



DEPARTMENT OF THE ARMY
NASHVILLE DISTRICT, CORPS OF ENGINEERS
WEST REGULATORY FIELD OFFICE
2424 DANVILLE ROAD SW, SUITE-N
DECATUR, AL 35603

January 27, 2020

SUBJECT: LRN-2019-00805, Community Energy Solar, LLC.; Approved Jurisdictional Determination, Red River Watershed, Tennessee River Mile 241.6L Russellville, Logan County, Kentucky

Community Energy Solar, LLC.
Mr. Christopher Killenberg
151 East Rosemary Street, Suite 202
Chapel Hill, North Carolina 27514

Dear Mr. Killenberg:

This letter is in regard to your report entitled "Russellville Solar, Watermelon Road, Russellville, Logan County, Kentucky, July 31, 2019" (JD Report) which documented potential waters of the United States on a review area of approximately 1600 acres. This project has been assigned File No. LRN-2019-00805, please refer to this number in any future correspondence.

The U.S. Army Corps of Engineers (USACE) has regulatory responsibilities pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344) and Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403). Under Section 10, the USACE regulates any work in, or affecting, navigable waters of the U.S. It appears the review area does not include navigable waters of the U.S. and would not be subject to the provisions of Section 10. Under Section 404, the USACE regulates the discharge of dredged and/or fill material into waters of the U.S., including wetlands.

Enclosed is an approved jurisdictional determination for aquatic resources identified as Stream 11, Stream 12, Stream 13, Wetland A and Wetland H, determined to be jurisdictional, and Streams 1-5, 10 and 14, Wetlands B-G and J-N, Ponds 1-15, that were determined not jurisdictional. The rationale for this determination is provided in the attached Approved Jurisdictional Determination forms. The approved jurisdictional determination expires five years from the date of this letter, unless new information warrants revision of the determination before the expiration date, or the District Engineer identifies specific geographic areas with rapidly changing environmental conditions that merit re-verification on a more frequent basis. This delineation/determination has been conducted to identify the limits of COE's Clean Water Act jurisdiction for the particular site identified in this request. This delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work. This approved jurisdictional determination is only valid for the review area as shown on the map labeled "LRN-2019-00508, Figure 1"

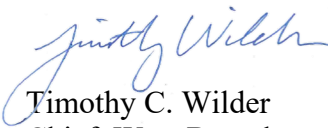
If you object to this decision, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeals Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this decision you must submit a completed RFA form to the Great Lakes and Ohio River Division, Division Office at the following address:

LRD Appeals Officer
U.S. Army Corps of Engineers
Great Lakes and Ohio River Division
550 Main Street, Room 10524
Cincinnati, OH 45202-3222
TEL (513) 684-2699; FAX (513) 684-2460

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division Office within 60 days of the date listed on the RFA form. **It is not necessary to submit an RFA form to the Division Office if you do not object to the decision in this letter.**

We appreciate your awareness of the USACE regulatory program. If you have any questions, you may contact me or Gary Davis at (270) 702-1312 or by e-mail at gary.l.davis@usace.army.mil.

Sincerely,



Timothy C. Wilder
Chief, West Branch
Regulatory Division

Enclosures:

Notification of Administrative Appeal Options and Process and Request for Appeal Form
AJD Forms
LRN-2019-00805, Figures 1-3 (12 pages)

Electronic Copies Furnished:

Mr. Scott West, Terracon, Inc.

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Community Energy Solar, LLC	File Number: LRN-2019-00805	Date: 01/27/2020
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/CECW/Pages/reg_materials.aspx or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Gary Davis
Nashville District, U.S. Army Corps of Engineers
Regulatory Branch
3701 Bell Road
Nashville, Tennessee 37214
(270) 702-1312; gary.l.davis@usace.army.mil

If you only have questions regarding the appeal process you may also contact:

Jacob Siegrist
Regulatory Appeals Review Officer
US Army Corps of Engineers
Great Lakes and Ohio River Division
550 Main Street, Room 10524
Cincinnati, Ohio 45202-3222
Phone: (513) 684-2699 Fax: (513) 684-2460

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.

Date:

Telephone number:

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): 01/27/2020

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

Nashville District
Community Energy Solar, Inc.
File No. LRN-2019-00805

C. PROJECT LOCATION AND BACKGROUND INFORMATION: The AJD review area consists of multiple properties containing approximately 1600 acres of land located southwest of Russellville, Kentucky situated between Watermelon and Joe Montgomery Roads. The project location is divided to the point where the east and west sections drain to two different watersheds. Approximately 98 percent of the review area is used in agricultural production and the remaining in scattered forested areas. The review area is located in an area known for having karst features. Multiple sinkholes were observed within project boundaries during the site visit. This AJD form references all waters found within the boundaries of the review area, but discusses only Stream 11 that flows indirectly into Pleasant Grove Creek which flows directly into Red River, a Traditional Navigable Water (TNW). USACE completed individual AJD forms for each water determined to be a water of the U.S. (WOUS). The aquatic resources identified under Section II(B)(2) are not WOUS and are included on each AJD form for this project.

State: Kentucky County/parish/borough: Logan City: Russellville
Center coordinates of site (lat/long in degree decimal format): Latitude: 36.793005°; Longitude -86.937504°
Universal Transverse Mercator: 16
Name of nearest waterbody: Whippoorwill Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Red River and Whippoorwill Creek
Name of watershed or Hydrologic Unit Code (HUC): 051302060205 (HUC 12) and 051302060303 (HUC 12)
 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: 11/20/2019
 Field Determination. Date(s): 10/10/2019

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

1. Waters of the U.S.

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

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

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

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

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

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

Wetlands:

NOTE:

Each water determined to be a water of the U.S. (WOUS) within the AJD review area are listed below. Separate AJD forms were completed for each one so that the analysis in "Section III: CWA Analysis" is documented for USACE's jurisdictional determination for each water. This particular form only applies to Stream 11.

Non-wetland waters:

Stream 11 (Non-RPW) Ephemeral, 778 linear feet: 3 width (ft) and/or 0.05 acre

Stream 12 (Non-RPW) Ephemeral, 1,466 linear feet: 5 width (ft) and/or 0.17 acre

Stream 13 (Non-RPW) Ephemeral, 685 linear feet: 3 width (ft) and/or 0.05 acre

Wetlands:

Wetland A - PFO, 0.95 acre

Wetland H - PSS/PEM 0.47 acre

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

Elevation of established OHWM (if known):

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

- Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be non-jurisdictional. Explain: **The AJD review area located near Russellville, Kentucky is approximately 1600 acres and situated in an area known for having karst features. The aquatic resources listed below do not drain directly or indirectly into any WOUS and do not support a link to interstate or foreign commerce. The aquatic resources flow into karst features and were determined to be non-jurisdictional because of no known hydrologic connection to downstream WOUS. The waters listed below are geographically isolated and therefore are not tributaries of navigable waters.**

Stream 1 (Non-RPW, Ephemeral, 207 linear feet: 3 width (ft) and/or 0.014 acre) located at the southwestern boundary carries water flow to Wetland B (PEM, 1.11 acres). These aquatic features have no known hydrologic connection to WOUS.

Stream 2 (RPW, Intermittent, 4,599 linear feet: 11 width (ft) and/or 1.16 acres) located on the northwestern section of the property flows in a westerly direction out of the review area into a karst feature. This aquatic feature has no known hydrologic connection to WOUS.

Stream 3 (RPW, Intermittent, 1,537 linear feet: 5 width (ft) and/or 0.18 acre) located on the northwestern section of the property flows in a northwesterly direction into Stream 2 which flows out of the review area into a karst feature. This aquatic feature has no known hydrologic connection to WOUS.

