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): September 7, 2016

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Charleston District Northwest Branch, Haier Site, SAC 2016-00295, Form 1 of 4.

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: **South Carolina** County/parish/borough: **Kershaw** City: **Camden**
Center coordinates of site (lat/long in degree decimal format): Lat. **34.2164° N**, Long. **80.5641° W**.
Universal Transverse Mercator: **NAD83**
Name of nearest waterbody: **Unnamed tributary to Town Creek**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **N/A**
Name of watershed or Hydrologic Unit Code (HUC): **HUC 03050104-03**
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: **September 7, 2016**
☒ Field Determination. Date(s): **April 19, 2016**

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]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: **An isolated wetland labeled "Wetland D" in the consultant's submittal was assessed within the review area. The wetland boundaries were verified during the site visit April 19, 2016, and hydric soils, a prevalence of hydrophytic**

[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.

vegetation, and hydrology indicators were confirmed within Wetland D. The wetland was determined to be isolated due to a hydrologic separation from other waters of the U.S. No hydrologic connection, including surface and shallow subsurface hydrologic connection, was observed between Wetland D and other waters. The depressional wetland retains water within its boundary. No evidence was found of a physical, chemical, or biological connection to other waters of the U.S. There are no apparent connections to interstate or foreign commerce. In addition, there is no apparent evidence of ecological interconnectivity between Wetland D and waters of the U.S. On this basis, this office has determined that Wetland D is isolated from waters of the U.S. and is not within the jurisdiction of the Clean Water Act. Therefore, Wetland D is non-jurisdictional.

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.

[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** 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
☐ 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):

[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.

(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: .

(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: .

4. **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: **Wetland D = 0.514** 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: **S&ME, Inc**.
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☒ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☒ Corps navigable waters' study: **1977**.
☒ U.S. Geological Survey Hydrologic Atlas: **HA 730-G, 1990**.
☐ USGS NHD data.
☒ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: **1:24,000; Camden South**.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **Kershaw County page 50**.
☒ National wetlands inventory map(s). Cite name: **U43**.
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): **11201:107, 11201:150, 11201:152; dated 1999 and 2006**.
or ☒ Other (Name & Date): **Photographs 1-14 of 14 by the consultant dated January 1, January 25, and February 1, 2016; and photographs 1-7 of 7 by the Corps dated April 19, 2016**.
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☒ Other information (please specify): **Site visit April 19, 2016**.

B. ADDITIONAL COMMENTS TO SUPPORT JD: An isolated wetland labeled "Wetland D" in the consultant's submittal was assessed within the review area. The wetland boundaries were verified during the site visit April 19, 2016, and hydric soils, a prevalence of hydrophytic vegetation, and hydrology indicators were confirmed within Wetland D. The wetland was determined to

be isolated due to a hydrologic separation from other waters of the U.S. No hydrologic connection, including surface and shallow subsurface hydrologic connection, was observed between Wetland D and other waters. The depressional wetland retains water within its boundary. No evidence was found of a physical, chemical, or biological connection to other waters of the U.S. There are no apparent connections to interstate or foreign commerce. In addition, there is no apparent evidence of ecological interconnectivity between Wetland D and waters of the U.S. On this basis, this office has determined that Wetland D is isolated from waters of the U.S. and is not within the jurisdiction of the Clean Water Act. Therefore, Wetland D is non-jurisdictional.

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): September 7, 2016

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Charleston District Northwest Branch, Haier Site, SAC 2016-00295, Form 2 of 4.

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: **South Carolina** County/parish/borough: **Kershaw** City: **Camden**
Center coordinates of site (lat/long in degree decimal format): Lat. **34.2164° N**, Long. **80.5641° W**.
Universal Transverse Mercator: **NAD83**
Name of nearest waterbody: **unnamed tributary to Town Creek**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Wateree River**
Name of watershed or Hydrologic Unit Code (HUC): **HUC 03050104-03**
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: **September 7, 2016**
☒ Field Determination. Date(s): **April 19, 2016**

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: **sRPW 2**: **827** linear feet: **10-12** width (ft) and/or **0.211** acres.
      Wetlands: **Wetland E: 0.733** acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Established by OHWM., 1987 Delineation Manual, Pick List**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: .

[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.

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: **175,248 acres ; HUC 03050104-03**
Drainage area: **2,300 acres**
Average annual rainfall: **45.64** inches
Average annual snowfall: **0.9** inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☒ Tributary flows through **1** tributaries before entering TNW.

Project waters are **2-5** river miles from TNW.
Project waters are **1 (or less)** river miles from RPW.
Project waters are **2-5** aerial (straight) miles from TNW.
Project waters are **1 (or less)** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: **They do not**.

Identify flow route to TNW[5]: **sRPW 2 flows into Town Creek, which then flows into the Wateree River, a TNW**.
Tributary stream order, if known: **second**.

