

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

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

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): March 5, 2019

B. DISTRICT OFFICE, FILE NUMBER, FILE NAME: JD Form 1 of 1; CESAC-RDE; Creekside Boathouse; SAC-2019-00094

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: **South Carolina** County/parish/borough: **Darlington County** City: **Hartsville**

Center coordinates of site (lat/long in degree decimal format): Lat. **34.3774° N**, Long. **-80.1326° W**.

Universal Transverse Mercator: **17S 579741 3804149**

Name of nearest waterbody: **Black Creek (TNW)**

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

Name of watershed or Hydrologic Unit Code (HUC): **03040201-07 - Lower Black Creek**

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date:

Field Determination. Date(s): **February 8, 2019**

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are** "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: **The Black Creek was determined to be a Traditional Navigable Water based on several factors. The Black Creek is listed as a state navigable water on both the SC DHEC Navigable Waters of SC list and the SC DNR Region 2 list of Navigable Waters. The upstream limit of this navigable water for both lists is the confluence of the Black Creek and Little Black Creek within Chesterfield County, upstream of the project site. There are public boat ramps located both upstream and downstream of the project site on Black Creek, and a new public boat ramp will be constructed adjacent to the project site, within the applicant's property. Additional indicators that the Black Creek is currently being used for commercial water-borne recreation/navigation include the presence of an RV park and several campgrounds upstream and downstream of the project site, these campgrounds also have boat ramps and public restrooms present. There is one fishing supply shop located within the City of Hartsville and several located in the surrounding area. According to NOAA stream gauge data, the current average flow velocity for the Black Creek headwaters at Lake Robinson, 1.92 river miles upstream from the site, is 326 cubic feet per second. The City of Hartsville also hosts the annual Black Creek Canoe/Kayak Festival that brings not only the public, but also vendors and businesses, to the Black Creek. These factors are all evidence that the Black Creek supports a wide variety of commercial waterborne recreation. .**

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply): ¹

- TNWs, including territorial seas
- Wetlands adjacent to TNWs
- Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
- Non-RPWs that flow directly or indirectly into TNWs
- Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- Impoundments of jurisdictional waters
- Isolated (interstate or intrastate) waters, including isolated wetlands

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).

- b. **Identify (estimate) size of waters of the U.S. in the review area:**
Non-wetland waters: **284** linear feet: **100** width (ft) and/or acres.
Wetlands: **1.19** acres.

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

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

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

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: **Black Creek.**

Summarize rationale supporting determination: **The Black Creek was determined to be a Traditional Navigable Water based on several factors. The Black Creek is listed as a state navigable water on both the SC DHEC Navigable Waters of SC list and the SC DNR Region 2 list of Navigable Waters. The upstream limit of this navigable water for both lists is the confluence of the Black Creek and Little Black Creek within Chesterfield County, upstream of the project site. There are public boat ramps located both upstream and downstream of the project site on Black Creek, and a new public boat ramp will be constructed adjacent to the project site, within the applicant's property. Additional indicators that the Black Creek is currently being used for commercial water-borne recreation/navigation include the presence of an RV park and several campgrounds upstream and downstream of the project site, these campgrounds also have boat ramps and public restrooms present. There is one fishing supply shop located within the City of Hartsville and several located in the surrounding area. According to NOAA stream gauge data, the current average flow velocity for the Black Creek headwaters at Lake Robinson, 1.92 river miles upstream from the site, is 326 cubic feet per second. The City of Hartsville also hosts the annual Black Creek Canoe/Kayak Festival that brings not only the public, but also vendors and businesses, to the Black Creek. These factors are all evidence that the Black Creek supports a wide variety of commercial waterborne recreation.**

Additionally, according to the SC DHEC Watershed Atlas: "There are eight SC DHEC monitoring sites along this section of Black Creek. This is a black water system, characterized by naturally low pH conditions. At the furthest upstream site (PD-159) [1.92 river miles upstream from the project site], aquatic life and recreational uses are fully supported. At the next site downstream (PD-021) [4.58 river miles downstream], aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in five-day biological oxygen demand. A significant decreasing trend in turbidity suggests improving conditions for this parameter." ... "At the furthest downstream site (PD-078), aquatic life uses are fully supported based on macroinvertebrate community data; however, there are significant decreasing trends in dissolved oxygen concentration and increasing trends in turbidity. There is a significant decreasing trend in pH. Although dissolved oxygen excursions occurred, they were typical of values seen in black water systems and were considered natural, not standards violations. Recreational uses are fully supported; however, there is a significant increasing trend in fecal coliform bacteria."

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent": **On-site wetlands intersect the OHWM of Black Creek.**

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

³ Supporting documentation is presented in Section III.F.

(perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

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

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

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

(i) General Area Conditions:

Watershed size: **Pick List** ;
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

- Tributary flows directly into TNW.
- Tributary flows through **Pick List** tributaries before entering TNW.

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

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

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

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

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

Average width: feet
Average depth: feet
Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:
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:

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.

Other information on duration and volume: .

Surface flow is: **Pick List**. Characteristics: .

