

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): **JAN 25 2017**

B. DISTRICT OFFICE, FILE NUMBER, FILE NAME: JD Form 1 of 2, CESAC-RD-NE; SAC-2016-01621 Bell Solar

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: South Carolina County/parish/borough: **Darlington** City: **Darlington**
Center coordinates of site (lat/long in degree decimal format): Lat. **34.2746° N**, Long. **-79.8742° W**.
Universal Transverse Mercator:

Name of nearest waterbody: **Steer Fork Branch**

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**

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): **December 2, 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 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

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: Wetland A = 4.76 acres.

c. Limits (boundaries) of jurisdiction based on: **1987 Delineation Manual, Pick List, Pick List**

Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):³

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

Explain: **There were 4 ditches (depicted in yellow on the drawing in the file dated 1-17-2017) assessed onsite and determined to be non-jurisdictional. The ditches were excavated entirely out of uplands and drain only uplands. A**

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.

pond was also assessed in the field and determined to be excavated entirely out of uplands and the Corps determined it to be 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: Black Creek.

Summarize rationale supporting determination: Black Creek was determined to be a Traditional Navigable Water based on several factors. 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 Black Creek and Little Black Creek within Chesterfield County. This is located upstream of the project site. There are public boat ramps located along Black Creek. Additional indicators that Black Creek is currently being used for commercial water-borne recreation/navigation include the presence of an RV park and several campgrounds upstream 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 (upstream of project site) and several located in the surrounding area. There is also a fishing guide business that is located near Hartsville and services this area. According to SCDNR stream gauge data, the historic average monthly flow velocity for the Black Creek in Hartsville, SC, 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 Black Creek. These factors are all evidence that 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 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: 186,969 acres ;

Drainage area: 550 acres

Average annual rainfall: 46.27 inches

Average annual snowfall: 1.0 inches

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

(ii) Physical Characteristics:

(a) Relationship with TNW:

- Tributary flows directly into TNW.
 Tributary flows through 3 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 5-10 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: Project waters DO NOT cross or serve as state boundaries.

Identify flow route to TNW⁵: The onsite wetland flows into an offsite unnamed tributary which flows into another unnamed tributary which flows into Steer Fork Branch which flows into High Hill Creek which flows into Black Creek (TNW).

Tributary stream order, if known: 1.

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

Tributary is:

Natural

Artificial (man-made). Explain:

Manipulated (man-altered). Explain: The tributary is represented by a dashed blue

meandering line on topo maps. However, after researching aerial photos, hillshade photos, and topo maps, it appears that the tributary has been mechanically straightened in some areas possibly for drainage purposes. The tributary was observed on the tract to the south (SAC# 2016-01620) of the subject property and was determined to have been manipulated and straightened.

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

Average width: 5-8 feet

Average depth: 4-5 feet

Average side slopes: 2:1.

Primary tributary substrate composition (check all that apply):

Silts

Cobbles

Bedrock

Other. Explain:

Sands

Gravel

Vegetation. Type/% cover:

Concrete

Muck

The tributary was observed as part of a separate JD site audit (SAC# 2016-01620). The site is located directly south of the subject property. The tributary exhibited a hard sandy bottom with some fine silts remaining. 2-3 inches of leaf litter and debris were observed along the bottom of the tributary. The area is mapped as sandy loam soils (Glodsboro, Rains). Tributaries with seasonal flow within these soils on a low gradient typically have substrate comprised of silts and sands along the stream bed. The areas that were mechanically straightened appear to have 1:1 side slopes due to manipulation of the banks. Natural areas of tributaries in this area typically have a 1:1 slope or 2:1 slope due to minor erosion caused from heavy or repeated flow events.

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Tributaries of this nature are typically stable with minor erosion due to heavy or repeated flow events.

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: Relatively straight. According to aerial photography, the tributary is straight for approximately 800 feet and then begins to meander throughout the natural section of the tributary.

Tributary gradient (approximate average slope): 1 %

(c) Flow:

Tributary provides for: Seasonal flow

Estimate average number of flow events in review area/year: 20 (or greater)

Describe flow regime: Water was observed in the non-jurisdictional ditches on the property which flow into the offsite tributary. It is expected that the offsite tributary flows at least 3 months continuously throughout the year.

