

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

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

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): March 20, 2020**

**B. DISTRICT OFFICE, FILE NUMBER, FILE NAME:** JD Form 1 of 3; SAC-2018-01806 Ganymede Solar, LLC

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

State: South Carolina County/parish/borough: Calhoun County City: Elloree  
Center coordinates of site (lat/long in degree decimal format): Lat. 33.5607564459861°, Long. -80.6622294854367 °.  
Universal Transverse Mercator:

Name of nearest waterbody: **Flea Bite Creek (tributary to Four Hole Swamp)**

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

Name of watershed or Hydrologic Unit Code (HUC): **03050205-01 (Four Hole Swamp)**

☒ 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: **March 18, 2020**

☒ Field Determination. Date(s): **July 24, 2019**

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

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

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

- ☐ TNWs, including territorial seas
- ☐ Wetlands adjacent to TNWs
- ☒ Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs
- ☐ Non-RPWs that flow directly or indirectly into TNWs
- ☒ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- ☒ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- ☒ Impoundments of jurisdictional waters
- ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters (Linear features): **5,419.3** linear feet: width (ft) and/or acres.

Tributary 1 = 1,136 linear feet

Tributary 2 = 743.3 linear feet

WOUS 1 = 2,907 linear feet

WOUS 2 = 93.5 linear feet

WOUS 3 = 172 linear feet

WOUS 4 = 367.5 linear feet

Non-wetland waters (Impoundments): linear feet: width (ft) and/or **1.68** acres.

Wetlands: **66.2** acres. Wetlands 1 – 3; 6 – 25; 31 – 34 (see Section III. C & D for individual acreages)

**c. Limits (boundaries) of jurisdiction based on:** **1987 Delineation Manual, Established by OHWM, Regional Supplement**

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

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

Elevation of established OHWM (if known): .

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

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

### SECTION III: CWA ANALYSIS

#### **A. TNWs AND WETLANDS ADJACENT TO TNWs**

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

1. **TNW**

Identify TNW: .

Summarize rationale supporting determination: .

2. **Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”: .

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

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

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

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

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

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

Information in Sections B and C describe the characteristics of the offsite RPW (Tributary 3) and its adjacent wetlands on and off the site.

(i) **General Area Conditions:**

Watershed size: **167,690 acres** ; 03050205-01

Drainage area: **Pick List**

Average annual rainfall: **48** inches

Average annual snowfall: **0** inches

(ii) **Physical Characteristics:**

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.

☒ Tributary flows through **2** tributaries before entering TNW.

<sup>3</sup> Supporting documentation is presented in Section III.F.

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

Project waters are **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: **N/A**.

Identify flow route to TNW<sup>5</sup>: **Relevant Reach pRPW flows to Four Hole Swamp, which then flows to the TNW Edisto River.**

Tributary stream order, if known: .

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

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

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

Average width: **10** feet  
Average depth: **2** feet  
Average side slopes: **4:1 (or greater)**.

Primary tributary substrate composition (check all that apply):

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

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

Presence of run/riffle/pool complexes. Explain: **N/A**.

Tributary geometry: **Meandering**.

Tributary gradient (approximate average slope): **0-2** %

(c) Flow:

Tributary provides for: **Perennial flow**

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

Describe flow regime: **Perennial**.

Other information on duration and volume: .

Surface flow is: **Discrete and confined**. Characteristics: **Perennial**.

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

☐ Dye (or other) test performed: .

Tributary has (check all that apply):

<input checked="" type="checkbox"/> Bed and banks	
<input checked="" type="checkbox"/> OHWM <sup>6</sup> (check all indicators that apply):	
<input checked="" type="checkbox"/> clear, natural line impressed on the bank	<input checked="" type="checkbox"/> the presence of litter and debris
<input checked="" type="checkbox"/> changes in the character of soil	<input checked="" type="checkbox"/> destruction of terrestrial vegetation
<input checked="" type="checkbox"/> shelving	<input type="checkbox"/> the presence of wrack line
<input type="checkbox"/> vegetation matted down, bent, or absent	<input checked="" type="checkbox"/> sediment sorting
<input checked="" type="checkbox"/> leaf litter disturbed or washed away	<input checked="" type="checkbox"/> scour
<input checked="" type="checkbox"/> sediment deposition	<input checked="" type="checkbox"/> multiple observed or predicted flow events
<input type="checkbox"/> water staining	<input checked="" type="checkbox"/> abrupt change in plant community
<input type="checkbox"/> other (list):	
<input type="checkbox"/> Discontinuous OHWM. <sup>7</sup> Explain: .	