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

Dye (or other) test performed: .

Tributary has (check all that apply):

Bed and banks

OHWM⁶ (check all indicators that apply):

clear, natural line impressed on the bank

changes in the character of soil

shelving

vegetation matted down, bent, or absent

leaf litter disturbed or washed away

sediment deposition

water staining

other (list):

the presence of litter and debris

destruction of terrestrial vegetation

the presence of wrack line

sediment sorting

scour

multiple observed or predicted flow events

abrupt change in plant community

Discontinuous OHWM.⁷ Explain: .

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

High Tide Line indicated by:

oil or scum line along shore objects

fine shell or debris deposits (foreshore)

physical markings/characteristics

tidal gauges

other (list):

Mean High Water Mark indicated by:

survey to available datum;

physical markings;

vegetation lines/changes in vegetation types.

(iii) Chemical Characteristics:

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

Explain: .

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:

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

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

(d) Proximity (Relationship) to TNW
 Project wetlands are **Pick List** river miles from TNW.
 Project waters are **Pick List** aerial (straight) miles from TNW.
 Flow is from: **Pick List**.
 Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**
 Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .
 Identify specific pollutants, if known: .

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

- Riparian buffer. Characteristics (type, average width): .
- Vegetation type/percent cover. Explain: .
- Habitat for:
 - Federally Listed species. Explain findings: .
 - Fish/spawn areas. Explain findings: .
 - Other environmentally-sensitive species. Explain findings: .
 - Aquatic/wildlife diversity. Explain findings: .

3. **Characteristics of all wetlands adjacent to the tributary (if any)**
 All wetland(s) being considered in the cumulative analysis: **Pick List**
 Approximately () acres in total are being considered in the cumulative analysis.
 For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>

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

C. SIGNIFICANT NEXUS DETERMINATION

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

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

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

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

- 1. Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
- 2. Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
- 3. Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

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

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

- 1. TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- TNWs: **284** linear feet **100** width (ft), Or, acres.
 Wetlands adjacent to TNWs: **1.19** acres.

- 2. RPWs that flow directly or indirectly into TNWs.**

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
- Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

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

- Tributary waters: linear feet width (ft).
 Other non-wetland waters: acres.

Identify type(s) of waters:

- 3. Non-RPWs⁸ that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

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

- Tributary waters: linear feet width (ft).
 Other non-wetland waters: acres.

Identify type(s) of waters:

- 4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
- Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

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

- 5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

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

⁸See Footnote # 3.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

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

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.,” or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

Explain:

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: _____
- Other factors. Explain: _____

Identify water body and summarize rationale supporting determination:

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

- Tributary waters: _____ linear feet _____ width (ft).
- Other non-wetland waters: _____ acres.
Identify type(s) of waters: _____
- Wetlands: _____ acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

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

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): _____ linear feet _____ width (ft).
- Lakes/ponds: _____ acres.
- Other non-wetland waters: _____ acres. List type of aquatic resource: _____
- Wetlands: _____ acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): _____ linear feet, _____ width (ft).
- Lakes/ponds: _____ acres.
- Other non-wetland waters: _____ acres. List type of aquatic resource: _____
- Wetlands: _____ acres.

SECTION IV: DATA SOURCES.

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

¹⁰ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: **TMS map 019-00-03-080 was provided by the applicant to depict the project area.**
- 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: **USACE Prepared one data sheet and one map depicting on-site aquatic resources, titled: "Creekside Boathouse Jurisdictional Waters", dated February 20, 2019.**
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas: **03040201-07 - Lower Black Creek.**
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: **Lake Robinson Quadrangle USGS topographic map depicts a forested and non-forested site with a blue line feature that correlates to the location of the Black Creek running through the southern portion of the site.**
- USDA Natural Resources Conservation Service Soil Survey. Citation: **Darlington County soil survey depicts two soils on site, Johnston sandy loam (0-2% slopes; frequently flooded) and Blanton sand (0-6% slopes). All on-site soils are listed as hydric on the 2016 South Carolina hydric soils list for Darlington County.**
- National wetlands inventory map(s). Cite name: **National wetland inventory maps depict the southern and eastern portions of the site as broad-leaved deciduously forested palustrine wetlands that are seasonally saturated to seasonally flooded (PFO1B/C). The remainder of the site is depicted as upland residential (U11) .**
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): **Darlington 1999 Aerial Index 11230:23; SCNDR 2006; Google Earth 2003-2018.**
or Other (Name & Date): **Site photos taken by USACE personnel.**
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify): **LiDAR depicts the site as uplands that slope down to a basin in which Black Creek and it's wetlands are confined within.**

B. ADDITIONAL COMMENTS TO SUPPORT JD: Data source information: Black Creek flows into the Great Pee Dee River at lat/long: 34.2966, -79.6186. TMS map 019-00-03-080 was provided by the applicant to depict the project area. USACE Prepared one data sheet and one map depicting on-site aquatic resources, titled: "Creekside Boathouse Jurisdictional Waters", dated February 20, 2019. Lake Robinson Quadrangle USGS topographic map depicts a forested and non-forested site with a blue line feature that correlates to the location of the Black Creek running through the southern portion of the site. Darlington County soil survey depicts two soils on site, Johnston sandy loam (0-2% slopes; frequently flooded) and Blanton sand (0-6% slopes). All on-site soils are listed as hydric on the 2016 South Carolina hydric soils list for Darlington County. National wetland inventory maps depict the southern and eastern portions of the site as broad-leaved deciduously forested palustrine wetlands that are seasonally saturated to seasonally flooded (PFO1B/C). The remainder of the site is depicted as upland residential (U11). LiDAR depicts the site as uplands that slope down to a basin in which Black Creek and it's wetlands are confined within.