Stream 4 (Non-RPW, Ephemeral, 186 linear feet: 3 width (ft) and/or 0.012 acre) flows in a northerly direction from Pond 7 (PUB, 0.81 acre) into Wetland F (PFO, 1.84 acres) which drains into a large karst feature. These aquatic features have no known hydrologic connection to WOUS.

Stream 5 (Non-RPW, Ephemeral, 365 linear feet: 5 width (ft) and/or 0.041 acre) flows directly into a large karst feature. This aquatic feature has no known hydrologic connection to WOUS.

Stream 10 (Non-RPW, Ephemeral, 171 linear feet: 3 width (ft) and/or 0.011 acre) flows in a northwesterly direction from Pond 8 (PUB, 0.23 acre) into Wetland F which drains into a large karst feature. These aquatic features have no known hydrologic connection to WOUS.

Stream 14 (Non-RPW, Ephemeral, 1,109 linear feet: 3 width (ft) and/or 0.076 acre) with abutting wetland – Wetland L, (PEM, 0.74 acre) located in the northwestern section of the property, flows in a northwesterly direction into Stream 2 that flows out of the review area boundaries and into a karst feature. These aquatic features have no known hydrologic connection to WOUS.

Wetland C (PEM, 0.88 acre) abuts Pond 6 (PUB, 0.25 acre). These aquatic features have no known hydrologic connection to WOUS.

Wetland D (PEM, 0.09 acre). This aquatic features has no known hydrologic connection to WOUS.

Wetland E (PEM, 0.14 acre). This aquatic feature was determined to be adjacent to Stream 2 that flows out of the review area and into a karst feature. These aquatic features have no known hydrologic connection to WOUS.

Wetland G (PEM, 0.18 acre). This aquatic feature adjacent to Pond 8 has no known hydrologic connection to WOUS.

Wetland J (PFO, 3.27 acres), encompasses Pond 11 (PUB, 0.26 acre). The topography of the area is relatively flat with faint water flow patterns observed adjacent to Wetland J/Pond 11 that suggests water flow would migrate toward the karst feature located southeast of the aquatic features. Review of the area between Joe Montgomery Road and the aquatic resources did not provide any physical indicators that water flows to the roadside ditch. The 6" corrugated metal pipe located underneath the highway carries very little flow. This aquatic feature has no known hydrologic connection to WOUS.

Wetland K (PFO, 1.22 acres). The topography of the area is relatively flat and faint water flow patterns were observed that suggests water flow would migrate to the karst feature located to the west of the aquatic feature. This aquatic feature has no known hydrologic connection to WOUS.

³ Supporting documentation is presented in Section III.F.

Wetland M (PEM, 0.05 acre), is a small wetland located approximately 100 feet north of a karst feature.

This aquatic feature has no known hydrologic connection to WOUS.

Wetland N (PFO, 0.30 acre), is a depressional wetland that has the appearance of a karst feature. No water flow patterns were observed outside the delineated boundaries. This aquatic feature has no known hydrologic connection to WOUS.

Pond 1 (PUB, 0.92 acre), is an open water feature constructed prior to 1980 for agricultural purposes. This aquatic feature has no known hydrologic connection to WOUS.

Pond 2 (PUB, 0.70 acre) is an open water feature constructed prior to 1955 for agricultural purposes. This aquatic feature has no known hydrologic connection to WOUS.

Pond 3(PUB, 0.42 acre) is an open water feature constructed prior to 1980 for agricultural purposes. This aquatic feature has no known hydrologic connection to WOUS.

Pond 4 (PUB, 0.46 acre) is an open water feature constructed prior to 1955 for agricultural purposes. This aquatic feature has no known hydrologic connection to WOUS.

Pond 5 (PUB, 0.70 acre) is an open water feature constructed prior to 1955 for agricultural purposes. This aquatic feature has no known hydrologic connection to WOUS.

Pond 6 (PUB, 0.25 acre) is an open water aquatic feature constructed prior to 1955. This aquatic feature has no known hydrologic connection to WOUS.

Pond 7 (PUB, 0.81 acre) is an open water aquatic feature constructed prior to 1980. This aquatic feature has no known hydrologic connection to WOUS.

Pond 8 (PUB, 0.23 acre) is an open water aquatic feature constructed prior to 1980. This aquatic feature has no known hydrologic connection to WOUS.

Pond 9 (PUB, 0.70 acre) is a constructed open water aquatic feature constructed before 1981 with approximately 6 feet of freeboard and no discharge outlet identified. This aquatic feature has no known hydrologic connection to WOUS.

Pond 10 (PUB, 0.31 acre) is an excavated open water aquatic feature constructed prior to 1955. This aquatic feature has no known hydrologic connection to WOUS.

Pond 11 (PUB, 0.26 acre) is an open water aquatic feature constructed prior to 1955. This aquatic feature has no known hydrologic connection to WOUS.

Pond 12 (PUB, 0.05 acre) is an open water aquatic feature constructed prior to 1955. This aquatic feature has no known hydrologic connection to WOUS.

Pond 13 (PUB, 0.29 acre) is an open water aquatic feature constructed prior to 1950. This aquatic feature has no known hydrologic connection to WOUS.

Pond 14 (PUB, 0.35 acre) is an open water aquatic feature constructed prior to 1980. This aquatic feature has no known hydrologic connection to WOUS.

Pond 15 (PUB, 0.74 acre) is an open water aquatic feature constructed prior to 1998. This aquatic feature has no known hydrologic connection to WOUS.

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

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

Stream 11

(i) General Area Conditions:

Watershed size: 15,584 Acres
Drainage area: 75 Acres
Average annual rainfall: 50.66 inches
Average annual snowfall: 6 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

- Tributary flows directly into TNW.
 Tributary flows through 2 tributaries before entering TNW.

Project waters are 5-10 river miles from TNW.
Project waters are 5-10 river miles from RPW.
Project waters are 5-10 aerial (straight) miles from TNW.
Project waters are 5-10 aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: N/A.
Identify flow route to TNW⁵: Stream 11 flows through the review area which flows into an unnamed tributary, which flows into Pleasant Grove Creek which flows into Red River, a TNW .
Tributary stream order, if known: .

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

Tributary is: Natural
 Artificial (man-made). Explain: .
 Manipulated (man-altered). Explain: Tributary has been manipulated by agricultural practices.

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

Average width: 3 feet
Average depth: 24 inches
Average side slopes: **Vertical 1:1.**

Primary tributary substrate composition (check all that apply):

<input checked="" type="checkbox"/> Silts	<input type="checkbox"/> Sands	<input type="checkbox"/> Concrete
<input type="checkbox"/> Cobbles	<input checked="" 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: The tributary is stable due to slope, ephemeral flow, and riparian corridor.

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

Tributary geometry: **Relatively Straight**

Tributary gradient (approximate average slope): 2 %

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

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

- (c) Flow:
 Tributary provides for: **Ephemeral flow**
 Estimate average number of flow events in review area/year: **20 (or greater)**
 Describe flow regime: Response to rainfall.
 Other information on duration and volume: .

Surface flow is: **Confined**. Characteristics: .

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

Tributary has (check all that apply):

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

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

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

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: The color of the water would be relatively clear depending on the time of year (i.e. crop planting season) and amount of rainfall. The narrow riparian zone would reduce the amount of silt carried during rain events from the adjacent farm field. The tributary receives water from Streams 11 and 12 and would transport any material and/or pollutants downstream.

Identify specific pollutants, if known: Pollutants would consist of substances leached from Joe Montgomery Road, silts, fertilizers, and/or pesticides received by runoff from adjacent agricultural fields.

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

- Riparian corridor. Characteristics (type, average width): The riparian corridor consists of broadleaf trees and extends approximately 25 - 30 feet from top of each bank.
- 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: The riparian corridor would provide habitat for various terrestrial species, such as deer, birds, raccoons, opossums, lizards, etc.

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: N/A acres
 Wetland type. Explain: N/A
 Wetland quality. Explain: N/A.

