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 6, 2016

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: JD Form 1 of 1; CESAC-RD-NE; **SAC 2015-01251-4S - Ebbie Road Solar**

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: South Carolina County/parish/borough: **Marion** City: **Marion**
Center coordinates of site (lat/long in degree decimal format): Lat. **34. 157316°** **N**, Long. **-79.404898°** **W**.
Universal Transverse Mercator:
Name of nearest waterbody: **Catfish Canal**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Great Pee Dee River**
Name of watershed or Hydrologic Unit Code (HUC): **Middle Pee Dee HUC: 03040201-11**
☒ 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 09, 2015**

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

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

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☒ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or acres.
      Wetlands: **43** acres.

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

2. **Non-regulated waters/wetlands (check if applicable):[3] [Including potentially jurisdictional features that upon assessment are NOT waters or wetlands]**
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: **Two upland excavated drainage ditches are located on-site. One located perpendicular to the western project**

[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.

boundary with no observable flow and no evidence of an OHWM and a second flowing east to west from the property boundary into the delineated wetland. During a site visit conducted on December 09, 2015 these features were determined to have been excavated out of uplands and to drain only uplands and therefore are determined 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: **Great Pee Dee River**.

Summarize rationale supporting determination: **Report No. 11, , of the USACE 1977 Navigability Study, on the Great Pee Dee River Basin presently classifies the Great Pee Dee River as a navigable water of the U.S. between its mouth at Winyah Bay in Georgetown, SC (R.M. 0) and Blewett Falls Dam at R.M. 188.2. Wetlands on site are hydrologically connected, via road side drainage ditch, to an off site unnamed perinneal RPW that drains into Jefferies Ditch. Jefferies Ditch converges with Jeffereis Creek . Jeffereies Creek flows unobstructed into the Great Pee Dee River near R.M. 87.**.

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

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

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

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

(i) General Area Conditions:
Watershed size: **111,369 acres ; HUC: 03040201_11**
Drainage area: **111,369 acres**
Average annual rainfall: **48.9** inches
Average annual snowfall: **1.3** 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 **25-30** river miles from TNW.

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

Project waters are **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: **The project waters do not cross or serve as state boundaries**.

Identify flow route to TNW[5]: **Catfish Canal (Manipulated), the off site pRPW, becomes Catfish Creek (Not Manipulated) and flows directly into the Great Pee Dee River, a TNW**.
Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☒ Manipulated (man-altered). Explain: **The tributary has been straightened to accomidate surrounding development**.

Tributary properties with respect to top of bank (estimate):
Average width: **40** feet
Average depth: **10** feet
Average side slopes: **3:1 .**

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Catfish Canal, which is the tributary in which the significant nexus is being evaluated, is a tributary of low gradient, low velocity and therefore does not experience high levels of erosion and would be considered stable..
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Relatively straight. Based on USGS topographic survey information, the National Wetlands Inventory and aerial photographs the off site pRPW has been straightened/man altered is situated in a naturally low lying drainage area and is surronded on all sides by forested wetlands.**
Tributary gradient (approximate average slope): **2** %

(c) Flow:
Tributary provides for: **Perennial flow**
Estimate average number of flow events in review area/year: **20 (or greater)**
Describe flow regime: **Based on several observations of this Tributary from SC Highway 576 in 2015 (some in the peak of the growing season) USGS topographic survey information, the National Wetlands Inventory and aerial photographs, the off site RPW is determined to have flow at least 90 to 100% of the year under normal climactic conditions. Based on USGS topo maps the pRPW is situated in a naturally low lying drainage area and can be seen in aerial photographs as a shaded linear feature. This pRPW recieves run off directly from the surrounding argicultural fields as well as directly from urban development in Marion** .
Other information on duration and volume: .

Surface flow is: **Confined.** Characteristics: **Based on a site visit conducted on 12/09/15 flow was determined to be confined within the bed and banks of the tributary**.

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

Tributary has (check all that apply):
☒ Bed and banks
☒ OHWM[6] (check all indicators that apply):

☒ clear, natural line impressed on the bank	☐ the presence of litter and debris
☒ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☒ the presence of wrack line
☒ vegetation matted down, bent, or absent	☐ sediment sorting
☒ leaf litter disturbed or washed away	☐ scour

[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.

☐ sediment deposition
☐ water staining
☐ other (list):
☒ multiple observed or predicted flow events
☒ abrupt change in plant community

☐ Discontinuous OHWM.[7] Explain: .

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

☐ High Tide Line indicated by:
- ☐ oil or scum line along shore objects
- ☐ fine shell or debris deposits (foreshore)
- ☐ physical markings/characteristics
- ☐ tidal gauges
- ☐ other (list):

☐ Mean High Water Mark indicated by:
- ☐ survey to available datum;
- ☐ physical markings;
- ☐ vegetation lines/changes in vegetation types.