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

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

Tributary is: ☒ Natural
☐ Artificial (man-made). Explain: .
☒ Manipulated (man-altered). Explain: **The tributary appears to have been historically straightened in places, flows downstream under Interstate 20 through pipes, and is impounded downstream, off-site (House Pond)**.

Tributary properties with respect to top of bank (estimate):
Average width: **11** feet
Average depth: **1** 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: relatively stable banks.
Presence of run/riffle/pool complexes. Explain: **Few observed**.
Tributary geometry: **Meandering.**
Tributary gradient (approximate average slope): **5** %

(c) Flow:

Tributary provides for: **Seasonal flow**
Estimate average number of flow events in review area/year: **6-10**
Describe flow regime: **The contributions of drainage area and ground water provide base flow in the tributary**.
Other information on duration and volume: **OHWM, firm sandy bottom with bars, and lack of vegetation in the thalweg indicate seasonal flow during wet months**.

Surface flow is: **Discrete and confined.** Characteristics: **Flow appears to be confined within the channel**.

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):

☒ 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:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: **Cloudy water was present in pools in the channel during the site visit. Surrounding land uses are agricultural, silvicultural, and industrial. The landuse/cover in the watershed includes: 39.0% forested land,**

[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.

26.7% agricultural land, 24.2% forested land (swamp), 8.1% urban land, 1.2% water, 0.6% nonforested wetland (marsh), and 0.2% barren land.

Identify specific pollutants, if known: **Sediment from agricultural and silvicultural activities**.

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

☒ Riparian corridor. Characteristics (type, average width): **mature forested buffer, width varies from 10 feet to over 100 feet wide**.

☐ 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 a variety of wildlife species by providing topographic and hydrologic changes in the landscape**.

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

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: **Wetland E: 0.733** acres

Wetland type. Explain: **forested**.

Wetland quality. Explain: **fully functional**.

Project wetlands cross or serve as state boundaries. Explain: **It does not**.

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent flow**. Explain: **Wetland E periodically discharges into tributary sRPW 2**.

Surface flow is**: Discrete and confined**

Characteristics: **Flow is confined within Wetland E. Wrack lines were evident during the site visit**.

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: **Wrack lines were evident during the site visit, indicating a discrete hydrologic connection between Wetland E and tributary sRPW 2**.

☒ Ecological connection. Explain: **Wetland E abuts tributary sRPW2, allowing free exchange of aquatic and terrestrial organisms, organic carbon, and water flow**.

☐ 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 **100 - 500-year** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: **Surrounding land uses are agricultural, silvicultural, and industrial. The landuse/cover in the watershed includes: 39.0% forested land, 26.7% agricultural land, 24.2% forested land (swamp), 8.1% urban land, 1.2% water, 0.6% nonforested wetland (marsh), and 0.2% barren land**.

Identify specific pollutants, if known: **Sediment from agricultural and silvicultural activities**.

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

☒ Riparian buffer. Characteristics (type, average width): **mature forested buffer, width varies from 10 feet to over 100 feet wide**.

☒ Vegetation type/percent cover. Explain: **Tree stratum: Sweetgum 35%; Sapling Stratum: Red maple 5%, Sweetgum 5%, Eastern hop-hornbeam 5%; Shrub Stratum: Sweetgum 10%, Chinese privet 5%; Herb Stratum: Chinese privet 5%; Woody Vine Stratum: Horsebrier 5%**.

☒ Habitat for:

☐ Federally Listed species. Explain findings: .

☐ Fish/spawn areas. Explain findings: .

☐ Other environmentally-sensitive species. Explain findings: .

☒ Aquatic/wildlife diversity. Explain findings: **Wetland E enhances a variety of wildlife species by providing diversity through vegetation and substrate changes where aquatic ecosystems adjoin uplands**.

3. **Characteristics of all wetlands adjacent to the tributary (if any)**
   All wetland(s) being considered in the cumulative analysis: **2**
   Approximately (**150.773**) 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)
Wetland E=Y	**0.773**		
Off-site = Y	**150**		

   Summarize overall biological, chemical and physical functions being performed: **The wetlands enhance a variety of wildlife species by providing diversity through vegetation and substrate changes where aquatic ecosystems adjoin uplands. Due to surrounding land use, the wetlands act as catch basins for adjacent uplands, filtering sediment and other pollutants to the TNW. The wetlands perform flow maintenance functions, including retaining runoff inflow and storing flood water temporarily. Flow maintenance results in the reduction of downstream peak flows (discharge and volume), helping to maintain seasonal flow volumes in the TNW. The wetlands transfer nutrients and organic carbon that support downstream foodwebs. Monitoring performed by the South Carolina Department of Health and Environmental Control (SCDHEC) on the Wateree River indicates that recreational uses are fully supported, but that aquatic life uses are partially supported due to dissolved oxygen excursions**.

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: .