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

⁷Ibid.

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

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List** Explain: N/A.

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 floodplain. **Pick List**

(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: **0**

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

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed: The 0.47 acre wetland is situated at the head of Stream 11 consisting emergent and scrub-shrub vegetation that has the potential to provide habitat for terrestrial species. The wetland would provide limited flood storage during rainfall events and assist in nutrient cycling or sequestration of pollutants from the adjacent agricultural field.

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: Stream 11 is adjacent to an agricultural field and the application of fertilizers and pesticides, as well as the loss of soil during rain events would impact the stream. The tributary has the potential to carry pollutants, as well as organic carbon to support foodwebs downstream during rain events. The tributary and narrow riparian corridor provides habitat to terrestrial species. The relevant reach extends 778 linear feet from the eastern review area boundary upstream past the confluence with Stream 12 (Reference Figure 2 Sheet 5 of 5). The stream adjacent to agricultural fields and receiving water from Streams 12 and 13 could transport pollutants and organic carbon downstream and potentially affect the chemical, physical and biological integrity of Red River, a TNW located approximately 8 miles downstream.
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:

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-RPWs⁸ that flow directly or indirectly into TNWs.**
 Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

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

- Tributary waters: linear feet width (ft).

Stream 11 (Non-RPW) Ephemeral, 778 linear feet: 3 width (ft) and/or 0.05 acre

⁸See Footnote # 3.

- 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.⁹

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

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

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

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

Identify water body and summarize rationale supporting determination: .

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

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

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

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

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

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 - Prior to the Jan 2001 Supreme Court decision in “*SWANCC*,” the review area would have been regulated based solely on the “Migratory Bird Rule” (MBR).
- Waters do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction. Explain: .
- Other: (explain, if not covered above): **See SECTION II(B)(2) for non-wetland aquatic features that were identified and found not to flow directly or indirectly into a TNW or other WOUS.**

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. Reference JD report titled, “Wetland Delineation Report, Russellville Solar, Watermelon Road, Russellville, Logan County, Kentucky” dated July 31, 2019, prepared by Terracon Consultants, Inc.
- Data sheets prepared/submitted by or on behalf of the applicant/consultant. Reference JD report titled, “Wetland Delineation Report, Russellville Solar, Watermelon Road, Russellville, Logan County, Kentucky” dated July 31, 2019, prepared by Terracon Consultants, Inc.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters’ study: .
- U.S. Geological Survey Hydrologic Atlas: .
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: Reference JD report titled, “Wetland Delineation Report, Russellville Solar, Watermelon Road, Russellville, Logan County, Kentucky” dated July 31, 2019, prepared by Terracon Consultants, Inc.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Reference JD report titled, “Wetland Delineation Report, Russellville Solar, Watermelon Road, Russellville, Logan County, Kentucky” dated July 31, 2019, prepared by Terracon Consultants, Inc.
- National wetlands inventory map(s). Cite name: Reference JD report titled, “Wetland Delineation Report, Russellville Solar, Watermelon Road, Russellville, Logan County, Kentucky” dated July 31, 2019, prepared by Terracon Consultants, Inc. .
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: Reference JD report titled, “Wetland Delineation Report, Russellville Solar, Watermelon Road, Russellville, Logan County, Kentucky” dated July 31, 2019, prepared by Terracon Consultants, Inc. .
- 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): .
or Other (Name & Date): Photos taken during site visit, Reference JD report titled, “Wetland Delineation Report, Russellville Solar, Watermelon Road, Russellville, Logan County, Kentucky” dated July 31, 2019, prepared by Terracon Consultants, Inc. .
- 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:

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): 01/27/2020

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

Nashville District
Community Energy Solar, Inc.
File No. LRN-2019-00805

C. PROJECT LOCATION AND BACKGROUND INFORMATION: The AJD review area consists of multiple properties containing approximately 1600 acres of land located southwest of Russellville, Kentucky situated between Watermelon and Joe Montgomery Roads. The project location is divided to the point where the east and west sections drain to two different watersheds. Approximately 98 percent of the review area is used in agricultural production and the remaining in scattered forested areas. The review area is located in an area known for having karst features. Multiple sinkholes were observed within project boundaries during the site visit. This AJD form references all waters found within the boundaries of the review area, but discusses only Stream 12 that flows indirectly into Pleasant Grove Creek which flows directly into Red River, a Traditional Navigable Water (TNW). USACE completed individual AJD forms for each water determined to be a water of the U.S. (WOUS). The aquatic resources identified under Section II(B)(2) are not WOUS and are included on each AJD form for this project.

State: Kentucky County/parish/borough: Logan City: Russellville
Center coordinates of site (lat/long in degree decimal format): Latitude: 36.793005°; Longitude -86.937504°
Universal Transverse Mercator: 16
Name of nearest waterbody: Whippoorwill Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Red River and Whippoorwill Creek
Name of watershed or Hydrologic Unit Code (HUC): 051302060205 (HUC 12) and 051302060303 (HUC 12)
 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: 11/20/2019
 Field Determination. Date(s): 10/10/2019

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

1. Waters of the U.S.

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

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

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

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

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

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

NOTE:

Each water determined to be a water of the U.S. (WOUS) within the AJD review area are listed below. Separate AJD forms were completed for each one so that the analysis in "Section III: CWA Analysis" is documented for USACE's jurisdictional determination for each water. This particular form only applies to Stream 12.

Non-wetland waters:

Stream 11 (Non-RPW) Ephemeral, 778 linear feet: 3 width (ft) and/or 0.05 acre
Stream 12 (Non-RPW) Ephemeral, 1,466 linear feet: 5 width (ft) and/or 0.17 acre
Stream 13 (Non-RPW) Ephemeral, 685 linear feet: 3 width (ft) and/or 0.05 acre

Wetlands:

Wetland A - PFO, 0.95 acre
Wetland H - PSS/PEM 0.47 acre

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

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

- Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be non-jurisdictional. Explain: **The AJD review area located near Russellville, Kentucky is approximately 1600 acres and situated in an area known for having karst features. The aquatic resources listed below do not drain directly or indirectly into any WOUS and do not support a link to interstate or foreign commerce. The aquatic resources flow into karst features and were determined to be non-jurisdictional because of no known hydrologic connection to downstream WOUS. The waters listed below are geographically isolated and therefore are not tributaries of navigable waters.**

Stream 1 (Non-RPW, Ephemeral, 207 linear feet: 3 width (ft) and/or 0.014 acre) located at the southwestern boundary carries water flow to **Wetland B** (PEM, 1.11 acres). These aquatic features have no known hydrologic connection to WOUS.

Stream 2 (RPW, Intermittent, 4,599 linear feet: 11 width (ft) and/or 1.16 acres) located on the northwestern section of the property flows in a westerly direction out of the review area into a karst feature. This aquatic feature has no known hydrologic connection to WOUS.

Stream 3 (RPW, Intermittent, 1,537 linear feet: 5 width (ft) and/or 0.18 acre) located on the northwestern section of the property flows in a northwesterly direction into Stream 2 which flows out of the review area into a karst feature. This aquatic feature has no known hydrologic connection to WOUS.

Stream 4 (Non-RPW, Ephemeral, 186 linear feet: 3 width (ft) and/or 0.012 acre) flows in a northerly direction from **Pond 7** (PUB, 0.81 acre) into **Wetland F** (PFO, 1.84 acres) which drains into a large karst feature. These aquatic features have no known hydrologic connection to WOUS.

Stream 5 (Non-RPW, Ephemeral, 365 linear feet: 5 width (ft) and/or 0.041 acre) flows directly into a large karst feature. This aquatic feature has no known hydrologic connection to WOUS.

Stream 10 (Non-RPW, Ephemeral, 171 linear feet: 3 width (ft) and/or 0.011 acre) flows in a northwesterly direction from **Pond 8** (PUB, 0.23 acre) into Wetland F which drains into a large karst feature. These aquatic features have no known hydrologic connection to WOUS.