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

<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.

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

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

<sup>7</sup>Ibid.

- ☐ 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: **water is clear with some tannin staining.**

Identify specific pollutants, if known: .

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

☒ Riparian corridor. Characteristics (type, average width): **The riparian corridor is a mix of forested upland and wetland buffer that shades the tributary and helps to regulate water temperature as well as inputs of dissolved and particulate runoff from surrounding land uses.**

☒ Wetland fringe. Characteristics: **The wetland fringe is primarily forested wetland varying in width from 25 feet to over 300 feet.**

☒ Habitat for:

☐ Federally Listed species. Explain findings: .

☒ Fish/spawn areas. Explain findings: **The main tributary channel supports populations of small native fish species.**

☐ Other environmentally-sensitive species. Explain findings: .

☒ Aquatic/wildlife diversity. Explain findings: **The tributary system provides habitat for fish, amphibians, aquatic reptiles, as well as foraging area for birds and small mammals.**

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: **~400** acres

Wetland type. Explain: **Palustrine forested, scrub-shrub and emergent wetlands include typical bottomland hardwood communities, including cypress and gum trees/shrubs with *Juncus* and fern dominated groundcover.**

Wetland quality. Explain: **Overall wetland quality is high based on density of vegetation, water clarity (relative), and normal hydrologic fluctuation.**

Project wetlands cross or serve as state boundaries. Explain: **N/A**

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent flow**. Explain: **Directly abutting and non-abutting wetlands exchange intermittent flow with the relevant reach based on water elevation stages dictated by seasonal water table elevations and rainfall.**

Surface flow is: **Discrete and confined** , with some wetland connections discrete but unconfined.

Characteristics: .

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

☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

☒ Directly abutting

☒ Not directly abutting

☒ Discrete wetland hydrologic connection. Explain: **Some non-abutting wetland connectivity is via drainage pathways that include purposeful ditch outfalls as well as some discrete outflow which is not confined within ditches.**

☐ 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 **30 (or more)** aerial (straight) miles from TNW.

Flow is from: **Wetland to navigable waters.**

Estimate approximate location of wetland as within the **100 - 500-year** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: **water is clear, good quality.**

Identify specific pollutants, if known: .

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

☒ Riparian buffer. Characteristics (type, average width): **The riparian corridor is a mix of forested upland and wetland buffer that shades the tributary and helps to regulate water temperature as well as inputs of dissolved and particulate runoff from surrounding land uses..**

☒ Vegetation type/percent cover. Explain: **Palustrine forested, scrub-shrub and emergent wetlands include typical bottomland hardwood communities, including cypress and gum trees/shrubs with *Juncus* and fern dominated groundcover..**

☒ Habitat for:

☐ Federally Listed species. Explain findings: .

☒ Fish/spawn areas. Explain findings: **Some of the directly abutting wetlands and those connected by ditching include communities of small fish species (i.e. *Gambusia*).**

☐ Other environmentally-sensitive species. Explain findings: .

☒ Aquatic/wildlife diversity. Explain findings: **The wetland system provides habitat for fish, amphibians, aquatic reptiles, as well as foraging area for birds and small mammals..**

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

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

Approximately ( **466** ) 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>
<b>Wetland 6 (N)</b>	<b>2.07</b>	<b>Wetland 7 (N)</b>	<b>0.35</b>
<b>Wetland 8 (N)</b>	<b>3.64</b>	<b>Wetland 9 (N)</b>	<b>1.97</b>
<b>Wetland 10 (N)</b>	<b>8.36</b>	<b>Wetland 11 (N)</b>	<b>0.52</b>
<b>Wetland 12 (N)</b>	<b>1.21</b>	<b>Wetland 13 (N)</b>	<b>6.48</b>
<b>Wetland 14 (N)</b>	<b>0.18</b>	<b>Wetland 15 (N)</b>	<b>0.53</b>
<b>Wetland 16 (N)</b>	<b>0.13</b>	<b>Wetland 17 (N)</b>	<b>0.84</b>
<b>Wetland 18 (N)</b>	<b>1.51</b>	<b>Wetland 19 (N)</b>	<b>1.56</b>
<b>Wetland 20 (N)</b>	<b>0.43</b>	<b>Wetland 21 (N)</b>	<b>2.28</b>
<b>Wetland 22 (N)</b>	<b>1.83</b>	<b>Wetland 23 (N)</b>	<b>0.28</b>
<b>Wetland 24 (N)</b>	<b>0.12</b>	<b>Wetland 25 (Y)</b>	<b>9.37</b>
<b>Wetland 31 (N)</b>	<b>0.22</b>	<b>Wetland 32 (N)</b>	<b>0.53</b>
<b>Wetland 33 (N)</b>	<b>0.73</b>	<b>Wetland 34 (N)</b>	<b>1.58</b>
<b>Offsite wetlands (Y)</b>	<b>300</b>	<b>Offsite wetlands (N)</b>	<b>100</b>