TNW determination: The Black Creek was determined to be a Traditional Navigable Water based on several factors. The Black Creek is listed as a state navigable water on both the SC DHEC Navigable Waters of SC list and the SC DNR Region 2 list of Navigable Waters. The upstream limit of this navigable water for both lists is the confluence of the Black Creek and Little Black Creek within Chesterfield County, upstream of the project site. There are public boat ramps located both upstream and downstream of the project site on Black Creek, and a new public boat ramp will be constructed adjacent to the project site, within the applicant's property. Additional indicators that the Black Creek is currently being used for commercial water-borne recreation/navigation include the presence of an RV park and several campgrounds upstream and downstream of the project site, these campgrounds also have boat ramps and public restrooms present. There is one fishing supply shop located within the City of Hartsville and several located in the surrounding area. According to NOAA stream gauge data, the current average flow velocity for the Black Creek headwaters at Lake Robinson, 1.92 river miles upstream from the site, is 326 cubic feet per second. The City of Hartsville also hosts the annual Black Creek Canoe/Kayak Festival that brings not only the public, but also vendors and businesses, to the Black Creek. These factors are all evidence that the Black Creek supports a wide variety of commercial waterborne recreation.

Additionally, according to the SC DHEC Watershed Atlas: "There are eight SC DHEC monitoring sites along this section of Black Creek. This is a black water system, characterized by naturally low pH conditions. At the furthest upstream site (PD-159) [1.92 river miles upstream from the project site], aquatic life and recreational uses are fully

supported. At the next site downstream (PD-021) [4.58 river miles downstream], aquatic life and recreational uses are fully supported; however, there is a significant increasing trend in five-day biological oxygen demand. A significant decreasing trend in turbidity suggests improving conditions for this parameter.” ... “At the furthest downstream site (PD-078), aquatic life uses are fully supported based on macroinvertebrate community data; however, there are significant decreasing trends in dissolved oxygen concentration and increasing trends in turbidity. There is a significant decreasing trend in pH. Although dissolved oxygen excursions occurred, they were typical of values seen in black water systems and were considered natural, not standards violations. Recreational uses are fully supported; however, there is a significant increasing trend in fecal coliform bacteria.”

Site visit / delineation information: On February 8, 2019, the USACE performed a site visit on this 1.8 acre commercial property to delineate the on-site aquatic resources, per the owner/applicant's request. On-site is one small commercial building and ~0.60 acres of uplands surrounding the building. Generally speaking, the property slopes towards the south (back side) of the lot, where the property abuts the Black Creek (TNW). All aquatic resources on-site were contained to the eastern and southern property lines where the site dropped off into wetlands or where the property intersected the ordinary high water mark (OHWM) of the Black Creek. Black Creek and its adjacent wetlands are depicted on the National Wetland Inventory (NWI) map, aerials, and on USGS topographic maps. Furthermore, the drainage basin in which the wetlands and Black Creek are confined within are visible on LiDAR digital elevation model (DEM) aerials.

The wetland delineation followed the contour line of the drainage basin until it reached the OHWM of Black Creek, where the tributary delineation began. One data point was taken within the wetland at approximately 34.3773, -80.1322. Wetland indicators in vicinity of the data point included: hydric soils meeting the criteria for both A4 - Hydrogen Sulfide and A9 - 1 Cm Muck, a thick dark organic layer, surface water, soil saturation, iron redox deposits on the pore linings of living roots, hydrogen sulfur odor within the first 6 inches of the soil profile, water stained leaves, and hydrophytic plant life. Just upland of the wetland, the soil lost hydrological indicators and featured greater than 30% of uncoated sand grains in moist samples.

A portion of the on-site wetlands, consisting of 0.29 acres, were inaccessible due to being on the south bank of the Black Creek and geographically isolated within an adjacent land owners property. These wetlands were visually assessed, it was observed that this area featured surface water inundation, and did not appear to be different ecologically or hydrologically than the wetland area abutting the northern bank of the Black Creek.

On-site 1.19 acres of jurisdictional wetlands and a jurisdictional tributary of 284 linear feet were delineated. On-site resources were delineated with pin flags, Jurisdictional Wetland 1 is marked with flags labeled A1 - A13, Jurisdictional Tributary 1 is marked with flags labeled B1 - B6, and Jurisdictional Wetland 2 was not physically flagged due to inaccessibility.

This project and the project area were assessed on a single basis form and per the provided TMS map..