Stream 14 (Non-RPW, Ephemeral, 1,109 linear feet: 3 width (ft) and/or 0.076 acre) with abutting wetland – **Wetland L**, (PEM, 0.74 acre) located in the northwestern section of the property, flows in a northwesterly direction into Stream 2 that flows out of the review area boundaries and into a karst feature. These aquatic features have no known hydrologic connection to WOUS.

Wetland C (PEM, 0.88 acre) abuts **Pond 6** (PUB, 0.25 acre). These aquatic features have no known hydrologic connection to WOUS.

Wetland D (PEM, 0.09 acre). This aquatic features has no known hydrologic connection to WOUS.

Wetland E (PEM, 0.14 acre). This aquatic feature was determined to be adjacent to Stream 2 that flows out of the review area and into a karst feature. These aquatic features have no known hydrologic connection to WOUS.

Wetland G (PEM, 0.18 acre). This aquatic feature adjacent to Pond 8 has no known hydrologic connection to WOUS.

Wetland J (PFO, 3.27 acres), encompasses **Pond 11** (PUB, 0.26 acre). The topography of the area is relatively flat with faint water flow patterns observed adjacent to Wetland J/Pond 11 that suggests water flow would migrate toward the karst feature located southeast of the aquatic features. Review of the area between Joe Montgomery Road and the aquatic resources did not provide any physical indicators that water flows to the roadside ditch. The 6" corrugated metal pipe located underneath the highway carries very little flow. This aquatic feature has no known hydrologic connection to WOUS.

Wetland K (PFO, 1.22 acres). The topography of the area is relatively flat and faint water flow patterns were observed that suggests water flow would migrate to the karst feature located to the west of the aquatic feature. This aquatic feature has no known hydrologic connection to WOUS.

³ Supporting documentation is presented in Section III.F.

Wetland M (PEM, 0.05 acre), is a small wetland located approximately 100 feet north of a karst feature.

This aquatic feature has no known hydrologic connection to WOUS.

Wetland N (PFO, 0.30 acre), is a depressional wetland that has the appearance of a karst feature. No water flow patterns were observed outside the delineated boundaries. This aquatic feature has no known hydrologic connection to WOUS.

Pond 1 (PUB, 0.92 acre), is an open water feature constructed prior to 1980 for agricultural purposes. This aquatic feature has no known hydrologic connection to WOUS.

Pond 2 (PUB, 0.70 acre) is an open water feature constructed prior to 1955 for agricultural purposes. This aquatic feature has no known hydrologic connection to WOUS.

Pond 3(PUB, 0.42 acre) is an open water feature constructed prior to 1980 for agricultural purposes. This aquatic feature has no known hydrologic connection to WOUS.

Pond 4 (PUB, 0.46 acre) is an open water feature constructed prior to 1955 for agricultural purposes. This aquatic feature has no known hydrologic connection to WOUS.

Pond 5 (PUB, 0.70 acre) is an open water feature constructed prior to 1955 for agricultural purposes. This aquatic feature has no known hydrologic connection to WOUS.

Pond 6 (PUB, 0.25 acre) is an open water aquatic feature constructed prior to 1955. This aquatic feature has no known hydrologic connection to WOUS.

Pond 7 (PUB, 0.81 acre) is an open water aquatic feature constructed prior to 1980. This aquatic feature has no known hydrologic connection to WOUS.

Pond 8 (PUB, 0.23 acre) is an open water aquatic feature constructed prior to 1980. This aquatic feature has no known hydrologic connection to WOUS.

Pond 9 (PUB, 0.70 acre) is a constructed open water aquatic feature constructed before 1981 with approximately 6 feet of freeboard and no discharge outlet identified. This aquatic feature has no known hydrologic connection to WOUS.

Pond 10 (PUB, 0.31 acre) is an excavated open water aquatic feature constructed prior to 1955. This aquatic feature has no known hydrologic connection to WOUS.

Pond 11 (PUB, 0.26 acre) is an open water aquatic feature constructed prior to 1955. This aquatic feature has no known hydrologic connection to WOUS.

Pond 12 (PUB, 0.05 acre) is an open water aquatic feature constructed prior to 1955. This aquatic feature has no known hydrologic connection to WOUS.

Pond 13 (PUB, 0.29 acre) is an open water aquatic feature constructed prior to 1950. This aquatic feature has no known hydrologic connection to WOUS.

Pond 14 (PUB, 0.35 acre) is an open water aquatic feature constructed prior to 1980. This aquatic feature has no known hydrologic connection to WOUS.

Pond 15 (PUB, 0.74 acre) is an open water aquatic feature constructed prior to 1998. This aquatic feature has no known hydrologic connection to WOUS.

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

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

Stream 12

(i) General Area Conditions:

Watershed size: 15,584 Acres
Drainage area: 104 Acres
Average annual rainfall: 50.66 inches
Average annual snowfall: 6 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

- Tributary flows directly into TNW.
 Tributary flows through 3 tributaries before entering TNW.

Project waters are 5-10 river miles from TNW.
Project waters are 5-10 river miles from RPW.
Project waters are 5-10 aerial (straight) miles from TNW.
Project waters are 5-10 aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: N/A.
Identify flow route to TNW⁵: Stream 12 flows through the review area into Stream 11 which flows into an unnamed tributary, which flows into Pleasant Grove Creek which flows into Red River, a TNW .
Tributary stream order, if known: 1.

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

Tributary is: Natural
 Artificial (man-made). Explain: .
 Manipulated (man-altered). Explain: Tributary has been manipulated by agricultural practices.

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

Average width: 5 feet
Average depth: 16 inches
Average side slopes: **Vertical 1:1.**

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: The tributary is stable due to slope, ephemeral flow, forested area, and riparian corridor.

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

Tributary geometry: **Relatively Straight**

Tributary gradient (approximate average slope): 2 %

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

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

(c) Flow:

Tributary provides for: **Ephemeral flow**

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

Describe flow regime: Response to rainfall.

Other information on duration and volume:

Surface flow is: **Discrete and Confined**. Characteristics: Sections of channel outside the forested area and riparian area has been manipulated into a swale by human.

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

Dye (or other) test performed:

Tributary has (check all that apply):

Bed and banks

OHWM⁶ (check all indicators that apply):

clear, natural line impressed on the bank

changes in the character of soil

shelving

vegetation matted down, bent, or absent

leaf litter disturbed or washed away

sediment deposition

water staining

other (list):

Discontinuous OHWM.⁷ Explain: Sections of channel outside the forested area and riparian area has been manipulated into a swale by human.

the presence of litter and debris

destruction of terrestrial vegetation

the presence of wrack line

sediment sorting

scour

multiple observed or predicted flow events

abrupt change in plant community

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

High Tide Line indicated by:

oil or scum line along shore objects

fine shell or debris deposits (foreshore)

physical markings/characteristics

tidal gauges

other (list):

Mean High Water Mark indicated by:

survey to available datum;

physical markings;

vegetation lines/changes in vegetation types.

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: The color of the water would be relatively clear depending on the time of year (i.e. crop planting season) and amount of rainfall. The narrow riparian zone would reduce the amount of silt carried during rain events from the adjacent farm field.

Identify specific pollutants, if known: Pollutants would consist of silts, fertilizers, and/or pesticides received by runoff from adjacent agricultural fields and Stream 11.

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

Riparian corridor. Characteristics (type, average width): A section of Stream 12 flows along the edge of a forested area where the riparian area is approximately 50 feet on the left descending bank and over 500 feet on the right descending bank. A narrow section of corridor approximately 40 feet wide (20 feet on either side to the stream) is located south of the forested area at the confluence with Stream 11.

