known as Carolina Bays and often feature both jurisdictional and isolated palustrine forested wetlands. **Soils:** USDA / NRCS Sumter County soil survey, sheet 69, depicts Pantego loamy soil within the project site. Pantego loamy soil is not listed as hydric on the 2017 South Carolina hydric soils list for Sumter County. However, per the USDA Pantego series is a very poorly drained, moderately permeable, weathered, organically-overlain soil that commonly has a near surface water-table during the wet season. Additionally, there are minor intrusions of Duplin fine sandy loam and Troup sand within the project site, both of these sandy friable soils are considered non-hydric on the 2017 South Carolina soils list and typically found in uplands. **NWI:** National wetland inventory maps depict the majority of the site (within the geographic boundary of the Carolina Bay) as man-altered palustrine forested wetlands (PFO4Bd). **Photos / aerials:** SC DNR 2006 Aerials; Google Earth 2004-2018; Site photos provided by S&ME; Google Street-view 2014; **Previous determination:** AJD 2006-01056, dated March 9, 2007. **Other information:** LiDAR depicts a mostly site within an elliptical depression (Carolina Bay). One linear feature verified as an excavated ditch can be clearly seen leading from the site across Hwy 441 by means of a culvert (verified on Google Earth) to an adjacent neighborhoods storm-water drainage system that was verified to be a man-altered natural tributary by aerials, topographic maps, LiDAR, and Google Earth / Google Street-view.

This site was analyzed on two basis forms (1-2 of 2) per the provided site maps, using current remote data, provided site information, and a previous determination form.