Summarize overall biological, chemical and physical functions being performed: **The forested, scrub-shrub and emergent palustrine wetlands which are similarly situated and adjacent (both directly abutting and non-abutting) to the pRPW (Tributary 3) are collectively performing functions consistent with the following: Biological – wetlands adjacent to the RPWs include riparian and otherwise bottomland swamp, as well as emergent marsh and depressional wetlands. As such, a broad variety of biological functions are being performed which include providing breeding grounds and shelter for aquatic species, foraging areas for wetland dependent species, and in particular, floodplain wetlands provide important spawning areas for species that inhabit the main channel as adults. These wetlands are essential in providing organic carbon in the form of their collective primary productivity to downstream waters, resulting in the nourishment of the downstream food web. Chemical – Wetlands in the review area are providing the important collective functions of removal of excess nutrients which are contributed by runoff from the surrounding uplands, reducing nitrogen and phosphorus loading downstream, and effectively preventing oxygen depletion that can result from eutrophication. Some of the adjacent wetlands in this review area have been ditched which likely has reduced the effectiveness of some of the wetlands' nutrient removal function. Physical – Wetlands in the review area are collectively performing flow maintenance functions, including retaining runoff inflow and storing flood water temporarily. Flow maintenance results in the reduction of downstream peak flows (discharge and volume), helping to maintain seasonal flow volumes..**

**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 forested, scrub-shrub and emergent palustrine wetlands which are similarly situated and adjacent (both directly abutting and non-abutting) to the RPW (Tributary 3) are collectively performing functions consistent with the following: Biological – wetlands adjacent to this RPW include riparian and otherwise bottomland swamp, as well as emergent marsh and depressional wetlands. As such, a broad variety of biological functions are being performed which include providing breeding grounds and shelter for aquatic species, foraging areas for wetland dependent species, and in particular, floodplain wetlands provide important spawning areas for species that inhabit the main channel as adults. These wetlands are essential in providing organic carbon in the form of their collective primary productivity to downstream waters, resulting in the nourishment of the downstream food web. Chemical – Wetlands in the review area are providing the important collective functions of removal of excess nutrients which are contributed by runoff from the surrounding uplands, reducing nitrogen and phosphorus loading downstream, and effectively preventing oxygen depletion that can result from eutrophication. Some of the adjacent wetlands in this review area have been ditched which likely has reduced the effectiveness of some of the wetlands' nutrient removal function. According to SCDHEC Bureau of Water, Four Hole Swamp and this unnamed tributary which drains to it are on the 303(d) list of impaired waters for certain functions. Nutrient loads that affect established TMDLs arise from ~44% of the drainage being comprised of agricultural pastureland. Water quality monitoring stations on Flea Bite Creek consistently show elevated levels of fecal coliform which reaches the Four Hole Swamp and beyond, ultimately highlighting the importance of wetland water residence time in this watershed and drainage area. Physical – Wetlands in the review area are collectively performing flow maintenance functions, including retaining runoff inflow and storing flood water temporarily. Flow maintenance results in the reduction of downstream peak flows (discharge and volume), helping to maintain seasonal flow volumes. Based on the collective functions described above and their importance to the biological, chemical, and physical integrity of the traditional navigable waters of the Edisto River, this office has determined that there is a Significant Nexus between the review area Relevant Reach and its adjacent wetlands and the downstream TNW.

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

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

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:  
☐ TNWs: linear feet width (ft), Or, acres.  
☐ Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**  
☒ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: **Tributaries 1 and 2 are located on the site. A third tributary (referred to as Tributary 3) is located off the site, but serves as the relevant reach for a collection wetlands documented below and in Section III, C above. All three tributaries are strongly perennial based on their status as USGS mapped blueline streams in the Fleabite Creek system. The regulator who performed the field visit for this determination confirmed the tributaries as perennial based on observed flow, channel morphologies, and sediment sorting.**  
  
**WOUS 1 – WOUS 4 are jurisdictional ditches located on the site, and were determined to be jurisdictional waters based on their respective relatively permanent flow regimes and/or their circumstance as having been excavated within wetlands for part of their length(s).**

- ☐ 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: **1,879.3** linear feet width (ft).