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: The forested area would provide habitat for various terrestrial species, such as deer, birds, raccoons, opossums, lizards, etc.

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

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

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

⁷Ibid.

Wetland size: N/A acres
 Wetland type. Explain: N/A
 Wetland quality. Explain: N/A
 Project wetlands cross or serve as state boundaries. Explain: N/A.

(b) General Flow Relationship with Non-TNW:

Flow is: . Explain: .

Surface flow is:
 Characteristics: .

Subsurface flow: 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: **0**

Approximately (N/A) 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>
Wetland H Yes	0.47		

Summarize overall biological, chemical and physical functions being performed: The 0.47 acre wetland is situated at the head of Stream 11 consisting emergent and scrub-shrub vegetation that has the potential to provide habitat for terrestrial species. The wetland would provide limited flood storage during rainfall events and assist in nutrient cycling or sequestration of pollutants from the adjacent agricultural field.

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: Stream 12 is adjacent to an agricultural field and the application of fertilizers and pesticides, as well as the loss of soil during rain events would impact the stream. The tributary has the potential to carry pollutants, as well as organic carbon to support foodwebs downstream during rain events. The tributary and forested area provides habitat to terrestrial species. The relevant reach of the tributary extends upstream 1,466 linear feet from the confluence with Stream 11 to terminate at the edge of the forested area (Reference Figure 2, Sheet 5 of 5) past the confluence of Stream 13. The stream adjacent to the forested area and agricultural fields that receives water from Stream 13 could transport pollutants and organic carbon downstream and potentially affect the chemical, physical and biological integrity of Red River, a TNW located approximately 8 miles downstream.
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:

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-RPWs⁸ that flow directly or indirectly into TNWs.**
 Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

⁸See Footnote # 3.

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

- Tributary waters: linear feet width (ft).
Stream 12 (Non-RPW) Ephemeral, 1,466 linear feet: 5 width (ft) and/or 0.17 acre
- 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.⁹

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

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

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

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

Identify water body and summarize rationale supporting determination: .

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

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

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

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

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): **See SECTION II(B)(2) for non-wetland aquatic features that were identified and found not to flow directly or indirectly into a TNW or other WOUS.**

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. Reference JD report titled, "Wetland Delineation Report, Russellville Solar, Watermelon Road, Russellville, Logan County, Kentucky" dated July 31, 2019, prepared by Terracon Consultants, Inc.
- Data sheets prepared/submitted by or on behalf of the applicant/consultant. Reference JD report titled, "Wetland Delineation Report, Russellville Solar, Watermelon Road, Russellville, Logan County, Kentucky" dated July 31, 2019, prepared by Terracon Consultants, Inc.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas: .
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: Reference JD report titled, "Wetland Delineation Report, Russellville Solar, Watermelon Road, Russellville, Logan County, Kentucky" dated July 31, 2019, prepared by Terracon Consultants, Inc.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Reference JD report titled, "Wetland Delineation Report, Russellville Solar, Watermelon Road, Russellville, Logan County, Kentucky" dated July 31, 2019, prepared by Terracon Consultants, Inc.
- National wetlands inventory map(s). Cite name: Reference JD report titled, "Wetland Delineation Report, Russellville Solar, Watermelon Road, Russellville, Logan County, Kentucky" dated July 31, 2019, prepared by Terracon Consultants, Inc. .
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: Reference JD report titled, "Wetland Delineation Report, Russellville Solar, Watermelon Road, Russellville, Logan County, Kentucky" dated July 31, 2019, prepared by Terracon Consultants, Inc. .
- 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date):
or Other (Name & Date): Photos taken during site visit, Reference JD report titled, "Wetland Delineation Report, Russellville Solar, Watermelon Road, Russellville, Logan County, Kentucky" dated July 31, 2019, prepared by Terracon Consultants, Inc. .
- 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:

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): 01/27/2020

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

Nashville District
Community Energy Solar, Inc.
File No. LRN-2019-00805

C. PROJECT LOCATION AND BACKGROUND INFORMATION: The AJD review area consists of multiple properties containing approximately 1600 acres of land located southwest of Russellville, Kentucky situated between Watermelon and Joe Montgomery Roads. The project location is divided to the point where the east and west sections drain to two different watersheds. Approximately 98 percent of the review area is used in agricultural production and the remaining in scattered forested areas. The review area is located in an area known for having karst features. Multiple sinkholes were observed within project boundaries during the site visit. This AJD form references all waters found within the boundaries of the review area, but discusses only Stream 13 with adjacent Wetland H that flows indirectly into Pleasant Grove Creek which flows directly into Red River, a Traditional Navigable Water (TNW). USACE completed individual AJD forms for each water determined to be a water of the U.S. (WOUS). The aquatic resources identified under Section II(B)(2) are not WOUS and are included on each AJD form for this project.

State: Kentucky County/parish/borough: Logan City: Russellville
Center coordinates of site (lat/long in degree decimal format): Latitude: 36.793005°; Longitude -86.937504°
Universal Transverse Mercator: 16
Name of nearest waterbody: Whippoorwill Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Red River and Whippoorwill Creek
Name of watershed or Hydrologic Unit Code (HUC): 051302060205 (HUC 12) and 051302060303 (HUC 12)
 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: 11/20/2019
 Field Determination. Date(s): 10/10/2019

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

1. Waters of the U.S.

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

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

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

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

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

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

Wetlands: .

NOTE:

Each water determined to be a water of the U.S. (WOUS) within the AJD review area are listed below. Separate AJD forms were completed for each one so that the analysis in "Section III: CWA Analysis" is documented for USACE's jurisdictional determination for each water. This particular form only applies to Stream 13 and its adjacent Wetland H.

Non-wetland waters:

Stream 11 (Non-RPW) Ephemeral, 778 linear feet: 3 width (ft) and/or 0.05 acre

Stream 12 (Non-RPW) Ephemeral, 1,466 linear feet: 5 width (ft) and/or 0.17 acre

Stream 13 (Non-RPW) Ephemeral, 685 linear feet: 3 width (ft) and/or 0.05 acre

Wetlands:

Wetland A - PFO, 0.95 acre

Wetland H - PSS/PEM 0.47 acre

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

Elevation of established OHWM (if known): .

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

- Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: **The AJD review area located near Russellville, Kentucky is approximately 1600 acres and situated in an area known for having karst features. The aquatic resources listed below do not drain directly or indirectly into any WOUS and do not support a link to interstate or foreign commerce. The aquatic resources flow into karst features and were determined to be non-jurisdictional because of no known hydrologic connection to downstream WOUS. The waters listed below are geographically isolated and therefore are not tributaries of navigable waters.**

Stream 1 (Non-RPW, Ephemeral, 207 linear feet: 3 width (ft) and/or 0.014 acre) located at the southwestern boundary carries water flow to **Wetland B** (PEM, 1.11 acres). These aquatic features have no known hydrologic connection to WOUS.

Stream 2 (RPW, Intermittent, 4,599 linear feet: 11 width (ft) and/or 1.16 acres) located on the northwestern section of the property flows in a westerly direction out of the review area into a karst feature. This aquatic feature has no known hydrologic connection to WOUS.

Stream 3 (RPW, Intermittent, 1,537 linear feet: 5 width (ft) and/or 0.18 acre) located on the northwestern section of the property flows in a northwesterly direction into Stream 2 which flows out of the review area into a karst feature. This aquatic feature has no known hydrologic connection to WOUS.

Stream 4 (Non-RPW, Ephemeral, 186 linear feet: 3 width (ft) and/or 0.012 acre) flows in a northerly direction from **Pond 7** (PUB, 0.81 acre) into **Wetland F** (PFO, 1.84 acres) which drains into a large karst feature. These aquatic features have no known hydrologic connection to WOUS.

Stream 5 (Non-RPW, Ephemeral, 365 linear feet: 5 width (ft) and/or 0.041 acre) flows directly into a large karst feature. This aquatic feature has no known hydrologic connection to WOUS.