Other information on duration and volume:

Surface flow is: Discrete and confined. Characteristics: Water within the tributary flows within bed and banks.

Subsurface flow: Unknown. Explain findings:

Dye (or other) test performed:

Tributary has (check all that apply):

Bed and banks

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.

- OHWM⁶ (check all indicators that apply):
- | | |
|---|---|
| <input checked="" type="checkbox"/> clear, natural line impressed on the bank | <input type="checkbox"/> the presence of litter and debris |
| <input type="checkbox"/> changes in the character of soil | <input type="checkbox"/> destruction of terrestrial vegetation |
| <input type="checkbox"/> shelving | <input checked="" type="checkbox"/> the presence of wrack line |
| <input type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> sediment sorting |
| <input checked="" type="checkbox"/> leaf litter disturbed or washed away | <input type="checkbox"/> scour |
| <input type="checkbox"/> sediment deposition | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> water staining | <input type="checkbox"/> abrupt change in plant community |
| <input type="checkbox"/> 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):

- | | |
|--|--|
| <input type="checkbox"/> High Tide Line indicated by: | <input type="checkbox"/> Mean High Water Mark indicated by: |
| <input type="checkbox"/> oil or scum line along shore objects | <input type="checkbox"/> survey to available datum; |
| <input type="checkbox"/> fine shell or debris deposits (foreshore) | <input type="checkbox"/> physical markings; |
| <input type="checkbox"/> physical markings/characteristics | <input type="checkbox"/> vegetation lines/changes in vegetation types. |
| <input type="checkbox"/> tidal gauges | |
| <input type="checkbox"/> other (list): | |

(iii) **Chemical Characteristics:**

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

Explain: The tributary is a blackwater system with clear flowing water. Land use in this watershed is comprised of approximately 49% agricultural land, 19% forested land, 17% forested wetlands, and 11% urban land. The remaining land uses in this watershed include scrub/shrub land, non-forested wetlands, water, and barren land. The SCDHEC Watersheds website states that there is a high potential for growth in this watershed, which includes the cities of Hartsville, Darlington, and a portion of Florence. Within the drainage area, the aeriels and NWIs depict the majority of the land use as non-forested agricultural land, forested land, and developed land.

Identify specific pollutants, if known: Pollutants from the adjacent highways (i.e. oil, trash, tar) and agricultural fields (i.e. fertilizer, pesticides, etc.) could contribute to the discoloration of the water.

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

- Riparian corridor. Characteristics (type, average width): This tributary supports a riparian zone approximately 50-100 linear feet wide that contributes to the health of the aquatic system by filtering out pollutants and preventing erosion.
- Wetland fringe. Characteristics: The entire reach of the offsite tributary appears to be within a narrow wetland system.

Habitat for:

- Federally Listed species. Explain findings:
- Fish/spawn areas. Explain findings:
- Other environmentally-sensitive species. Explain findings:
- Aquatic/wildlife diversity. Explain findings: This tributary and the adjacent wetlands provide important aquatic habitat for wildlife and a travel corridor for aquatic fauna.

habitat for wildlife and a travel corridor for aquatic fauna.

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: 4.76 acres

Wetland type. Explain: Palustrine Forested.

Wetland quality. Explain: Wetland is in good quality. Vegetation was disturbed (logged) several years ago.

However, all three parameters of a wetland as set forth in the 1987 Wetland Delineation Manual were observed in the field. The wetland was determined to be fully functional.

Project wetlands cross or serve as state boundaries. Explain: The onsite wetland DOES NOT cross or serve as state boundaries.

(b) General Flow Relationship with Non-TNW:

Flow is: Intermittent flow. Explain: The wetland is likely to only flow after heavy rainfall events.

Surface flow is: Discrete and confined

Characteristics: Water from the wetland flows into an offsite tributary that consists of bed and banks.

Subsurface flow: Unknown. Explain findings:

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.

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 5-10 river miles from TNW.
Project waters are 5-10 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: There was no surface water present within the wetland at the time of the site visit.
Identify specific pollutants, if known: Unknown, however as mentioned above, the surrounding highways and agricultural fields could contribute pollutants into the wetland system by way of runoff.