4. **Documentation for the Record only: Significant nexus findings for seasonal RPWs and/or wetlands abutting seasonal RPWs: The tributary sRPW 2 and its abutting wetlands enhance a variety of wildlife species by providing diversity through vegetation and substrate changes where aquatic ecosystems adjoin uplands. Due to surrounding land use, the wetlands act as catch basins for adjacent uplands, filtering sediment and other pollutants to the TNW. The wetlands perform flow maintenance functions, including retaining runoff inflow and storing flood water temporarily. Flow maintenance results in the reduction of downstream peak flows (discharge and volume), helping to maintain seasonal flow volumes in the TNW. The tributary transports water, sediment, and other pollutants from adjacent uplands to the TNW. The tributary and wetlands transfer nutrients and organic carbon that support downstream foodwebs. Monitoring performed by the South Carolina Department of Health and Environmental Control (SCDHEC) on the Wateree River indicates that recreational uses are fully supported, but that aquatic life uses are partially supported due to dissolved oxygen excursions. Based on the collective functions described above and their importance to the biological, chemical, and physical integrity of the traditional navigable waters of the Wateree River, this office has determined that there is a Significant Nexus between the review area relevant reach (tributary sRPW 2) and its adjacent wetlands and the downstream TNW.**

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: **Tributary sRPW 2 appears to be a man-altered, natural tributary and was observed during the site visit as having features that indicate seasonal flow under normal circumstances: firm sand/silt bottom; continuous bed and bank; clear, natural line impressed on the bank; changes in the character of the soil; vegetation matted down, bent, and absent; leaf litter diturbed or washed away; sediment deposition; water staining; destruction of terrestrial vegetation; scour; and sediment sorting. A review of the sources referenced in Section IV. A. also indicates that this tributary flows seasonally under normal circumstances. The tributary is depicted as an intermittent stream on the USGS topographic map, but is not shown on the USDA NRCS soil survey. The tributary has approximately 2,300 acres of drainage area. Stream characteristics observed and available data led this office to conclude the tributary has a seasonal flow regime**.

     Provide estimates for jurisdictional waters in the review area (check all that apply):
     - ☒ Tributary waters: **sRPW 2: 827** linear feet **10-12** 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: **There is a continuous hydrologic surface connection between Wetland E and tributary sRPW 2**.

   Provide acreage estimates for jurisdictional wetlands in the review area: **Wetland E: 0.733** acres.

[8]See Footnote # 3.

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: .

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.

[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.*

☐ 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: **S&ME, Inc**.
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  ☒ Office concurs with data sheets/delineation report.
  ☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☒ Corps navigable waters' study: **1977**.
☒ U.S. Geological Survey Hydrologic Atlas: **HA 730-G, 1990**.
  ☐ USGS NHD data.
  ☒ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: **1:24,000; Camden South**.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **Kershaw County page 50**.
☒ National wetlands inventory map(s). Cite name: **U21**.
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): **11201:107, 11201:150, 11201:152; dated 1999 and 2006**.
  or ☒ Other (Name & Date): **Photographs 1-14 of 14 by the consultant dated January 1, January 25, and February 1, 2016; and photographs 1-7 of 7 by the Corps dated April 19, 2016**.
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☒ Other information (please specify): **Site visit April 19, 2016**.
South Carolina Department of Health and Environmental Control. 2012. Watershed Water Quality Assessment: Catawba River Basin. Technical Report No. 1109-12. Bureau of Water, Columbia, South Carolina.
U.S. Army Corps of Engineers, June 5, 2007, Regulatory Guidance Letter (RGL) 07-01.

B. ADDITIONAL COMMENTS TO SUPPORT JD: This form documents the jurisdictional status of tributary "sRPW 2" and its abutting wetland "Wetland E". Seasonal RPWs and their abutting wetlands are jurisdictional according to RGL 07-01; however, Significant Nexus findings for the record are included for sRPW 2 and its abutting wetlands, as required by Rapanos Guidance. Based on the documentation provided in Section III. C. of this form, the nexus between sRPW 2 and its abutting wetlands and the downstream TNW (Wateree River) is a Significant Nexus, and on this basis all waters documented on this form are waters of the U.S. and within the jurisdiction of the Clean Water Act.

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): September 7, 2016

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Charleston District Northwest Branch, Haier Site, SAC 2016-00295, Form 3 of 4.

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: **South Carolina** County/parish/borough: **Kershaw** City: **Camden**
Center coordinates of site (lat/long in degree decimal format): Lat. **34.2164°** **N**, Long. **80.5641°** **W**.
Universal Transverse Mercator: **NAD83**
Name of nearest waterbody: **unnamed tributary to Town Creek**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Wateree River**
Name of watershed or Hydrologic Unit Code (HUC): **HUC 03050104-03**
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: **September 7, 2016**
☒ Field Determination. Date(s): **April 19, 2016**

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: **Ditch 1: 408** linear feet: **4** width (ft) and/or **0.037** acres; **Ditch 2: 153** linear feet: **6** width (ft) and/or **0.021** acres.
   Wetlands: **Wetland F: 2.289** acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Established by OHWM., 1987 Delineation Manual, Pick List**
   Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: .