(iii) Chemical Characteristics:

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

Explain: **Aquatic life uses are not supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. Decreasing trends in turbidity and total nitrogen concentration suggest improving conditions for these parameters. DDE was detected in the 2001 sediment sample. Land use in this watershed consist of approxiamtly 36.4% agrigultural land, 35.4% forested wetland, 18.6% forested land, 6.5% urban land, 2.6% scrub-shrub, 0.3% non-forested wetlands and 0.2% water. According to the SCDHEC website there is low to moderate potential for growth in this watershed. This watershed contains the Marion Industrial Park and the Latta Industrial Park. U.S. Highway 76 and U.S. Higway 501 By pass (both located in this watershed) are four lane major highways that serve as major access corridors the Grand Strand and will increase in traffic and development**.

Identify specific pollutants, if known: **DDE was detected in the 2001 sediment sample. Due to the fact that the majority of the land use in this watershed is agricultural, the potential exist for herbicides and other pollutants, such as fertilizers to enter the off-site pRPW. This type of land use requires regular manipulation of the soil, which creates increased amounts of suspended sediments within downstream tributaries. Run off from highways and directly from urban areas provides the potential for increased fertilizers and fecal coliform as well as oils and other chemicals used in vehicles and on lawns. These types of pollutants have the potential to effect already low dissolved oxygen levels in Catfish creek and effect decreasing trends in turbidity and total nitrogen**.

[7] Ibid.

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

☒ Riparian corridor. Characteristics (type, average width): **Based on a review of aerial photographs the off site pRPW supports an approximatly 2,000' wide riparian corridor. This riparian zone contributes to the overall health of the aquatic system by filtering out pollutants, providing essential habitat, slowing flood waters and preventing erosion**.

☐ 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: **43** acres (The wetlands within the project area are part of a larger approximalty 90 acre wetland however only 43 acres are located within the project boundary)

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

Wetland quality. Explain: **Wetlands within the project area are part of a fully functional wetland system that provides pollution filtration, essiential habitat, and flood prevention**.

Project wetlands cross or serve as state boundaries. Explain: **The project wetland does not cross or serve as state boundaries**.

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent flow**. Explain: **A drainage ditch that is encompassed within the project wetlands provides a hydrologic connection between the offsite pRPW and the wetlands within the project area**.

Surface flow is**: Discrete and confined**

Characteristics: **Flow from the project wetlands into the off site pRPW is through a drainage ditch**.

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

☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

☐ Directly abutting

☒ Not directly abutting

☒ Discrete wetland hydrologic connection. Explain: **Flow from the project wetlands into the off site pRPW is through a drainage ditch**.

☐ Ecological connection. Explain: .

☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **25-30** 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: **Standing water observed in the on-site wetland was clear with an oily film in various locations throughout the site. Land use in this watershed consist of approximately 36.4% agricultural land, 35.4% forested wetland, 18.6% forested land, 6.5% urban land, 2.6% scrub-shrub, 0.3% non-forested wetlands and 0.2% water. According to the SCDHEC website there is low to moderate potential for growth in this watershed. This watershed contains the Marion Industrial Park and the Latta Industrial Park. U.S. Highway 76 and U.S. Highway 501 By pass (both located in this watershed) are four lane major highways that serve as major access corridors the Grand Strand and will increase in traffic and development**.

Identify specific pollutants, if known: **Due to the fact that the majority of the land use in this watershed is agricultural, the potential exist for herbicides and other pollutants, such as fertilizers to enter the off-site pRPW. This type of land use requires regular manipulation of the soil, which creates increased amounts of suspended sediments within downstream tributaries. Run off from highways and directly from urban areas provides the potential for increased fertilizers and fecal coliform as well as oils and other chemicals used in vechicals and on lawns. These types of polluntants have the potential to effect already low dissolved oxygen levels in Catfish creek and effect decreasing trends in turbibity and total nitrogen**.

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

☐ Riparian buffer. Characteristics (type, average width): .

☒ Vegetation type/percent cover. Explain: **Vegetation in the wetland consisted of predominantly Fac, Fac Wet, and Obligate species**.

☒ Habitat for:

☐ Federally Listed species. Explain findings: .

☐ Fish/spawn areas. Explain findings: .

☐ Other environmentally-sensitive species. Explain findings: .

☒ Aquatic/wildlife diversity. Explain findings: **This wetland system enhances wildlife diversity through timber type changes and the transition between upland and aquatic systems.**.

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

All wetland(s) being considered in the cumulative analysis: **30 (or more)**

Approximately (34,171) acres in total are being considered in the cumulative analysis.