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

- Riparian buffer. Characteristics (type, average width): While the on-site wetland is not truly riparian, it does act as a buffer to the adjacent tributary and retains and filters runoff prior to it entering the tributary.
- Vegetation type/percent cover. Explain: A data point taken by the consultant within the wetland determined that the dominant vegetation is FAC to include Pinus taeda, Liquidambar styraciflua, Rubus argutus, Vitis rotundifolia, Smilax rotundifolia, and Gelsemium sempervirens.
- Habitat for:
 - Federally Listed species. Explain findings:
 - Fish/spawn areas. Explain findings:
 - Other environmentally-sensitive species. Explain findings:
 - Aquatic/wildlife diversity. Explain findings: The wetland is providing important aquatic habitat and diversity within a predominately upland drainage area.

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

All wetland(s) being considered in the cumulative analysis: 7
Approximately (42.83) 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>
<u>Y</u>	<u>6</u>	<u>N</u>	<u>2</u>
<u>N</u>	<u>16</u>	<u>N</u>	<u>5</u>
<u>N</u>	<u>8</u>	<u>N</u>	<u>1.07</u>
<u>Y</u>	<u>4.76</u>		

Summarize overall biological, chemical and physical functions being performed: The offsite tributary, a seasonal RPW, and its adjacent wetlands, are providing important biological, chemical, and physical functions. According to the SCDHEC Watersheds website, this watershed is comprised of approximately 49% agricultural land, 19% forested land, 17% forested wetlands, and 11% urban land. Due to the predominance of agricultural land use in this watershed, herbicides and other pesticides as well as sediment from soil manipulation activities are likely to enter the tributary and downstream TNW. The tributary together with its adjacent wetlands act as a catch basin to help filter out pollutants from the neighboring uplands and to hold runoff prior to it flowing downstream into the TNW. Besides the obvious functions of stormwater attenuation, absorption, and overstory biomass input into the food web, the wetlands provide a uniquely important ecological connection to other adjacent wetlands and the offsite tributary. Both the onsite wetland and offsite wetlands support a diverse variety of animal species that utilize both the abutting and non-abutting wetlands. It is well documented that wetland and riparian zones are utilized as travel corridors and foraging grounds by a host of game and non-game species. The onsite wetland represents a sensitive and increasingly valuable ecosystem that comprises a critical biological connection. The wetlands evaluated in this significant nexus determination (SND) also provide organic carbon to the downstream tributaries and ultimately into the downstream TNW (Black Creek), resulting in the nourishment of the downstream food web. The wetlands evaluated in this SND provide the important collective functions of removal of excess nutrients which are contributed by runoff from the surrounding urban areas. The wetlands reduce nitrogen and phosphorus loading downstream, and effectively prevent oxygen depletion that can result from eutrophication. The

wetlands also collectively perform flow maintenance functions, including retaining runoff inflow and storing flood water temporarily.

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: The offsite tributary, a seasonal RPW, and its adjacent wetlands that are evaluated in this SND, are providing important biological, chemical, and physical functions. The seasonal RPW in conjunction with its adjacent wetlands provide organic carbon to the downstream tributaries and ultimately into the downstream TNW (Black Creek), resulting in the nourishment of the downstream food web. The wetlands evaluated in this SND provide the important collective functions of removal of excess nutrients which are contributed by runoff from the surrounding urban areas. The wetlands reduce nitrogen and phosphorus loading downstream, and effectively prevent oxygen depletion that can result from eutrophication. The wetlands also collectively perform flow maintenance functions, including retaining runoff inflow and storing flood water temporarily. The Corps has determined that there is a significant nexus between the relevant reach of the tributary and its adjacent wetlands to the downstream TNW (Black Creek).

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: See Section III.B above.

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: **The onsite wetland system continues offsite to the south until it intersects the OHWM of the offsite seasonal RPW.**

Provide acreage estimates for jurisdictional wetlands in the review area: 4.76 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.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:

⁸See Footnote # 3.