[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.

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: **175,248 acres ; HUC 03050104-03**
Drainage area: **26 acres**
Average annual rainfall: **45.64** inches
Average annual snowfall: **0.9** inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☒ Tributary flows through **2** tributaries before entering TNW.

Project waters are **2-5** river miles from TNW.
Project waters are **1 (or less)** river miles from RPW.
Project waters are **2-5** aerial (straight) miles from TNW.
Project waters are **1 (or less)** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: **They do not**.

Identify flow route to TNW[5]: **The tributary labeled as "Ditch 1" and "Ditch 2" in the depiction by the consultant appear to be the same tributary and flow into sRPW 2 (Form 2 of 5), which flows into Town Creek, which flows into the Wateree River, a TNW**.

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

Tributary stream order, if known: **first**.

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

Tributary is: ☒ Natural
☐ Artificial (man-made). Explain: .
☒ Manipulated (man-altered). Explain: **The tributary labeled as "Ditch 1" and "Ditch 2" in the depiction by the consultant appear to be the same tributary, which appear to have been straightened historically**.

Tributary properties with respect to top of bank (estimate):
Average width: **5** feet
Average depth: **1** 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: relatively stable banks.
Presence of run/riffle/pool complexes. Explain: **None observed**.
Tributary geometry: **Relatively straight.**
Tributary gradient (approximate average slope): **2** %

(c) Flow:

Tributary provides for: **Seasonal flow**
Estimate average number of flow events in review area/year: **2-5**
Describe flow regime: **The contributions of drainage area and ground water provide base flow in the tributary (labeled "Ditch 1" and "Ditch 2" in the depiction by the consultant)**.
Other information on duration and volume: **OHWM, firm sandy bottom, and lack of vegetation in the thalweg indicate seasonal flow during wet months**.

Surface flow is: **Discrete and confined**. Characteristics: **Flow appears to be confined to the channel**.

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):

☒ 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: **The aquatic features labeled as "Ditch 1" and "Ditch 2" in the depiction by the consultant appear to be the same tributary, which appears to be a man-altered, natural tributary. The tributary flows through a wetland, and a portion of the tributary has a discontinuous OHWM**.

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:

[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: **Surrounding land uses are agricultural, silvicultural, and industrial. The landuse/cover in the watershed includes: 39.0% forested land, 26.7% agricultural land, 24.2% forested land (swamp), 8.1% urban land, 1.2% water, 0.6% nonforested wetland (marsh), and 0.2% barren land**.
Identify specific pollutants, if known: **Sediment from agricultural and silvicultural activities**.

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

☒ Riparian corridor. Characteristics (type, average width): **mature forested buffer, width varies from 0 feet to over 100 feet wide**.

☐ 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 labeled as "Ditch 1" and "Ditch 2" in the depiction by the consultant appear to be the same tributary, and it supports a variety of wildlife species by providing topographic and hydrologic changes in the landscape**.

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

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: **Wetland F: 2.289** acres

Wetland type. Explain: **forested**.

Wetland quality. Explain: **fully functional**.

Project wetlands cross or serve as state boundaries. Explain: **It does not**.

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent flow**. Explain: **Wetland F periodically discharges into the tributary labeled as "Ditch 1" and "Ditch 2" in the depiction by the consultant**.

Surface flow is**: Discrete and confined**

Characteristics: **Flow is confined within Wetland F. Wrack lines were evident during the site visit**.

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: **Wrack lines were evident during the site visit, indicating a discrete hydrologic connection between Wetland F and the tributary labeled as "Ditch 1" and "Ditch 2" in the depiction by the consultant**.

☒ Ecological connection. Explain: **Wetland F abuts the tributary labeled as "Ditch 1" and "Ditch 2" in the depiction by the consultant, allowing free exchange of aquatic and terrestrial organisms, organic carbon, and water flow**.

☐ 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: **Surrounding land uses are agricultural, silvicultural, and industrial. The landuse/cover in the watershed includes: 39.0% forested land, 26.7% agricultural land, 24.2% forested land (swamp), 8.1% urban land, 1.2% water, 0.6% nonforested wetland (marsh), and 0.2% barren land**.

Identify specific pollutants, if known: **Sediment from agricultural and silvicultural activities**.

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

☒ Riparian buffer. Characteristics (type, average width): **mature forested buffer, width varies from 0 feet to over 50 feet wide**.

☒ Vegetation type/percent cover. Explain: **Tree stratum: Sweetgum 35%; Sapling Stratum: Red maple 5%, Sweetgum 5%, Eastern hop-hornbeam 5%; Shrub Stratum: Sweetgum 10%, Chinese privet 5%; Herb Stratum: Chinese privet 5%; Woody Vine Stratum: Horsebrier 5%**.

☒ Habitat for:
☐ Federally Listed species. Explain findings: .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☒ Aquatic/wildlife diversity. Explain findings: **Wetland F enhances a variety of wildlife species by providing diversity through vegetation and substrate changes where aquatic ecosystems adjoin uplands**.