Stream 10 (Non-RPW, Ephemeral, 171 linear feet: 3 width (ft) and/or 0.011 acre) flows in a northwesterly direction from **Pond 8** (PUB, 0.23 acre) into Wetland F which drains into a large karst feature. These aquatic features have no known hydrologic connection to WOUS.

Stream 14 (Non-RPW, Ephemeral, 1,109 linear feet: 3 width (ft) and/or 0.076 acre) with abutting wetland – **Wetland L**, (PEM, 0.74 acre) located in the northwestern section of the property, flows in a northwesterly direction into Stream 2 that flows out of the review area boundaries and into a karst feature. These aquatic features have no known hydrologic connection to WOUS.

Wetland C (PEM, 0.88 acre) abuts **Pond 6** (PUB, 0.25 acre). These aquatic features have no known hydrologic connection to WOUS.

Wetland D (PEM, 0.09 acre). This aquatic features has no known hydrologic connection to WOUS.

Wetland E (PEM, 0.14 acre). This aquatic feature was determined to be adjacent to Stream 2 that flows out of the review area and into a karst feature. These aquatic features have no known hydrologic connection to WOUS.

Wetland G (PEM, 0.18 acre). This aquatic feature adjacent to Pond 8 has no known hydrologic connection to WOUS.

Wetland J (PFO, 3.27 acres), encompasses Pond 11 (PUB, 0.26 acre). The topography of the area is relatively flat with faint water flow patterns observed adjacent to Wetland J/Pond 11 that suggests water flow would migrate toward the karst feature located southeast of the aquatic features. Review of the area between Joe Montgomery Road and the aquatic resources did not provide any physical indicators that water flows to the roadside ditch. The 6" corrugated metal pipe located underneath the highway carries very little flow. This aquatic feature has no known hydrologic connection to WOUS.

³ Supporting documentation is presented in Section III.F.

Wetland K (PFO, 1.22 acres). The topography of the area is relatively flat and faint water flow patterns were observed that suggests water flow would migrate to the karst feature located to the west of the aquatic feature. This aquatic feature has no known hydrologic connection to WOUS.

Wetland M (PEM, 0.05 acre), is a small wetland located approximately 100 feet north of a karst feature. This aquatic feature has no known hydrologic connection to WOUS.

Wetland N (PFO, 0.30 acre), is a depressional wetland that has the appearance of a karst feature. No water flow patterns were observed outside the delineated boundaries. This aquatic feature has no known hydrologic connection to WOUS.

Pond 1 (PUB, 0.92 acre), is an open water feature constructed prior to 1980 for agricultural purposes. This aquatic feature has no known hydrologic connection to WOUS.

Pond 2 (PUB, 0.70 acre) is an open water feature constructed prior to 1955 for agricultural purposes. This aquatic feature has no known hydrologic connection to WOUS.

Pond 3(PUB, 0.42 acre) is an open water feature constructed prior to 1980 for agricultural purposes. This aquatic feature has no known hydrologic connection to WOUS.

Pond 4 (PUB, 0.46 acre) is an open water feature constructed prior to 1955 for agricultural purposes. This aquatic feature has no known hydrologic connection to WOUS.

Pond 5 (PUB, 0.70 acre) is an open water feature constructed prior to 1955 for agricultural purposes. This aquatic feature has no known hydrologic connection to WOUS.

Pond 6 (PUB, 0.25 acre) is an open water aquatic feature constructed prior to 1955. This aquatic feature has no known hydrologic connection to WOUS.

Pond 7 (PUB, 0.81 acre) is an open water aquatic feature constructed prior to 1980. This aquatic feature has no known hydrologic connection to WOUS.

Pond 8 (PUB, 0.23 acre) is an open water aquatic feature constructed prior to 1980. This aquatic feature has no known hydrologic connection to WOUS.

Pond 9 (PUB, 0.70 acre) is a constructed open water aquatic feature constructed before 1981 with approximately 6 feet of freeboard and no discharge outlet identified. This aquatic feature has no known hydrologic connection to WOUS.

Pond 10 (PUB, 0.31 acre) is an excavated open water aquatic feature constructed prior to 1955. This aquatic feature has no known hydrologic connection to WOUS.

Pond 11 (PUB, 0.26 acre) is an open water aquatic feature constructed prior to 1955. This aquatic feature has no known hydrologic connection to WOUS.

Pond 12 (PUB, 0.05 acre) is an open water aquatic feature constructed prior to 1955. This aquatic feature has no known hydrologic connection to WOUS.

Pond 13 (PUB, 0.29 acre) is an open water aquatic feature constructed prior to 1950. This aquatic feature has no known hydrologic connection to WOUS.

Pond 14 (PUB, 0.35 acre) is an open water aquatic feature constructed prior to 1980. This aquatic feature has no known hydrologic connection to WOUS.

Pond 15 (PUB, 0.74 acre) is an open water aquatic feature constructed prior to 1998. This aquatic feature has no known hydrologic connection to WOUS.

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

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

Stream 13

(i) General Area Conditions:

Watershed size: 15,584 Acres
Drainage area: 19.57 Acres
Average annual rainfall: 50.66 inches
Average annual snowfall: 6 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

- Tributary flows directly into TNW.
 Tributary flows through 4 tributaries before entering TNW.

Project waters are 5-10 river miles from TNW.

Project waters are 5-10 river miles from RPW.

Project waters are 5-10 aerial (straight) miles from TNW.

Project waters are 5-10 aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW⁵: Stream 13 flows through the review area into Stream 12 which flows into Stream 11 which flows into an unnamed tributary, which flows into Pleasant Grove Creek which flows into Red River, a TNW.

Tributary stream order, if known: 1.

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

Tributary is:

- Natural
 Artificial (man-made). Explain:
 Manipulated (man-altered). Explain: Tributary has been manipulated by agricultural practices by the construction of an unimproved road at the junction of the stream channel and adjacent wetland.

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

Average width: 3 feet
Average depth: 16 inches
Average side slopes: **Vertical 1:1.**

Primary tributary substrate composition (check all that apply):

- | | | |
|-------------------------------------------|----------------------------------------------------|-----------------------------------|
| <input checked="" 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: The tributary is stable due to ephemeral flow and riparian corridor.

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

Tributary geometry: **Relatively Straight**

Tributary gradient (approximate average slope): 2 %

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

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

(c) Flow:

Tributary provides for: **Ephemeral flow**

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

Describe flow regime: Response to rainfall.

Other information on duration and volume: .

Surface flow is: **Confined**. Characteristics: .

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

Dye (or other) test performed: .

Tributary has (check all that apply):

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

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

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

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: The color of the water would be relatively clear depending on the time of year and amount of rainfall. The adjacent wetland (Wetland H – PSS/PEM, 0.47 acre), small riparian zone, and forested area would reduce the amount of silt carried during rain events from the adjacent farm field.

Identify specific pollutants, if known: Pollutants would consist of silts, fertilizers, and/or pesticides received by runoff from adjacent agricultural fields.

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

- Riparian corridor. Characteristics (type, average width): The riparian corridor extends approximately 20 feet from top of each bank along the upper section of Stream 11 before flowing through a forested area into Stream 12.
- 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: The forested area provides habitat for various terrestrial species, such as deer, birds, raccoons, opossums, lizards, etc.

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

Wetland H

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: 0.47 acres

Wetland type. Explain: Palustrine scrub-shrub and emergent.

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

⁷Ibid.