(According to the SCDHEC Watershed Water Quality Assessment Catfish Creek Watershed is approximately 111,369 acres of which 35.4% is forested Wetland and 0.3% is non-forested wetland.

111,369 X 35.7% = 39,758 acres. The figures below are approximate and based on manual GIS measurements using National Wetland Inventory Maps)

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)
Y	**15,000**	**N**	**2**
Y	**300**	**N**	**7.9**
Y	**70**	**N**	**.15**
Y	**1,500**	**N**	**.5**
Y	**5,000**	**N**	**300**
Y	**800**	**N**	**.8**
Y	**500**	**N**	**12**
N	**.5**	**N**	**.36**
N	**1.64**	**N**	**80**
N	**1.4**	**N**	**.67**
N	**.9**	**N**	**.44**
N	**.14**	**N**	**.7**
N	**1.3**	**N**	**37**
N	**1.09**	**N**	**.66**
N	**3.56**	**N**	**5.9**
N	**1.1**	**N**	**1,120**
N	**.39**	**N**	**1.5**
N	**6.15**	**N**	**6**
N	**3.34**	**N**	**90**
N	**.86**	**N**	**.14**
N	**.11**	**N**	**.14**
N	**3,000**	**N**	**2,000**
N	**600**	**N**	**75**
N	**.78**	**N**	**650**
N	**1,300**	**N**	**.5**
N	**.18**	**N**	**1.8**
N	**.37**	**N**	**3.7**
N	**.2**	**N**	**43**
N	**120**	**N**	**500**
N	**65**	**N**	**900**
N	**50**	**N**	**9.63**

*Figures are approximate and based on National Wetland Inventory Maps

Summarize overall biological, chemical and physical functions being performed:

The perennial RPW and its adjacent wetlands, both abutting and non-abutting are providing important biological, chemical, and physical functions within a predominatly upland drainage area. According to the SCDHEC website Land use in this watershed consist of approxiamtly 36.4% agrigultural land, 35.4% forested wetland, 18.6% forested land, 6.5% urban land, 2.6% scrub-shrub, 0.3% non-forested wetlands and 0.2% water. According to the SCDHEC website there is low to moderate potential for growth in this watershed. This watershed contains the Marion Industrial Park and the Latta Industrial Park. U.S. Highway 76 and U.S. Higway 501 By pass (both located in this watershed) are four liand major highways that serve as major access corridors the Grand Strand and will increase in traffic and development. The watershed is predominatly rural with a large portion of the land in agricultrual production. The majority of the wetlands within the drainage area are depressional wetlands that ares situated relativley low in the landscape and receive and store runoff from the surrounding uplands. This water storage prevents flood flows from high rainfall events from moving quickly downstream. The perennial RPW and its adjacent wetlands act as a catch basin to help filter out pollutants from the neighboring agricultural land. This wetland system enchances wildlife diversity, acts as a catch basin filtering sediments and pollutants from surrounding croplands, supports down stream food webs, and provides nutrient fixation, flood attenuation, and flow maintnacen functions. See III.C.3 below for more details.

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow

of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

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

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

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

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

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

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: **The off site pRPW that is assesed in this form, along with all similarly situated adjacent freshwater wetlands are collectively performing functions consistent with the following: Biologically, wetlands adjacent to the pRPW include depressional wetlands. As such a variety of biological functions are being performed which include providing breeding grounds and shelter for aquatic species and foraging areas for wetland dependent species. These wetlands and the adjacent pRPW are essential in providing organic carbons in the form of their collective primary productivity to downstream waters, resulting in the nourishment of the downstream food web. Chemically, the pRPW and adjacent wetlands are providing the important collective functions of removal of excess nutrients into the downstream TNW. These pollutants, which are contributed to by runoff from surrounding uplands are prevented from being discharged downstream due to suspended sediments and other pollutants being retained within the wetlands. The low velocity of and gradient of the pRPW also contribute s to the removal of pollutants because the suspended pollutants have time to settle out of the water. This reduces nitrogen and phosphorous loading downstream and effectively prevents oxygen depletion that can result from eutrophication. Physically, the pRPW and adjacent wetlands are collectively performing flow maintenance functions, including retaining runoff inflow and storing rain water, temporarily. Flow maintenance results in the reduction of downstream peak flows (discharge and volume), helping to maintain seasonal flow volumes and reducing the frequency of overbank events which flood adjacent properties. Increased water velocity also increases the amount of sediments and other pollutants in the TNW. Based on the collective functions described above and their importance to the biological, chemical, and physical integrity of the traditional navigable waters of the Great Pee Dee River, it has been determined that there is a significant nexus between the relevant reach of the tributary and all adjacent wetlands to the downstream TNW**.