3. **Characteristics of all wetlands adjacent to the tributary (if any)**
All wetland(s) being considered in the cumulative analysis: **2**
Approximately (**3.989**) 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)
Wetland F=Y	**2.289**		
Off-site = N	**1.7**		

Summarize overall biological, chemical and physical functions being performed: **The wetlands enhance a variety of wildlife species by providing diversity through vegetation and substrate changes where aquatic ecosystems adjoin uplands. Due to surrounding land use, the wetlands act as catch basins for adjacent uplands, filtering sediment and other pollutants to the TNW. The wetlands perform flow maintenance functions, including retaining runoff inflow and storing flood water temporarily. Flow maintenance results in the reduction of downstream peak flows (discharge and volume), helping to maintain seasonal flow volumes in the TNW. The wetlands transfer nutrients and organic carbon that support downstream foodwebs. Monitoring performed by the South Carolina Department of Health and Environmental Control (SCDHEC) on the Wateree River indicates that recreational uses are fully supported, but that aquatic life uses are partially supported due to dissolved oxygen excursions**.

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: .

4. **Documentation for the Record only: Significant nexus findings for seasonal RPWs and/or wetlands abutting seasonal RPWs: The tributary labeled as "Ditch 1" and "Ditch 2" in the depiction by the consultant and its abutting wetlands enhance a variety of wildlife species by providing diversity through vegetation and substrate changes where aquatic ecosystems adjoin uplands. Due to surrounding land use, the wetlands act as catch basins for adjacent uplands, filtering sediment and other pollutants to the TNW. The wetlands perform flow maintenance functions, including retaining runoff inflow and storing flood water temporarily. Flow maintenance results in the reduction of downstream peak flows (discharge and volume), helping to maintain seasonal flow volumes in the TNW. The tributary transports water, sediment, and other pollutants from adjacent uplands to the TNW. The tributary and wetlands transfer nutrients and organic carbon that support downstream foodwebs. Monitoring performed by the South Carolina Department of Health and Environmental Control (SCDHEC) on the Wateree River indicates that recreational uses are fully supported, but that aquatic life uses are partially supported due to dissolved oxygen excursions. Based on the collective functions described above and their importance to the biological, chemical, and physical integrity of the traditional navigable waters of the Wateree River, this office has determined that there is a Significant Nexus between the review area relevant reach (the tributary labeled as "Ditch 1" and "Ditch 2" in the depiction by the consultant) and its adjacent wetlands and the downstream TNW.**

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

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

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

   - ☒ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: **The aquatic features labeled as "Ditch 1" and "Ditch 2" in the depiction by the consultant appear to be the same tributary, which appears to be a man-altered, natural tributary. This tributary was observed during the site visit as having features that indicate seasonal flow under normal circumstances: firm sand/silt bottom; bed and bank; clear, natural line impressed on the bank; changes in the character of the soil; vegetation matted down, bent, and absent; leaf litter diturbed or washed away; sediment deposition; water staining; destruction of terrestrial vegetation; scour; and sediment sorting. A review of the sources referenced in Section IV. A. also indicates that this tributary flows seasonally under normal circumstances. The tributary is not shown on the USDA NRCS soil survey or on the USGS Topographic map; however, the topographic contour signature indicates a topography conducive to the formation of a stream. The tributary has approximately 26 acres of drainage area. Stream characteristics observed and available data led this office to conclude the tributary has a seasonal flow regime**.

     Provide estimates for jurisdictional waters in the review area (check all that apply):
     - ☒ Tributary waters: **Ditch 1: 408** linear feet **4** linear feet width (ft); **Ditch 2: 153** linear feet: **6** 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: **.**

[8]See Footnote # 3.

☒ 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: **There is a continuous hydrologic surface connection between Wetland F and the tributary labeled as "Ditch 1" and "Ditch 2" in the depiction by the consultant**.

Provide acreage estimates for jurisdictional wetlands in the review area: **Wetland F: 2.289** 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: .

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.

[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.*

☐ 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: **S&ME, Inc**.
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  ☒ Office concurs with data sheets/delineation report.
  ☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☒ Corps navigable waters' study: **1977**.
☒ U.S. Geological Survey Hydrologic Atlas: **HA 730-G, 1990**.
  ☐ USGS NHD data.
  ☒ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: **1:24,000; Camden South**.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **Kershaw County page 50**.
☒ National wetlands inventory map(s). Cite name: **U21**.
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): **11201:107, 11201:150, 11201:152; dated 1999 and 2006**.
  or ☒ Other (Name & Date): **Photographs 1-14 of 14 by the consultant dated January 1, January 25, and February 1, 2016; and photographs 1-7 of 7 by the Corps dated April 19, 2016**.
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): **Site visit April 19, 2016**.
South Carolina Department of Health and Environmental Control. 2012. Watershed Water Quality Assessment: Catawba River Basin. Technical Report No. 1109-12. Bureau of Water, Columbia, South Carolina.
U.S. Army Corps of Engineers, June 5, 2007, Regulatory Guidance Letter (RGL) 07-01.