Wetland quality. Explain: Marginal.
Project wetlands cross or serve as state boundaries. Explain:

- (b) General Flow Relationship with Non-TNW:
Flow is: **Ephemeral**. Explain:

Surface flow is: **Confined**
Characteristics:

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

- (c) Wetland Adjacency Determination with Non-TNW:
 Directly abutting
 Not directly abutting
 Discrete wetland hydrologic connection. Explain: Connection is impacted by unimproved crossing for agricultural vehicles.
 Ecological connection. Explain:
 Separated by berm/barrier. Explain:

- (d) Proximity (Relationship) to TNW
Project wetlands are **5-10** river miles from TNW.
Project waters are **5-10** aerial (straight) miles from TNW.
Flow is from: **No Flow**.
Estimate approximate location of wetland as within the **500 year or greater** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:
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: **1**

Approximately (0.47) 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>
Wetland H Yes	0.47		

Summarize overall biological, chemical and physical functions being performed: The 0.47 acre wetland is situated at the head of Stream 11 consisting emergent and scrub-shrub vegetation that has the potential to provide habitat for terrestrial species. The wetland would provide limited flood storage during rainfall events and assist in nutrient cycling or sequestration of pollutants from the adjacent agricultural field.

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: Wetland H (0.47 acre) is located at the head of Stream 13 (an ephemeral stream) and adjacent to an agricultural field and approximately 7 aerial miles from Red River. The application fertilizers and pesticides on the agricultural field, as well as the loss of soil during rain events would impact the stream and adjacent wetland. The tributary has the potential to carry pollutants, as well as organic carbon to support foodwebs downstream during rain events. The wetland has the capacity to impact downstream waters by sequestering nutrients. The combination of the tributary and wetland provide habitat to support terrestrial species. The relevant reach of this tributary extends approximately 685 linear feet upstream before terminating at an agricultural crossing (Reference Figure 2, Sheet 5 of 5). The stream adjacent to agricultural fields could transport pollutants and organic carbon downstream and potentially affect the chemical, physical and biological integrity of Red River, a TNW located approximately 8 miles downstream.
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:

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-RPWs⁸ that flow directly or indirectly into TNWs.**
 - Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

⁸See Footnote # 3.

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

- Tributary waters: linear feet width (ft).
Stream 13 (Non-RPW) Ephemeral, 685 linear feet: 3 width (ft) and/or 0.05 acre
- 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.

Wetland H - PSS/PEM 0.47 acre

7. Impoundments of jurisdictional waters.⁹

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

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

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

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

Identify water body and summarize rationale supporting determination: .

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

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

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

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

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): **See SECTION II(B)(2) for non-wetland aquatic features that were identified and found not to flow directly or indirectly into a TNW or other WOUS.**

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. Reference JD report titled, “Wetland Delineation Report, Russellville Solar, Watermelon Road, Russellville, Logan County, Kentucky” dated July 31, 2019, prepared by Terracon Consultants, Inc.
- Data sheets prepared/submitted by or on behalf of the applicant/consultant. Reference JD report titled, “Wetland Delineation Report, Russellville Solar, Watermelon Road, Russellville, Logan County, Kentucky” dated July 31, 2019, prepared by Terracon Consultants, Inc.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters’ study: .
- U.S. Geological Survey Hydrologic Atlas: .
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: Reference JD report titled, “Wetland Delineation Report, Russellville Solar, Watermelon Road, Russellville, Logan County, Kentucky” dated July 31, 2019, prepared by Terracon Consultants, Inc.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Reference JD report titled, “Wetland Delineation Report, Russellville Solar, Watermelon Road, Russellville, Logan County, Kentucky” dated July 31, 2019, prepared by Terracon Consultants, Inc.
- National wetlands inventory map(s). Cite name: Reference JD report titled, “Wetland Delineation Report, Russellville Solar, Watermelon Road, Russellville, Logan County, Kentucky” dated July 31, 2019, prepared by Terracon Consultants, Inc. .
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: Reference JD report titled, “Wetland Delineation Report, Russellville Solar, Watermelon Road, Russellville, Logan County, Kentucky” dated July 31, 2019, prepared by Terracon Consultants, Inc. .
- 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date):
or Other (Name & Date): Photos taken during site visit, Reference JD report titled, “Wetland Delineation Report, Russellville Solar, Watermelon Road, Russellville, Logan County, Kentucky” dated July 31, 2019, prepared by Terracon Consultants, Inc. .
- 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:

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): 01/27/2020

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

Nashville District
Community Energy Solar, Inc.
File No. LRN-2019-00805

C. PROJECT LOCATION AND BACKGROUND INFORMATION: The AJD review area consists of multiple properties containing approximately 1600 acres of land located southwest of Russellville, Kentucky situated between Watermelon and Joe Montgomery Roads. The project location is divided to the point where the east and west sections drain to two different watersheds. Approximately 98 percent of the review area is used in agricultural production and the remaining in scattered forested areas. The review area is located in an area known for having karst features. Multiple sinkholes were observed within project boundaries during the site visit. This AJD form references all waters found within the boundaries of the review area, but discusses only Wetland A that is considered adjacent to Dry Fork which flows into the left descending bank of Whippoorwill Creek Mile 17.5. Whippoorwill Creek is a Traditional Navigable Water (TNW) from the mouth to mile 11.0 at Licksillet Mill Dam. USACE completed individual AJD forms for each water determined to be a water of the U.S. (WOUS). The aquatic resources identified under Section II(B)(2) are not WOUS and are included on each AJD form for this project.

State: Kentucky County/parish/borough: Logan City: Russellville
Center coordinates of site (lat/long in degree decimal format): Latitude: 36.793005°; Longitude -86.937504°
Universal Transverse Mercator: 16
Name of nearest waterbody: Whippoorwill Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Red River and Whippoorwill Creek
Name of watershed or Hydrologic Unit Code (HUC): 051302060205 (HUC 12) and 051302060303 (HUC 12)
 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: 11/20/2019
 Field Determination. Date(s): 10/10/2019

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

1. Waters of the U.S.

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

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

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

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

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

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

NOTE:

Each water determined to be a water of the U.S. (WOUS) within the AJD review area are listed below. Separate AJD forms were completed for each one so that the analysis in "Section III: CWA Analysis" is documented for USACE's jurisdictional determination for each water. This particular form only applies to Wetland A.

Non-wetland waters:

Stream 11 (Non-RPW) Ephemeral, 778 linear feet: 3 width (ft) and/or 0.05 acre
Stream 12 (Non-RPW) Ephemeral, 1,466 linear feet: 5 width (ft) and/or 0.17 acre
Stream 13 (Non-RPW) Ephemeral, 685 linear feet: 3 width (ft) and/or 0.05 acre

Wetlands:

Wetland A - PFO, 0.95 acre
Wetland H - PSS/PEM 0.47 acre

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

Elevation of established OHWM (if known): .

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

- Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: **The AJD review area located near Russellville, Kentucky is approximately 1600 acres and situated in an area known for having karst features. The aquatic resources listed below do not drain directly or indirectly into any WOUS and do not support a link to interstate or foreign commerce. The aquatic resources flow into karst features and were determined to be non-jurisdictional because of no known hydrologic connection to downstream WOUS. The waters listed below are geographically isolated and therefore are not tributaries of navigable waters.**

Stream 1 (Non-RPW, Ephemeral, 207 linear feet: 3 width (ft) and/or 0.014 acre) located at the southwestern boundary carries water flow to **Wetland B** (PEM, 1.11 acres). These aquatic features have no known hydrologic connection to WOUS.

Stream 2 (RPW, Intermittent, 4,599 linear feet: 11 width (ft) and/or 1.16 acres) located on the northwestern section of the property flows in a westerly direction out of the review area into a karst feature. This aquatic feature has no known hydrologic connection to WOUS.

Stream 3 (RPW, Intermittent, 1,537 linear feet: 5 width (ft) and/or 0.18 acre) located on the northwestern section of the property flows in a northwesterly direction into Stream 2 which flows out of the review area into a karst feature. This aquatic feature has no known hydrologic connection to WOUS.