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

¹⁰Prior 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): **There were 4 ditches (depicted in yellow on the drawing in the file dated 1-17-2017) assessed onsite and determined to be non-jurisdictional. The ditches were excavated entirely out of uplands and drain only uplands. A pond was also assessed in the field and determined to be excavated entirely out of uplands and the Corps determined it to be non-jurisdictional.**

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: **Maps prepared and submitted by the agent dated 12-6-2016 and entitled "Wetland Map / Bell Solar Farm".**
- 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:
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps. 03040201-07
- U.S. Geological Survey map(s). Cite scale & quad name: **Darlington West (Topo map depicts the offsite seasonal RPW as a dashed blue line (i.e. tributary).**
- USDA Natural Resources Conservation Service Soil Survey. Citation: **p. 33, Rains (Hydric), Goldsboro (Non-hydric), Bonneau (Non-hydric).**
- National wetlands inventory map(s). Cite name: **U21 (Upland), PSS1Bd (Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Saturated, Partially Drained/Ditched), PFO1Cd (Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded, Partially Drained/Ditched).**
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): **99-11227:112, SCDNR 2006.**
 - or Other (Name & Date): **Photos in the file taken by consultant during site visit.**
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature:

Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: This form assesses a 4.76 acre jurisdictional freshwater wetland (Wetland A) located on a 71 acre tract. The onsite wetland system continues offsite to the south until it intersects (directly abuts) the OHWM of an offsite tributary (seasonal RPW). As discussed above, the offsite tributary in conjunction with all its adjacent wetlands that are similarly situated provide a significant nexus to the downstream TNW (Black Creek). In addition, several ditches and a pond were assessed onsite and determined to be non-jurisdictional. The ditches did not exhibit any characteristics of at least seasonal flow and were excavated for the purposes of surface water drainage. The pond was determined to be excavated entirely out of uplands.

One site visit was performed.



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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): JAN 25 2017

B. DISTRICT OFFICE, FILE NUMBER, FILE NAME: JD Form 2 of 2, CESAC-RD-NE; SAC-2016-01621 Bell Solar

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: South Carolina County/parish/borough: Darlington City: Darlington
Center coordinates of site (lat/long in degree decimal format): Lat. 34.2746° N, Long. -79.8742° W.
Universal Transverse Mercator:

Name of nearest waterbody: Steer Fork Branch

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

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): December 2, 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 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

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: Wetland B = 3.17 acres.

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual, Pick List, Pick List

Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):³

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

Explain: Assessed on JD Form 1 of 2.

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: Black Creek.

Summarize rationale supporting determination: Black Creek was determined to be a Traditional Navigable Water based on several factors. 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 Black Creek and Little Black Creek within Chesterfield County. This is located upstream of the project site. There are public boat ramps located along Black Creek. Additional indicators that Black Creek is currently being used for commercial water-bourne recreation/navigation include the presence of an RV park and several campgrounds upstream 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 (upstream of project site) and several located in the surrounding area. There is also a fishing guide business that is located near Hartsville and services this area. According to SCDNR stream gauge data, the historic average monthly flow velocity for the Black Creek in Hartsville, SC, 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 Black Creek. These factors are all evidence that Black Creek supports a wide variety of commercial water-bourne 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 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: 186,969 acres ;

Drainage area: 250 acres

Average annual rainfall: 46.27 inches

Average annual snowfall: 1.0 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 3 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 5-10 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: Project waters DO NOT cross or serve as state boundaries.

Identify flow route to TNW⁵: The onsite wetland flows into an offsite unnamed tributary which flows into another unnamed tributary which flows into Steer Fork Branch which flows into High Hill Creek which flows into Black Creek (TNW).

Tributary stream order, if known: 1.

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

Tributary is: Natural

Artificial (man-made). Explain:

Manipulated (man-altered). Explain: The tributary is represented by a dashed blue

meandering line on topo maps. However, after researching aerial photos, hillshade photos, and topo maps, it appears that the tributary has been mechanically straightened in some areas possibly for drainage purposes.

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

Average width: 5-8 feet

Average depth: 4-5 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: The tributary is offsite and was not able to be observed in the field. However, the area is

mapped as sandy and loamy soils (Noboco, Emporia). Tributaries with seasonal flow within these soils on a low gradient typically have substrate comprised of silts and sands along the stream bed. The areas that were mechanically straightened appear to have 1:1 side slopes due to manipulation of the banks. Natural areas of tributaries in this area typically have a 1:1 slope or 2:1 slope due to minor erosion caused from heavy or repeated flow events.

