

**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):** January 16, 2019

**B. DISTRICT OFFICE, FILE NUMBER, FILE NAME:** JD Form 1 of 1; CESAC-RDE; SAC-2018-01345; Nucor Laydown Yard

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: **South Carolina** County/parish/borough: **Darlington County** City: **Darlington**  
Center coordinates of site (lat/long in degree decimal format): Lat. **34.3737** ° **N**, Long. **-79.8880** ° **W**.  
Universal Transverse Mercator: **17S 596747 3801142**

Name of nearest waterbody: **Lucas Creek**

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: **Dec 21, 2018**

Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

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

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

- TNWs, including territorial seas
- Wetlands adjacent to TNWs
- Relatively permanent waters<sup>2</sup> (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: **1150** linear feet: **10** width (ft) and/or \_\_\_\_\_ acres.

Wetlands: **5.58 (Wetland A) + 0.98 (Wetland B) = 6.56** 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):<sup>3</sup> [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: .

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> 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).

<sup>3</sup> 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: **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 SCDHEC Navigable Waters of SC list and the SCDNR 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. This is located upstream of the project site. According to SCDNR stream gauge data, the historic average monthly flow velocity for the Black Creek in Hartsville, SC (upstream of project site), is 223 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 water-borne recreation.**

**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<sup>4</sup> 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.

<sup>4</sup> 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<sup>5</sup>:  
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<sup>6</sup> (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.<sup>7</sup> 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):

<sup>5</sup> 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.

<sup>6</sup> 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.

<sup>7</sup>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:

<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: 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: **On site are 6.56 acres of jurisdictional wetlands and 1150 linear feet of Lucas Creek, a**

**jurisdictional RPW. Lucas Creek has visible surface water on multiple years of aerial imagery (1994-2017), exhibits sinuosity, and provides the hydrologic conditions for wetlands to form adjacent of its banks. Furthermore, Lucas Creek drains directly into the headwaters of the Black Creek 0.60 river miles downstream (a TNW; see additional comments for detail). Due to its relative permanence and direct connection to a TNW Lucas Creek and the fringe wetlands adjacent to its banks are considered a jurisdictional resource per the Corps authority.**

- 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: **1150** linear feet **10** width (ft).

Other non-wetland waters: . acres.

Identify type(s) of waters: .

**3. Non-RPWs<sup>8</sup> 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: **On site are 6.56 acres of jurisdictional wetlands and 1150 linear feet of Lucas Creek, a jurisdictional RPW. The on-site wetlands intersect the OHWM of Lucas Creek and have a direct hydrologic connection. Lucas Creek has visible surface water on multiple years of aerial imagery (1994-2017), exhibits sinuosity, and provides the hydrologic conditions for wetlands to form adjacent of its banks. Furthermore, Lucas Creek drains directly into the headwaters of the Black Creek 0.60 river miles downstream (a TNW; see additional comments for detail). Due to its relative permanence and direct connection to a TNW Lucas Creek and the fringe wetlands adjacent to its banks are considered a jurisdictional resource per the Corps authority.**
- 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: **5.58 (Wetland A) + 0.98 (Wetland B) = 6.56** acres.

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

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. 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.<sup>9</sup>**

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:**

<sup>8</sup>See Footnote # 3.

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

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

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

**Identify water body and summarize rationale supporting determination:**

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

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

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

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

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

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

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

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

**SECTION IV: DATA SOURCES.**

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

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: **Depictions and data sheets provided by Newkirk Environmental, Inc. Jurisdictional resource map provided by Nesbitt Surveying Co., Inc., titled: "Darlington County / South Carolina / Wetlands Map / OF A PROPOSED SITE LOCATED NORTH OF THE CITY OF DARLINGTON / NEAR THE DOVESVILLE COMMUNITY, DARLINGTON COUNTY, SOUTH / CAROLINA BEING A PORTION OF THAT PROPERTY DESIGNATED AS TAX / PARCEL 161-00-01-001 AND FURTHER DESCRIBED IN DEED BOOK / D52 AT PAGE 200. / SURVEYED FOR: / NUCOR CORPORATION", and dated: October 26, 2018.**
- 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:
- U.S. Geological Survey Hydrologic Atlas: **HUC: 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: **Site falls within two USGS quadrangles: the Darlington West quad encompasses the majority of the site with the Dovesville quad consisting of 1.03 acres of the far northern corner. The USGS**

<sup>10</sup> 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.

topography maps of the site depicts a forested and non-forested industrial site bounded to the south by Lucas Creek, wetlands, and 0.40 acres of a now off-site seasonally flooded pond. Additionally, north to south downward sloping elevation is present on the topographic map, depicted by brown contour lines sloping toward Lucas Creek.