B. ADDITIONAL COMMENTS TO SUPPORT JD: This form documents the jurisdictional status of a tributary labeled as "Ditch 1" and "Ditch 2" in the depiction by the consultant and its abutting wetland "Wetland F". Seasonal RPWs and their abutting wetlands are jurisdictional according to RGL 07-01; however, Significant Nexus findings for the record are included for the tributary labeled as "Ditch 1" and "Ditch 2" in the depiction by the consultant and its abutting wetlands, as required by Rapanos Guidance. Based on the documentation provided in Section III. C. of this form, the nexus between the tributary labeled as "Ditch 1" and "Ditch 2" in the depiction by the consultant and its abutting wetlands and the downstream TNW (Wateree River) is a Significant Nexus, and on this basis all waters documented on this form are waters of the U.S. and within the jurisdiction of the Clean Water Act.

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): September 7, 2016

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Charleston District Northwest Branch, Haier Site, SAC 2016-00295, Form 4 of 4.

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: **South Carolina** County/parish/borough: **Kershaw** City: **Camden**
Center coordinates of site (lat/long in degree decimal format): Lat. **34.2164° N**, Long. **80.5641° W**.
Universal Transverse Mercator: **NAD83**
Name of nearest waterbody: **Town Creek**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Wateree River**
Name of watershed or Hydrologic Unit Code (HUC): **HUC 03050104-03**
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: **September 7, 2016**
☒ Field Determination. Date(s): **April 19, 2016**

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: **pRPW 1: 2,105** linear feet: **6** width (ft) and/or **0.289** acres.
      Wetlands: **Wetland A: 8.929** acres; **Wetland B: 0.363** acres; **Wetland C: 0.115** acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Established by OHWM., 1987 Delineation Manual, Pick List**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: **The site contains two upland-dug detention ponds: Pond 1=0.835 acres and Pond 2=0.974 acres. Pond 1 was excavated in Norfolk loamy sand, which is described as well drained with very low to high permeability, and in**

[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.

Goldsboro loamy sand, which is described as moderately well drained with moderately high to high permeability. Pond 2 was excavated in Goldsboro loamy sand and in Wagram sand, which is described as well drained with moderately high to high permeability. The upland-dug ponds do not meet the hydrologic, vegetative, or hydric soil criteria for wetlands. The upland-dug ponds lack hydrologic connections to waters of the U.S. Precipitation entering the ponds only leaves by evaporation or infiltration into the groundwater table. These upland-dug ponds are not a water of the U.S. or under jurisdiction of the Clean Water Act.

In addition, a linear feature labeled "NLJC-1" on the consultant's depiction is not a tributary and is not a wetland. The NLJC-1 feature exhibited only two of the physical indicators normally associated with ordinary high water marks: scour and an absence of vegetation. The NLJC-1 feature does not meet the vegetative criteria for wetlands. Therefore, the NLJC-1 feature is not a water of the U.S. or under jurisdiction of the Clean Water Act.

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: **175,248 acres ; HUC 03050104-03**
Drainage area: **2,300 acres**
Average annual rainfall: **45.64** inches
Average annual snowfall: **0.9** inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☒ Tributary flows directly into TNW.

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

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

Project waters are **5-10** river miles from TNW.
Project waters are **1 (or less)** river miles from RPW.
Project waters are **2-5** aerial (straight) miles from TNW.
Project waters are **1 (or less)** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: **They do not**.

Identify flow route to TNW[5]: **pRPW 1 (Town Creek) flows directly into the Wateree River, a TNW**.
Tributary stream order, if known: **Second**.

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☒ Natural
☐ Artificial (man-made). Explain: .
☒ Manipulated (man-altered). Explain: **pRPW 1 (Town Creek) flows downstream under Interstate 20 through pipes and is impounded downstream, off-site**.

Tributary properties with respect to top of bank (estimate):
Average width: **6** feet
Average depth: **2** feet
Average side slopes: **2:1.**

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: relatively stable banks.
Presence of run/riffle/pool complexes. Explain: **present**.
Tributary geometry: **Meandering.**
Tributary gradient (approximate average slope): **1** %

(c) Flow:
Tributary provides for: **Perennial flow**
Estimate average number of flow events in review area/year: **1**
Describe flow regime: **The contributions of drainage area and ground water provide perennial base flow in the tributary under normal circumstances. The tributary is depicted as a solid blue line on the USGS topographic map and as an intermittent stream on the USDA NRCS soil survey. The tributary has an approximately 2,300-acre drainage area**.
Other information on duration and volume: **OHWM indicators, depth of 1 foot of flowing water in the channel, and firm sand and cobble substrate indicate perennial flow under normal circumstances**.

Surface flow is: **Confined.** Characteristics: **Flow appears to be continuous and confined to the channel**.

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):

☒ 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):

[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.