**Tributary 1 = 1,136 linear feet**

**Tributary 2 = 743.3 linear feet**

☒ Other non-wetland waters: **3,540 acres.**

**WOUS 1 = 2,907 linear feet**

**WOUS 2 = 93.5 linear feet**

**WOUS 3 = 172 linear feet**

**WOUS 4 = 367.5 linear feet**

Identify type(s) of waters: **Jurisdictional Ditch.**

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

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

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

☐ Tributary waters:            linear feet            width (ft).

☐ Other non-wetland waters:            acres.

Identify type(s) of waters:            .

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

- ☒ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
- ☒ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **Each of the four wetlands listed in this section are contiguously adjacent to their relevant reach tributaries, specifically meaning that their wetland boundaries are physically/hydrologically joining the tributary OHWM.**
- ☐ Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:            .

Provide acreage estimates for jurisdictional wetlands in the review area:

**Wetland 1 = 6.09 acres**

**Wetland 2 = 0.17 acre**

**Wetland 3 = 13.22 acres**

**Wetland 25 = 9.37**

**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: **These wetlands are adjacent to offsite Tributary 3.**

**Wetland 6 = 2.07 acres**

**Wetland 13 = 6.48 acres**

**Wetland 20 = 0.43 acre**

**Wetland 33 = 0.73 acre**

**Wetland 7 = 0.35 acre**

**Wetland 14 = 0.18 acre**

**Wetland 21 = 2.28 acres**

**Wetland 34 = 1.58 acres**

**Wetland 8 = 3.64 acres**

**Wetland 15 = 0.53 acre**

**Wetland 22 = 1.83 acres**

**Wetland 9 = 1.97 acres**

**Wetland 16 = 0.13 acre**

**Wetland 23 = 0.28 acre**

**Wetland 10 = 8.36 acres**

**Wetland 17 = 0.84 acre**

**Wetland 24 = 0.12 acre**

**Total = 66.2 acres**

**Wetland 11 = 0.52 acre**

**Wetland 18 = 1.51 acres**

**Wetland 31 = 0.22 acre**

**Wetland 12 = 1.21 acres**

**Wetland 19 = 1.56 acres**

**Wetland 32 = 0.53 acre**

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

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

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

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

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

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

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

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

**Explain:** Total = 1.68 acres. Jurisdictional Pond 1 (0.52 acre on the site) was created by impounding the main channel of a perennial RPW located just off the site (Wetland 1 is adjacent to this tributary). Flow through this blue-line tributary continues strongly downstream and maintains the perennial flow regime of the original tributary. Jurisdictional Pond 2 (1.16 acres) was created by excavating from Wetland 28, which remains adjacent to, but not directly abutting a perennial RPW that begins at the downstream extent of a wetland system at the site's southeastern boundary.

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

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

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

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

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

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

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

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

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

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

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

**SECTION IV: DATA SOURCES.**

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

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: **Land Management Group.**  
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.  
☒ Office concurs with data sheets/delineation report. (Office concurs with report conclusions)  
☐ 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.

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



- ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: **7.5 Minute Quad Elloree.**
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **ESRI Soils Layer Calhoun County.**
- ☒ National wetlands inventory map(s). Cite name: **ESRI Digital NWI Calhoun County.** ☐ State/Local wetland inventory map(s): .
- ☐ FEMA/FIRM maps: .
- ☐ 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): **2016and 2017 GIS World Imagery.**  
or ☒ Other (Name & Date): **Site photographs.**
- ☐ 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 jurisdictional determination basis form documents the jurisdictional status of three perennial RPW tributaries (with two in-stream impoundments), 27 wetlands which are adjacent to these and to an offsite perennial RPW. In addition, this form documents the jurisdictional status of four jurisdictional ditch systems based on their relatively permanent flow regimes.