Documentation for the Record only: Significant nexus findings for seasonal RPWs and/or wetlands abutting seasonal RPWs:
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D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

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

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: **Based on a site visit conducted on 12/09/15 and available desktop resources, the offsite RPW is determined to be perennial. Several observations of this Tributary from SC Highway 576 in 2015 (some in the peak of the growing season) revealed deep flowing waters confined within a bed and bank. It is depicted on the USGS topographic map as a named blue line feature situated in a low lying drainage area. Additionally, it can be identified in aerial photographs as a shaded linear feature**.

☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

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

3. Non-RPWs[8] that flow directly or indirectly into TNWs.
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

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

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.
☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

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

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.
☒ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: **43** acres.

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

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

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

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

[8]See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

Identify water body and summarize rationale supporting determination: .

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

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☒ Other: (explain, if not covered above): **Two upland excavated drainage ditches are located on-site. One located perpendicular to the western project boundary with no observable flow and no evidence of a OHWM and a second flowing east to west from the property boundary into the delineated wetland. During a site visit conducted on December 09, 2015 these features were determined to have been excavated out of uplands and to drain only uplands and therefore are determined 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: **The project area is depicted on a sketch, submitted by the agent, titled "SAC 2015-01251-4S; Ebbie Road Solar / TMS 0750000182000; Approx. 195 acre Tract / Ralph and John Atkins; Marion County, SC" and last revised on December 15, 2015.**.
☒ 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: **Charleston District 1977 Navigability Report No. 11.**.
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: **Marion Quad; USGS topographic survey infromation within Marion quad depicts the project area as a combination of cleared and forested uplands with a small wetland located to the north west of the project area adjacent to the project boundary. Two dashed blue line features are depicted extending inward from the eastern and the western project boundaries. During a site visit conducted on December 09, 2015 these features were determined to be non-jurisdictional ditches**.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **Marion County Soil Sheet # 18; Marion County Soil Survey information depicts the soils within the delineated wetland as poorly drained all hydric loam. Soils outside of the delineated wetlands are described as either well drained non-hydric sandy loam or moderatly well drained partially hydric fine sandy loam.** .
☒ National wetlands inventory map(s). Cite name: **U21, U42P, PFO1/4Bd and PSS1Bd; The NWIs depict the delineated wetland as saturated palustrine scrub shrub that has been partially ditched or drained. The surrounding uplands are mapped as a combination of upland evergreen forest and upland agricultural fields. An area located at the south west corner of the project area that is mapped Palustrine forest, was examined during a site visit conducted on Decmber 09, 2015 and determined to be upland based on soils with high chroma and value and a lack of any indicators of hydrology.**.
☐ State/Local wetland inventory map(s): .

☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): **99:11226:14 and SCDNR 2006.**
..
or ☒ Other (Name & Date): **Photos taken on-site, submitted by Headwater environmenatl dated 9/8/15 and Photos taken on-site by the Corps dated 12/9/15.**.
☐ 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 addresses a 195 acre tract that contains approximalty 43 acres of jurisdictional freshwater wetlands.

The offsite RPW was determined to have perennial flow based on a review of the USGS topographic maps, aerial photographs, and information obtained during a site visit conducted on December 09, 2015. In addition the pRPW has been observed on several occasions in 2015 from SC Highway 576 to have deep flowing water. The topographic information within Marion quad depicts the RPW as a named blue line (Catfish Canal) situated in a naturally low lying drainage area and that flows direclty into the Great Pee Dee River. Aerial photographs depict the RPW as a shaded linear feature.

A man made drainage ditch excavated out of jurisdictional wetlands runs north to south were it turns west off-site. This ditch directly abuts the wetland within the project area and provides a hydrologic connection between the wetland and the offsite pRPW. A site visit conducted on December 09, 2015 revealed the ditch flowing under S.C. Highway 576 under and towards the off-site RPW. Portions of the ditch that could not be observed in the field can be seen in Marion County LiDAR and in Aerial photographs. The ditch is determined to discharge directly into Catfish Canal.
Wetland boundaries were determined, during the site visit conducted on December 09, 2015, based on the criteria set forth by the 1987 Wetland Delineation Manual and 2010 Coastal Plain Supplement. These wetlands were determined to be jurisdictional based on the hydrological connection, provided by a non-jurisdictional ditch to an offsite pRPW that flows directly into the Great Pee Dee River. During the above reference site visit wetlands were found to be either saturated or inundated and a high water table was observed. Wetlands within the project area are currently part of a fully functional wetland system that provides pollution filtration, essential habitat, and flood prevention. The wetland and off site RPW addressed in this form are determined to have a significant nexus to the downstream TNW in Section IIIC above.