☐ 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: **Surrounding land uses are agricultural, silvicultural, residential, and industrial. The landuse/cover in the watershed includes: 39.0% forested land, 26.7% agricultural land, 24.2% forested land (swamp), 8.1% urban land, 1.2% water, 0.6% nonforested wetland (marsh), and 0.2% barren land**.

Identify specific pollutants, if known: **Sediment from agricultural and silvicultural activities**.

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

☒ Riparian corridor. Characteristics (type, average width): **Mature forest, 20 feet to more than 500 feet wide**.

☒ Wetland fringe. Characteristics: **Wetlands are adjacent to the tributary reach**.

☒ 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 a variety of wildlife species by providing topographic and hydrologic changes in the landscape**.

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

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: **Wetland A: 8.929** acres; **Wetland B: 0.363** acres; **Wetland C: 0.115** acres.

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

Wetland quality. Explain: **appear fully functional**.

Project wetlands cross or serve as state boundaries. Explain: **They do not**.

(b) General Flow Relationship with Non-TNW:

Flow is: **Perennial flow**. Explain: **pRPW 1 is a perennial stream, and the wetlands abutting it are saturated**.

Surface flow is**: Discrete and confined**

Characteristics: **Surface flow is likely confined within the wetland boundaries under normal circumstances and wrack lines are evidence of discrete flow during wet periods**.

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

☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

☒ Directly abutting **(Wetland A)**

☒ Not directly abutting **(Wetland B and Wetland C)**

☒ Discrete wetland hydrologic connection. Explain: **Wrack lines are evidence of discrete flow between pRPW 1 and Wetlands B and C during wet periods**.

☒ Ecological connection. Explain: **These wetlands regulate water flow and organic carbon, filter water, and provide habitat for wildlife**.

☒ Separated by berm/barrier. Explain: **A narrow strip of uplands exists between pRPW 1 and Wetlands B and C**.

(d) Proximity (Relationship) to TNW

Project wetlands are **5-10** 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 **100 - 500-year** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: **Surrounding land uses are agricultural, silvicultural, residential, and industrial. The landuse/cover in the watershed includes: 39.0% forested land, 26.7% agricultural land, 24.2% forested land (swamp), 8.1% urban land, 1.2% water, 0.6% nonforested wetland (marsh), and 0.2% barren land**.

Identify specific pollutants, if known: **Sediment from agricultural and silvicultural activities**.

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

☒ Riparian buffer. Characteristics (type, average width): **Mature forest, 20 feet to more than 200 feet wide**.

☒ Vegetation type/percent cover. Explain: **Tree stratum: Red maple 30%, Tuliptree 20%; Sapling Stratum: Red maple 10%; Shrub Stratum: Red bay 20%; Herb Stratum: Giant cane 20%, Red bay 10%, Horsebrier 5%, Lamp rush 5%; Woody Vine Stratum: Muscadine 10%**.

☒ Habitat for:

☐ Federally Listed species. Explain findings: .

☐ Fish/spawn areas. Explain findings: .

☐ Other environmentally-sensitive species. Explain findings: .

☒ Aquatic/wildlife diversity. Explain findings: **Wetlands A, B, and C enhance a variety of wildlife species by providing diversity through vegetation and substrate changes where aquatic ecosystems adjoin uplands**.

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

All wetland(s) being considered in the cumulative analysis: **4**

Approximately (**79.407**) 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)
Wetland A=Y	**8.929**		
Wetland B=N	**0.363**		
Wetland C=N	**0.115**		
Off-site=Y	**70**		

Summarize overall biological, chemical and physical functions being performed: **The wetlands enhance a variety of wildlife species by providing diversity through vegetation and substrate changes where aquatic ecosystems adjoin uplands. Due to surrounding land use, the wetlands act as catch basins for adjacent uplands, filtering sediment and other pollutants to the TNW. The wetlands perform flow maintenance functions, including retaining runoff inflow and storing flood water temporarily. Flow maintenance results in the reduction of downstream peak flows (discharge and volume), helping to maintain seasonal flow volumes in the TNW. The wetlands transfer nutrients and organic carbon that support downstream foodwebs. Monitoring performed by the South Carolina Department of Health and Environmental Control (SCDHEC) on the Wateree River indicates that recreational uses are fully supported, but that aquatic life uses are partially supported due to dissolved oxygen excursions**.