USDA Natural Resources Conservation Service Soil Survey. Citation: **The Darlington County soil survey, pg. 19, depicts two soils within the project boundary, including: Udorthents, loamy (0-10% slope) and Johnston sandy loam (0-2% slopes). Johnston sandy loam, which is a weakly developed soil of the inceptisol order listed as hydric on the 2016 South Carolina hydric soil list, is found on the southern portion of the site, within and adjacent to the on-site wetlands; the remainder of the site consists of very weakly developed loamy Udorthents, a soil of the entisol order.**

National wetlands inventory map(s). Cite name: **The National Wetland Inventory map depicts multiple land use types, including: upland planted pine (U42P) for the majority of the site, most notably the centrally located forested portion of the site; Mines/Quarries/Pits (U75) for the eastern industrial use section of the site and western forested area; open water (PUBHx) located in the flooded wetland area at the far southeastern portion of the project site, adjacent to the off-site seasonally flooded pond, and persistent flooded palustrine emergent wetland with ditching (PEM1Fb), which makes up the remainder of the land on the southern project border, adjacent to the on-site wetlands and Lucas Creek (RPW).**

State/Local wetland inventory map(s):

FEMA/FIRM maps:

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

Photographs:  Aerial (Name & Date): **1999 Darlington Aerial Index 11227:108; 2006 SC DNR Aerials; May 2003 - February 2017 Google Earth Aerials**

or  Other (Name & Date): **Site photos provided by Newkirk Environmental, Inc.**

Previous determination(s). File no. and date of response letter:

Applicable/supporting case law:

Applicable/supporting scientific literature:

Other information (please specify): **LiDAR Digital Elevation Model (DEM) depicts a mostly upland site sloping down to a ~500 ft. wide drainage basin with sinuous channelization, which consists of Lucas Creek and fringe wetlands, on the south side of the site. No other potentially jurisdictional features were assessed within the site on LiDAR.**

#### **B. ADDITIONAL COMMENTS TO SUPPORT JD:**

This 29.07 acre predominately industrial-use site is bounded to the south by Lucas Creek, a relatively permanent water (RPW), its adjacent wetlands, and an off-site pond that Lucas Creek fills seasonally. The aquatic resources, which consist of 6.56 acres of wetlands in two segments of 5.58 and 0.98 acres, are quite visible on aerial imagery and LiDAR. The wetland line was delineated on-site by the applicant's consultant and the USACE agrees with the placement of the line, as all land within the project south of this line is clearly inundated on the majority of the Google Earth aerial images from 2003-2017. Furthermore, all land north of the wetland line delineated by the consultant within the project lines as given on August 2, 2018, is considered to be non-jurisdictional (upland) per the Corps authority.

On site are 6.56 acres of jurisdictional wetlands and 1150 linear feet of Lucas Creek, a jurisdictional RPW. The on-site wetlands intersect the OHWM of Lucas Creek and have a direct hydrologic connection. Lucas Creek has visible surface water on multiple years of aerial imagery (1994-2017), exhibits sinuosity, and provides the hydrologic conditions for wetlands to form adjacent of its banks. Furthermore, Lucas Creek drains directly into the headwaters of the Black Creek 0.60 river miles downstream (a TNW; see additional comments for detail). Due to its relative permanence and direct connection to a TNW Lucas Creek and the fringe wetlands adjacent to its banks are considered a jurisdictional resource per the Corps authority.

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 SCDHEC Navigable Waters of SC list and the SCDNR 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. This is located upstream of the project site. According to SCDNR stream gauge data, the historic average monthly flow velocity for the Black Creek in Hartsville, SC (upstream of project site), is 223 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 water-borne recreation.

Site falls within two USGS quadrangles: the Darlington West quad encompasses the majority of the site with the Dovesville quad consisting of 1.03 acres of the far northern corner. The USGS topography maps of the site depicts a forested and non-forested industrial site bounded to the south by Lucas Creek, wetlands, and 0.40 acres of a now off-site seasonally flooded pond. Additionally, north to south downward sloping elevation is present on the topographic map, depicted by brown contour lines sloping toward Lucas Creek.

The Darlington County soil survey, pg. 19, depicts two soils within the project boundary, including: Udorthents, loamy (0-10% slope) and Johnston sandy loam (0-2% slopes). Johnston sandy loam, which is a weakly developed soil of the inceptisol order listed as hydric on the 2016 South Carolina hydric soil list, is found on the southern portion of the site, within and adjacent to the on-site wetlands; the remainder of the site consists of very weakly developed loamy Udorthents, a soil of the entisol order.



**LiDAR Digital Elevation Model (DEM) depicts a mostly upland site sloping down to a ~500 ft. wide drainage basin with sinuous channelization, which consists of Lucas Creek and fringe wetlands, on the south side of the site. No other potentially jurisdictional features were assessed within the site on LiDAR.**

**The National Wetland Inventory map depicts multiple land use types, including: upland planted pine (U42P) for the majority of the site, most notably the centrally located forested portion of the site; Mines/Quarries/Pits (U75) for the eastern industrial use section of the site and western forested area; open water (PUBHx) located in the flooded wetland area at the far southeastern portion of the project site, adjacent to the off-site seasonally flooded pond, and persistent flooded palustrine emergent wetland with ditching (PEM1Fb), which makes up the remainder of the land on the southern project border, adjacent to the on-site wetlands and Lucas Creek (RPW).**

**This site was assessed on a single basis form per the provided site maps.**