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

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

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):** March 20, 2020

**B. DISTRICT OFFICE, FILE NUMBER, FILE NAME:** JD Form 2 of 3; SAC-2018-01806 Ganymede Solar, LLC

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

State: South Carolina County/parish/borough: Calhoun County City: Elloree  
Center coordinates of site (lat/long in degree decimal format): Lat. 33.5607564459861°, Long. -80.6622294854367 °.  
Universal Transverse Mercator:

Name of nearest waterbody: **Lake Marion (via Halfway Swamp Creek)**

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Lake Marion (to Santee River)

Name of watershed or Hydrologic Unit Code (HUC): 03050111-01

☒ 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: **March 18, 2020**

☒ Field Determination. Date(s): **July 24, 2019**

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

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

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

- ☐ TNWs, including territorial seas
- ☐ Wetlands adjacent to TNWs
- ☐ Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs
- ☐ Non-RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- ☒ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- ☒ Impoundments of jurisdictional waters
- ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: linear feet: width (ft) and/or **1.16** acres.

Wetlands: **4.85** acres [Wetlands: 4 (2.79 ac), 5 (0.4 ac), 26 (0.55 ac), 27 (0.09 ac), 28 (0.11 ac), 29 (0.72 ac), 30 (0.19 ac)]

**c. Limits (boundaries) of jurisdiction based on:** **1987 Delineation Manual, Established by OHWM.**

Elevation of established OHWM (if known): .

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

☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.  
Explain: **A system of ditches on the site was evaluated and determined not jurisdictional. These ditches were excavated**

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

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

entirely from uplands, do not carry relatively permanent flow, and do not meet the definition or description of tributary. While not jurisdictional themselves, these ditches do serve as hydrologic connections between on-site wetlands and the downstream waters. Thus these ditches are relevant factors in the adjacency of wetlands documented on this form. All ditches on the site are depicted and labeled on the drawing which is part of this JD.

### SECTION III: CWA ANALYSIS

#### **A. TNWs AND WETLANDS ADJACENT TO TNWs**

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

##### **1. TNW**

Identify TNW: .

Summarize rationale supporting determination: .

##### **2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”: .

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

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

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

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

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

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

Wetlands documented in Sections B and C of this Form are adjacent to and part of the Santee River drainage which includes Lake Marion.

###### **(i) General Area Conditions:**

Watershed size: **351,157 acres** ; 03050111-01

Drainage area: **Pick List**

Average annual rainfall: **48 inches**

Average annual snowfall: **0 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 **2-5** river miles from TNW.

Project waters are **1-2** river miles from RPW.

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

Project waters are **1-2** aerial (straight) miles from TNW.  
Project waters are **2-5** aerial (straight) miles from RPW.  
Project waters cross or serve as state boundaries. Explain: **N/A**.

Identify flow route to TNW<sup>5</sup>: **Flow from on-site wetlands is via non-jurisdictional ditches to pRPW Halfway Swamp Creek, and then to TNW Lake Marion.**

Tributary stream order, if known: .

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

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

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

Average width: **20** feet

Average depth: **3** feet

Average side slopes: **4:1 (or greater)**.

Primary tributary substrate composition (check all that apply):

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

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

Presence of run/riffle/pool complexes. Explain: .

Tributary geometry: **Meandering**.

Tributary gradient (approximate average slope): **0-2** %

(c) Flow:

Tributary provides for: **Perennial flow**

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

Describe flow regime: **Perennial**.

Other information on duration and volume: .

Surface flow is: **Discrete and confined**. Characteristics: .

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

☐ Dye (or other) test performed: .

Tributary has (check all that apply):

<input checked="" type="checkbox"/> Bed and banks	
<input checked="" type="checkbox"/> OHWM <sup>6</sup> (check all indicators that apply):	
<input checked="" type="checkbox"/> clear, natural line impressed on the bank	<input checked="" type="checkbox"/> the presence of litter and debris
<input checked="" type="checkbox"/> changes in the character of soil	<input checked="" type="checkbox"/> destruction of terrestrial vegetation
<input checked="" type="checkbox"/> shelving	<input checked="" type="checkbox"/> the presence of wrack line
<input checked="" type="checkbox"/> vegetation matted down, bent, or absent	<input checked="" type="checkbox"/> sediment sorting
<input type="checkbox"/> leaf litter disturbed or washed away	<input checked="" type="checkbox"/> scour
<input checked="" type="checkbox"/> sediment deposition	<input checked="" type="checkbox"/> multiple observed or predicted flow events
<input type="checkbox"/> water staining	<input checked="" type="checkbox"/> abrupt change in plant community
<input type="checkbox"/> other (list):	
<input type="checkbox"/> Discontinuous OHWM. <sup>7</sup> Explain: .	