C. SIGNIFICANT NEXUS DETERMINATION

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

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

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

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

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

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

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: **The tributary pRPW 1 and its adjacent wetlands (Wetlands A, B, C, and adjacent off-site wetlands) enhance a variety of wildlife species by providing diversity through vegetation and substrate changes where aquatic ecosystems adjoin uplands. Due to surrounding land use, the wetlands act as catch basins for adjacent uplands, filtering sediment and other pollutants to the TNW. The wetlands perform flow maintenance functions, including retaining runoff inflow and storing flood water temporarily. Flow maintenance results in the reduction of downstream peak flows (discharge and volume), helping to maintain seasonal flow volumes in the TNW. The tributary transports water, sediment, and other pollutants from adjacent uplands to the TNW. The tributary and wetlands transfer nutrients and organic carbon that support downstream foodwebs. Monitoring performed by the South Carolina Department of Health and Environmental Control (SCDHEC) on the Wateree River indicates that recreational uses are fully supported, but that aquatic life uses are partially supported due to dissolved oxygen excursions. Based on the collective functions described above and their importance to the biological, chemical, and physical integrity of the traditional navigable waters of the Wateree River, this office has determined that there is a Significant Nexus between the review area relevant reach (tributary pRPW 1) and its adjacent wetlands (Wetlands A, B, C, and adjacent off-site wetlands) and the downstream TNW**.

4. **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: **Tributary pRPW 1 is a man-altered, natural tributary and has features that indicate perennial flow under normal circumstances: firm sand/cobble bottom; continuous bed and bank; clear, natural line impressed on the bank; changes in the character of the soil; shelving; vegetation absent; leaf litter washed away; sediment deposition; the presence of litter and debris; scour; and sediment sorting. A review of the sources referenced in Section IV. A. also indicates that this tributary flows perennially under normal circumstances. The tributary is depicted as a solid blue line on the USGS topographic map, and is shown as an intermittent stream on the USDA NRCS soil survey. The tributary has approximately 2,300 acres of drainage area. Stream characteristics observed and available data led this office to conclude the tributary has a perennial flow regime**.

   - ☐ 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: **pRPW 1: 2,105** linear feet **6** 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

[8]See Footnote # 3.

directly abutting an RPW: **There is a continuous hydrologic surface connection between Wetland A and tributary pRPW 1.**

☐ 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: **Wetland A: 8.929** 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: **Wetland B: 0.363** acres; **Wetland C: 0.115** 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: .

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 two upland-dug detention ponds: Pond 1=0.835 acres and Pond 2=0.974 acres. Pond 1 was excavated in Norfolk loamy sand, which is described as well drained with very low to high permeability, and in Goldsboro loamy sand, which is described as moderately well drained with moderately high to high permeability. Pond 2 was excavated in Goldsboro loamy sand and in Wagram sand, which is described as well drained with moderately high to high permeability. The upland-dug ponds do not meet the hydrologic, vegetative, or hydric soil criteria for wetlands. The upland-dug**

[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.*

ponds lack hydrologic connections to waters of the U.S. Precipitation entering the ponds only leaves by evaporation or infiltration into the groundwater table. These upland-dug ponds are not a water of the U.S. or under jurisdiction of the Clean Water Act.

In addition, a linear feature labeled "NLJC-1" on the consultant's depiction is not a tributary and is not a wetland. The NLJC-1 feature exhibited only two of the physical indicators normally associated with ordinary high water marks: scour and an absence of vegetation. The NLJC-1 feature does not meet the vegetative criteria for wetlands. Therefore, the NLJC-1 feature is not a water of the U.S. or under jurisdiction of the Clean Water Act.

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: **S&ME, Inc**.
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  ☒ Office concurs with data sheets/delineation report.
  ☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☒ Corps navigable waters' study: **1977**.
☒ U.S. Geological Survey Hydrologic Atlas: **HA 730-G, 1990**.
  ☐ USGS NHD data.
  ☒ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: **1:24,000; Camden South**.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **Kershaw County page 50**.
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): **11201:107, 11201:150, 11201:152; dated 1999 and 2006**.
  or ☒ Other (Name & Date): **Photographs 1-14 of 14 by the consultant dated January 1, January 25, and February 1, 2016; photographs 1-4 of 4 by the consultant dated August 10, 2016; and photographs 1-7 of 7 by the Corps dated April 19, 2016**.
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☒ Other information (please specify): **Site visit April 19, 2016**.
South Carolina Department of Health and Environmental Control. 2012. Watershed Water Quality Assessment: Catawba River Basin. Technical Report No. 1109-12. Bureau of Water, Columbia, South Carolina.
U.S. Army Corps of Engineers, June 5, 2007, Regulatory Guidance Letter (RGL) 07-01.

B. ADDITIONAL COMMENTS TO SUPPORT JD: This form documents the jurisdictional status of tributary "pRPW 1", its abutting wetland "Wetland A", and its adjacent wetlands "Wetland B" and "Wetland C". Perennial wetlands and their abutting wetlands are jurisdictional under the Clean Water Act based on guidance in RGL 07-01. Wetlands B and C are adjacent wetlands that are non-abutting, so a Significant Nexus Determination was performed that includes all wetlands on-site and those in the drainage area of the relevant reach pRPW 1 that are located outside of the project boundaries. Based on the documentation provided in Section III. C. of this form, the nexus between pRPW 1 (and its adjacent wetlands) and the downstream TNW (Wateree River) is a Significant Nexus, and on this basis all waters documented on this form are waters of the U.S. and within the jurisdiction of the Clean Water Act.