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Tributaries of this nature are typically stable with minor erosion due to heavy or repeated flow events.

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: Relatively straight.

Tributary gradient (approximate average slope): 1 %

(c) Flow:

Tributary provides for: Seasonal flow

Estimate average number of flow events in review area/year: 20 (or greater)

Describe flow regime: Water was not observed in the tributary as it is located offsite.

Other information on duration and volume:

Surface flow is: Discrete and confined. Characteristics: Water within the tributary flows within bed and banks.

Subsurface flow: Unknown. 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

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

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.

- 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: Tributaries in this area are typically blackwater systems with clear flowing water. Land use in this watershed is comprised of approximately 49% agricultural land, 19% forested land, 17% forested wetlands, and 11% urban land. The remaining land uses in this watershed include scrub/shrub land, non-forested wetlands, water, and barren land. The SCDHEC Watersheds website states that there is a high potential for growth in this watershed, which includes the cities of Hartsville, Darlington, and a portion of Florence. Within the drainage area, the aeriels and NWIs depict the majority of the land use as non-forested agricultural land, forested land, and developed land.

Identify specific pollutants, if known: Pollutants from the adjacent highways (i.e. oil, trash, tar) and agricultural fields (i.e. fertilizer, pesticides, etc.) could contribute to the discoloration of the water.

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

- Riparian corridor. Characteristics (type, average width): This tributary supports a riparian zone approximately 150-200 feet wide that contributes to the health of the aquatic system by filtering out pollutants and preventing erosion.
 Wetland fringe. Characteristics: The entire reach of the offsite tributary appears to be within a narrow wetland system.

Habitat for:

- Federally Listed species. Explain findings:
 Fish/spawn areas. Explain findings:
 Other environmentally-sensitive species. Explain findings:
 Aquatic/wildlife diversity. Explain findings: This tributary and the adjacent wetlands provide important aquatic habitat for wildlife and a travel corridor for aquatic fauna.

habitat for wildlife and a travel corridor for aquatic fauna.

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: 3.17 acres

Wetland type. Explain: Palustrine Forested.

Wetland quality. Explain: Wetland is in good quality. Vegetation was disturbed (logged) several years ago.

However, all three parameters of a wetland as set forth in the 1987 Wetland Delineation Manual were observed in the field. The wetland was determined to be fully functional.

Project wetlands cross or serve as state boundaries. Explain: The onsite wetland DOES NOT cross or serve as state boundaries.

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent flow**. Explain: The wetland is likely to only flow after heavy rainfall events.

Surface flow is: **Discrete and confined**

Characteristics: Water from the wetland flows into an offsite tributary that consists of bed and banks.

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:
 Ecological connection. Explain:
 Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are 5-10 river miles from TNW.

Project waters are 5-10 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: There was no surface water present within the wetland at the time of the site visit.

Identify specific pollutants, if known: Unknown, however as mentioned above, the surrounding highways and agricultural fields could contribute pollutants into the wetland system by way of runoff.

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

Riparian buffer. Characteristics (type, average width): While the on-site wetland is not truly riparian, it does act as a buffer to the adjacent tributary and retains and filters runoff prior to it entering the tributary.

Vegetation type/percent cover. Explain: A data point taken by the consultant within the wetland determined that the dominant vegetation is FAC to include Pinus taeda, Liquidambar styraciflua, Rubus argutus, Vitis rotundifolia, Smilax rotundifolia, and Gelsemium sempervirens.

Habitat for:

Federally Listed species. Explain findings:

Fish/spawn areas. Explain findings:

Other environmentally-sensitive species. Explain findings:

Aquatic/wildlife diversity. Explain findings: The wetland is providing important aquatic habitat and diversity within a predominately upland drainage area.