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

<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):	

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

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

<sup>7</sup>Ibid.

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).  
Explain: .  
Identify specific pollutants, if known: .

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

- ☒ Riparian corridor. Characteristics (type, average width): **Forested buffer along both banks.**
- ☒ Wetland fringe. Characteristics: **Extensive wetland fringe along some portions.**
- ☒ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☒ Aquatic/wildlife diversity. Explain findings: **Tributary supports abundant small and medium-sized fish populations, habitat for amphibians and reptiles, as well as forage habitat for birds and mammals.**

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: **300-400** acres  
Wetland type. Explain: **Forested and non-forested.**  
Wetland quality. Explain: .  
Project wetlands cross or serve as state boundaries. Explain: **N/A.**

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent flow**. Explain: **Non-abutting wetlands provide flow to the tributary seasonally and throughout the year during higher stages of water elevation.**

Surface flow is: **Discrete and confined**

Characteristics: **Non-abutting wetlands are connected to the tributary system by excavated ditches.**

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

(c) Wetland Adjacency Determination with Non-TNW:

- ☒ Directly abutting
- ☒ Not directly abutting
  - ☒ Discrete wetland hydrologic connection. Explain: **Ditch connections establish non-abutting adjacency.**
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **2-5** river miles from TNW.  
Project waters are **2-5** aerial (straight) miles from TNW.  
Flow is from: **Wetland to navigable waters**.  
Estimate approximate location of wetland as within the **100 - 500-year** floodplain.

(ii) **Chemical Characteristics:**

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

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

- ☒ Riparian buffer. Characteristics (type, average width): **Some wetlands include vegetated buffers.**
- ☒ Vegetation type/percent cover. Explain: **Wetland settings include both pine and hardwood forest cover, as well as some maintained pasture.**
- ☒ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☒ Aquatic/wildlife diversity. Explain findings: **Wetlands support populations of small fish species, amphibians and reptiles, and also provide foraging habitat for birds and small mammals.**

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

All wetland(s) being considered in the cumulative analysis: **25-30**  
Approximately ( **404.85** ) 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>
<b>30 wetlands (Y)</b>	<b>400</b>	<b>Wetland 29 (N)</b>	<b>0.72</b>
<b>Wetland 4 (N)</b>	<b>2.79</b>	<b>Wetland 30 (N)</b>	<b>0.19</b>
<b>Wetland 5 (N)</b>	<b>0.4</b>		
<b>Wetland 26 (N)</b>	<b>0.55</b>		
<b>Wetland 27 (N)</b>	<b>0.09</b>		
<b>Wetland 28 (N)</b>	<b>0.11</b>		

Summarize overall biological, chemical and physical functions being performed: **The forested and emergent palustrine wetlands which are similarly situated and adjacent (both directly abutting and non-abutting) to the pRPW are collectively performing functions consistent with the following:** Biological – wetlands adjacent to the pRPW include riparian and otherwise bottomland swamp, as well as emergent marsh and depressional wetlands situated in hardwood and pine plantations. As such, a broad variety of biological functions are being performed which include providing breeding grounds and shelter for aquatic species, foraging areas for wetland dependent species, and in particular, floodplain wetlands provide important spawning areas for species that inhabit the main channel as adults. These wetlands are essential in providing organic carbon in the form of their collective primary productivity to downstream waters, resulting in the nourishment of the downstream food web. Chemical – Wetlands in the review area are providing the important collective functions of removal of excess nutrients which are contributed by runoff from the surrounding uplands, reducing nitrogen and phosphorus loading downstream, and effectively preventing oxygen depletion that can result from eutrophication. Some of the adjacent wetlands in this review area have been connected by ditching, which likely increases the speed of downstream transport and thus reduces the effectiveness of some of the wetlands' nutrient removal function. Physical – Wetlands in the review area are collectively performing flow maintenance functions, including retaining runoff inflow and storing flood water temporarily. Flow maintenance results in the reduction of downstream peak flows (discharge and volume), helping to maintain seasonal flow volumes.