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

All wetland(s) being considered in the cumulative analysis: 6

Approximately (32.75) 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>
<u>Y</u>	<u>9</u>	<u>N</u>	<u>1</u>
<u>N</u>	<u>20</u>	<u>N</u>	<u>0.75</u>
<u>N</u>	<u>2</u>		

Summarize overall biological, chemical and physical functions being performed: The offsite tributary, a seasonal RPW, and its adjacent wetlands, are providing important biological, chemical, and physical functions. According to the SCDHEC Watersheds website, this watershed is comprised of approximately 49% agricultural land, 19% forested land, 17% forested wetlands, and 11% urban land. Due to the predominance of agricultural land use in this watershed, herbicides and other pesticides as well as sediment from soil manipulation activities are likely to enter the tributary and downstream TNW. The tributary together with its adjacent wetlands act as a catch basin to help filter out pollutants from the neighboring uplands and to hold runoff prior to it flowing downstream into the TNW. Besides the obvious functions of stormwater attenuation, absorption, and overstory biomass input into the food web, the wetlands provide a uniquely important ecological connection to other adjacent wetlands and the offsite tributary. Both the onsite wetland and offsite wetlands support a diverse variety of animal species that utilize both the abutting and non-abutting wetlands. It is well documented that wetland and riparian zones are utilized as travel corridors and foraging grounds by a host of game and non-game species. The onsite wetland represents a sensitive and increasingly valuable ecosystem that comprises a critical biological connection. The wetlands evaluated in this significant nexus determination (SND) also provide organic carbon to the downstream tributaries and ultimately into the downstream TNW (Black Creek), resulting in the nourishment of the downstream food web. The wetlands evaluated in this SND provide the important collective functions of removal of excess nutrients which are contributed by runoff from the surrounding urban areas. The wetlands reduce nitrogen and phosphorus loading downstream, and effectively prevent oxygen depletion that can result from eutrophication. The wetlands also collectively perform flow maintenance functions, including retaining runoff inflow and storing flood water temporarily.

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: The offsite tributary, a seasonal RPW, and its adjacent wetlands that are evaluated in this SND, are providing important biological, chemical, and physical functions. The seasonal RPW in conjunction with its adjacent wetlands provide organic carbon to the downstream tributaries and ultimately into the downstream TNW (Black Creek), resulting in the nourishment of the downstream food web. The wetlands evaluated in this SND provide the important collective functions of removal of excess nutrients which are contributed by runoff from the surrounding urban areas. The wetlands reduce nitrogen and phosphorus loading downstream, and effectively prevent oxygen depletion that can result from eutrophication. The wetlands also collectively perform flow maintenance functions, including retaining runoff inflow and storing flood water temporarily. The Corps has determined that there is a significant nexus between the relevant reach of the tributary and its adjacent wetlands to the downstream TNW (Black Creek).

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: See Section III.B above.

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-RPWs³ that flow directly or indirectly into TNWs.

³See Footnote # 3.

- 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: **The onsite wetland system continues offsite to the southeast until it intersects the OHWM of the offsite seasonal RPW.**

Provide acreage estimates for jurisdictional wetlands in the review area: **3.17** 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.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):**

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.

- 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): Assessed on JD Form 1 of 2.

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: **Maps prepared and submitted by the agent dated 12-6-2016 and entitled "Wetland Map / Bell Solar Farm"**.
- 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:
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps. 03040201-07
- U.S. Geological Survey map(s). Cite scale & quad name: **Darlington West (Topo map depicts the offsite seasonal RPW as a dashed blue line (i.e. tributary).**
- USDA Natural Resources Conservation Service Soil Survey. Citation: **p. 33, Rains (Hydric), Goldsboro (Non-hydric), Bonneau (Non-hydric).**
- National wetlands inventory map(s). Cite name: **U21 (Upland), PSS1Bd (Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Saturated, Partially Drained/Ditched), PFO1Cd (Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded, Partially Drained/Ditched).**
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): **99-11227:112, SCDNR 2006.**
 - or Other (Name & Date): **Photos in the file taken by consultant during site visit.**
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: This form assesses a 3.17 acre jurisdictional freshwater wetland (Wetland B) located on a 71 acre tract. The onsite wetland system continues offsite to the southeast until it intersects (directly abuts) the OHWM of an offsite tributary (seasonal RPW). As discussed above, the offsite tributary in conjunction with all its adjacent wetlands that are similarly situated provide a significant nexus to the downstream TNW (Black Creek).

One site visit was performed.