### 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 forested and emergent palustrine wetlands which are similarly situated and adjacent (both directly abutting and non-abutting) to the pRPW are collectively performing functions consistent with the following: Biological – wetlands adjacent to the pRPW include riparian and otherwise bottomland swamp, as well as emergent marsh and depressional wetlands situated in hardwood and pine plantations. As such, a broad variety of biological functions are being performed which include providing breeding grounds and shelter for aquatic species, foraging areas for wetland dependent species, and in particular, floodplain wetlands provide important spawning areas for species that inhabit the main channel as adults. These wetlands are essential in providing organic carbon in the form of their collective primary productivity to downstream waters, resulting in the nourishment of the downstream food web. Chemical – Wetlands in the review area are providing the important collective functions of removal of excess nutrients which are contributed by runoff from the surrounding uplands, reducing nitrogen and phosphorus loading downstream, and effectively preventing oxygen depletion that can result from eutrophication. Some of the adjacent wetlands in this review area have been connected by ditching, which likely increases the speed of downstream transport and thus reduces the effectiveness of some of the wetlands' nutrient removal function. According to SCDHEC Bureau of Water, Halfway Swamp Creek and its tributaries are on the 303(d) list of impaired waters. Nutrient loads that affect established TMDLs arise from equal portions of agricultural cropland and urban uses. Two water quality monitoring stations on Halfway Swamp Creek consistently show elevated levels of fecal coliform which reaches the Lake Marion, ultimately highlighting the importance of wetland water residence time in this watershed and drainage area. Physical – Wetlands in the review area are collectively performing flow maintenance functions, including retaining runoff inflow and storing flood water temporarily. Flow maintenance results in the reduction of downstream peak flows (discharge and volume), helping to maintain seasonal flow volumes. Based on the collective functions described above and their importance to the biological, chemical, and physical integrity of the traditional navigable waters of Lake Marion and the Santee River downstream, this office has determined that there is a Significant Nexus between the review area Relevant Reach and its adjacent wetlands and the downstream TNW.

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

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

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

- ☐ TNWs: linear feet width (ft), Or, acres.  
☐ Wetlands adjacent to TNWs: acres.

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

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

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

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

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

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

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

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

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

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

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

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

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

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

Provide acreage estimates for jurisdictional wetlands in the review area: **4.85** acres. [Wetlands: **4 (2.79 ac)**, **5 (0.4 ac)**, **26 (0.55 ac)**, **27 (0.09 ac)**, **28 (0.11 ac)**, **29 (0.72 ac)**, **30 (0.19 ac)**]

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

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

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

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

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

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

**Explain:**

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

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

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

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

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

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

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

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

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

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

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



☐ 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.

**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):**

- B. ADDITIONAL COMMENTS TO SUPPORT JD:** This jurisdictional determination basis form documents the jurisdictional status of seven wetlands which are adjacent, but not directly abutting the perennial RPW Halfway Swamp Creek which flows to the TNW Lake Marion.

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

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

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):** March 20, 2020

**B. DISTRICT OFFICE, FILE NUMBER, FILE NAME:** JD Form 3 of 3; SAC-2018-01806 Ganymede Solar, LLC

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

State: South Carolina County/parish/borough: Calhoun County City: Elloree  
Center coordinates of site (lat/long in degree decimal format): Lat. 33.5607564459861°, Long. -80.6622294854367 °.  
Universal Transverse Mercator:

Name of nearest waterbody: **Flea Bite Creek (tributary to Four Hole Swamp)**

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **N/A**

Name of watershed or Hydrologic Unit Code (HUC): **03050206/03050111**

☒ 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: **March 18, 2020**

☒ Field Determination. Date(s): **July 24, 2019**

**SECTION II: SUMMARY OF FINDINGS**

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

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

☐ Waters subject to the ebb and flow of the tide.

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

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

There **Are no** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

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

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

- ☐ TNWs, including territorial seas
- ☐ Wetlands adjacent to TNWs
- ☐ Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs
- ☐ Non-RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- ☐ Impoundments of jurisdictional waters
- ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: linear feet: width (ft) and/or acres.

Wetlands: acres.

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

Elevation of established OHWM (if known): .

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

☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.  
Explain: Non-jurisdictional isolated wetlands include ten wetlands totaling 10.59 acres. These wetlands are identified as:

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

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.ten

NJD 3 (2.89 acres)  
 NJD 4 (1.12 acres)  
 NJD 5 (0.14 acre)  
 NJD 6 (0.99 acre)  
 NJD 7 (0.42 acre)  
 NJD 8 (0.27 acre)  
 NJD 12 (0.89 acre)  
 NJD 15 (2.53 acres)  
 NJD 16 (0.92 acre)  
 NJD 17 (0.42 acre)

These wetlands each are comprised of geographically distinct polygonal boundaries which are not contiguously abutting other jurisdictional waters, and exhibit no other adjacency factors that would support bordering or neighboring adjacency. Most conspicuously, these seven wetlands have no type of hydrologic connectivity to jurisdictional waters. On this basis, the 10.59 acres of these seven freshwater wetlands are isolated and non-jurisdictional.

### SECTION III: CWA ANALYSIS

#### **A. TNWs AND WETLANDS ADJACENT TO TNWs**

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

##### **1. TNW**

Identify TNW: .

Summarize rationale supporting determination: .

##### **2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”: .

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

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

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

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

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

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

###### **(i) General Area Conditions:**

Watershed size: **Pick List** ;

Drainage area: **Pick List**

Average annual rainfall: inches

Average annual snowfall: inches

<sup>4</sup> 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 **Pick List** tributaries before entering TNW.

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

Identify flow route to TNW<sup>5</sup>: .  
Tributary stream order, if known: .

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

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

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

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

Primary tributary substrate composition (check all that apply):

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

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

(c) Flow:

Tributary provides for: **Pick List**  
Estimate average number of flow events in review area/year: **Pick List**

Describe flow regime: .  
Other information on duration and volume: .

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

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

Tributary has (check all that apply):

- |   |   |
|---|---|
| <input type="checkbox"/> Bed and banks  |   |
| <input type="checkbox"/> OHWM <sup>6</sup> (check all indicators that apply): |   |
| <input 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 type="checkbox"/> the presence of wrack line                 |
| <input type="checkbox"/> vegetation matted down, bent, or absent              | <input type="checkbox"/> sediment sorting                           |
| <input 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):  |   |
| <input type="checkbox"/> Discontinuous OHWM. <sup>7</sup> Explain: .          |   |

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

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

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

<sup>7</sup> Ibid.

- |  |  |
|--|--|
| <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: .

Identify specific pollutants, if known: .

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

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

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

**(i) Physical Characteristics:**

**(a) General Wetland Characteristics:**

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

**(b) General Flow Relationship with Non-TNW:**

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

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

☐ Dye (or other) test performed: .

**(c) Wetland Adjacency Determination with Non-TNW:**

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

**(d) Proximity (Relationship) to TNW**

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

**(ii) Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

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





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

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

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

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

For each wetland, specify the following:

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

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

**C. SIGNIFICANT NEXUS DETERMINATION**

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

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

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

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

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

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

.

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

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

- ☐ TNWs: linear feet width (ft), Or, acres.
- ☐ Wetlands adjacent to TNWs: acres.

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

- ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
- ☐ 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<sup>8</sup> that flow directly or indirectly into TNWs.**

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

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

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

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

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

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

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

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

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

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

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

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

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

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

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

**Explain:**

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

- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.

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

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

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

- ☐ Interstate isolated waters. Explain: .
- ☐ Other factors. Explain: .

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

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

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

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

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

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

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource: .
- ☒ Wetlands: **10.59** 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: **Land Management Group.**
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.  
☒ Office concurs with data sheets/delineation report. (Office concurs with report conclusions)  
☐ 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.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: **7.5 Minute Quad Elloree.**
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **ESRI Soils Layer Calhoun County.**
- ☒ National wetlands inventory map(s). Cite name: **ESRI Digital NWI Calhoun County.**  
☐ State/Local wetland inventory map(s): .
- ☐ FEMA/FIRM maps: .
- ☐ 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): **2016 and 2017 GIS World Imagery.**  
or ☒ Other (Name & Date): **Site photographs.**
- ☐ 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: Non-jurisdictional isolated wetlands include ten wetlands totaling 10.59 acres. These wetlands are identified as:**  
NJD 3 (2.89 acres)  
NJD 4 (1.12 acres)



NJD 5 (0.14 acre)  
NJD 6 (0.99 acre)  
NJD 7 (0.42 acre)  
NJD 8 (0.27 acre)  
NJD 12 (0.89 acre)  
NJD 15 (2.53 acres)  
NJD 16 (0.92 acre)  
NJD 17 (0.42 acre)

These wetlands each are comprised of geographically distinct polygonal boundaries which are not contiguously abutting other jurisdictional waters, and exhibit no other adjacency factors that would support bordering or neighboring adjacency. Most conspicuously, these seven wetlands have no type of hydrologic connectivity to jurisdictional waters. On this basis, the 10.59 acres of these seven freshwater wetlands are isolated and non-jurisdictional.