Stream 4 (Non-RPW, Ephemeral, 186 linear feet: 3 width (ft) and/or 0.012 acre) flows in a northerly direction from **Pond 7** (PUB, 0.81 acre) into **Wetland F** (PFO, 1.84 acres) which drains into a large karst feature. These aquatic features have no known hydrologic connection to WOUS.

Stream 5 (Non-RPW, Ephemeral, 365 linear feet: 5 width (ft) and/or 0.041 acre) flows directly into a large karst feature. This aquatic feature has no known hydrologic connection to WOUS.

Stream 10 (Non-RPW, Ephemeral, 171 linear feet: 3 width (ft) and/or 0.011 acre) flows in a northwesterly direction from **Pond 8** (PUB, 0.23 acre) into Wetland F which drains into a large karst feature. These aquatic features have no known hydrologic connection to WOUS.

Stream 14 (Non-RPW, Ephemeral, 1,109 linear feet: 3 width (ft) and/or 0.076 acre) with abutting wetland – **Wetland L**, (PEM, 0.74 acre) located in the northwestern section of the property, flows in a northwesterly direction into Stream 2 that flows out of the review area boundaries and into a karst feature. These aquatic features have no known hydrologic connection to WOUS.

Wetland C (PEM, 0.88 acre) abuts **Pond 6** (PUB, 0.25 acre). These aquatic features have no known hydrologic connection to WOUS.

Wetland D (PEM, 0.09 acre). This aquatic features has no known hydrologic connection to WOUS.

Wetland E (PEM, 0.14 acre). This aquatic feature was determined to be adjacent to Stream 2 that flows out of the review area and into a karst feature. These aquatic features have no known hydrologic connection to WOUS.

Wetland G (PEM, 0.18 acre). This aquatic feature adjacent to Pond 8 has no known hydrologic connection to WOUS.

Wetland J (PFO, 3.27 acres), encompasses Pond 11 (PUB, 0.26 acre). The topography of the area is relatively flat with faint water flow patterns observed adjacent to Wetland J/Pond 11 that suggests water flow would migrate toward the karst feature located southeast of the aquatic features. Review of the area between Joe Montgomery Road and the aquatic resources did not provide any physical indicators that water flows to the roadside ditch. The 6" corrugated metal pipe located underneath the highway carries very little flow. This aquatic feature has no known hydrologic connection to WOUS.

³ Supporting documentation is presented in Section III.F.

Wetland K (PFO, 1.22 acres). The topography of the area is relatively flat and faint water flow patterns were observed that suggests water flow would migrate to the karst feature located to the west of the aquatic feature. This aquatic feature has no known hydrologic connection to WOUS.

Wetland M (PEM, 0.05 acre), is a small wetland located approximately 100 feet north of a karst feature. This aquatic feature has no known hydrologic connection to WOUS.

Wetland N (PFO, 0.30 acre), is a depressional wetland that has the appearance of a karst feature. No water flow patterns were observed outside the delineated boundaries. This aquatic feature has no known hydrologic connection to WOUS.

Pond 1 (PUB, 0.92 acre), is an open water feature constructed prior to 1980 for agricultural purposes. This aquatic feature has no known hydrologic connection to WOUS.

Pond 2 (PUB, 0.70 acre) is an open water feature constructed prior to 1955 for agricultural purposes. This aquatic feature has no known hydrologic connection to WOUS.

Pond 3(PUB, 0.42 acre) is an open water feature constructed prior to 1980 for agricultural purposes. This aquatic feature has no known hydrologic connection to WOUS.

Pond 4 (PUB, 0.46 acre) is an open water feature constructed prior to 1955 for agricultural purposes. This aquatic feature has no known hydrologic connection to WOUS.

Pond 5 (PUB, 0.70 acre) is an open water feature constructed prior to 1955 for agricultural purposes. This aquatic feature has no known hydrologic connection to WOUS.

Pond 6 (PUB, 0.25 acre) is an open water aquatic feature constructed prior to 1955. This aquatic feature has no known hydrologic connection to WOUS.

Pond 7 (PUB, 0.81 acre) is an open water aquatic feature constructed prior to 1980. This aquatic feature has no known hydrologic connection to WOUS.

Pond 8 (PUB, 0.23 acre) is an open water aquatic feature constructed prior to 1980. This aquatic feature has no known hydrologic connection to WOUS.

Pond 9 (PUB, 0.70 acre) is a constructed open water aquatic feature constructed before 1981 with approximately 6 feet of freeboard and no discharge outlet identified. This aquatic feature has no known hydrologic connection to WOUS.

Pond 10 (PUB, 0.31 acre) is an excavated open water aquatic feature constructed prior to 1955. This aquatic feature has no known hydrologic connection to WOUS.

Pond 11 (PUB, 0.26 acre) is an open water aquatic feature constructed prior to 1955. This aquatic feature has no known hydrologic connection to WOUS.

Pond 12 (PUB, 0.05 acre) is an open water aquatic feature constructed prior to 1955. This aquatic feature has no known hydrologic connection to WOUS.

Pond 13 (PUB, 0.29 acre) is an open water aquatic feature constructed prior to 1950. This aquatic feature has no known hydrologic connection to WOUS.

Pond 14 (PUB, 0.35 acre) is an open water aquatic feature constructed prior to 1980. This aquatic feature has no known hydrologic connection to WOUS.

Pond 15 (PUB, 0.74 acre) is an open water aquatic feature constructed prior to 1998. This aquatic feature has no known hydrologic connection to WOUS.

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

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

(i) General Area Conditions:

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

(ii) Physical Characteristics:

(a) Relationship with TNW:

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

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .
Identify flow route to TNW⁵: .
Tributary stream order, if known: .

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

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

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

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

Primary tributary substrate composition (check all that apply):

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

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

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

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

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

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

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 ⁶ (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. ⁷ Explain: | |

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

- | | |
|--------------------------------------------------------------------|------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> High Tide Line indicated by: | <input checked="" 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

Wetland A

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: 0.95 acres

Wetland type. Explain: Palustrine Forested (PFO).

Wetland quality. Explain: Wetland A is situated in an agricultural setting and the surrounding area is manipulated by agricultural practices.

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

(b) General Flow Relationship with Non-TNW:

Flow is: **Ephemeral flow**. Explain: Flow from the wetland is through a swale before connecting with non-TNW.

Surface flow is: **Discrete**

Characteristics: Overland sheet flow.

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

⁷Ibid.

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

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: Connects to non-TNW through a grassy swale and culvert underneath Watermelon Road.

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **5-10** river miles from TNW.

Project waters are **5-10** aerial (straight) miles from TNW.

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

Estimate approximate location of wetland as within the **100-500** 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: Depressional wetland that does not maintain surface water.

Identify specific pollutants, if known: Pollutants would consist of runoff from adjacent agricultural field.

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

Riparian buffer. Characteristics (type, average width):

Vegetation type/percent cover. Explain: PFO, 100%.

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: **1**

Approximately (0.95) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

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: Wetland A (0.95 acre) is a palustrine forested depressional wetland adjacent to an offsite non-RPW by connection of a grassy swale with agricultural fields located to the east and west. The application fertilizers and pesticides on the agricultural field, as well as the loss of soil during rain events would impact the wetland. The grassy swale has the potential to carry pollutants, as well as organic carbon to support foodwebs downstream during rain events. The wetland has limited capacity to impact downstream waters by sequestering nutrients. The wetland could provide habitat to support terrestrial species.
- 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:

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-RPWs⁸ that flow directly or indirectly into TNWs.**
 - Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

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

- Tributary waters: linear feet width (ft).

- Other non-wetland waters: acres.

Identify type(s) of waters:

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

⁸See Footnote # 3.

- 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.

Wetland A - PFO, 0.95 acre

7. Impoundments of jurisdictional waters.⁹

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

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

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

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

Identify water body and summarize rationale supporting determination:

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

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

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

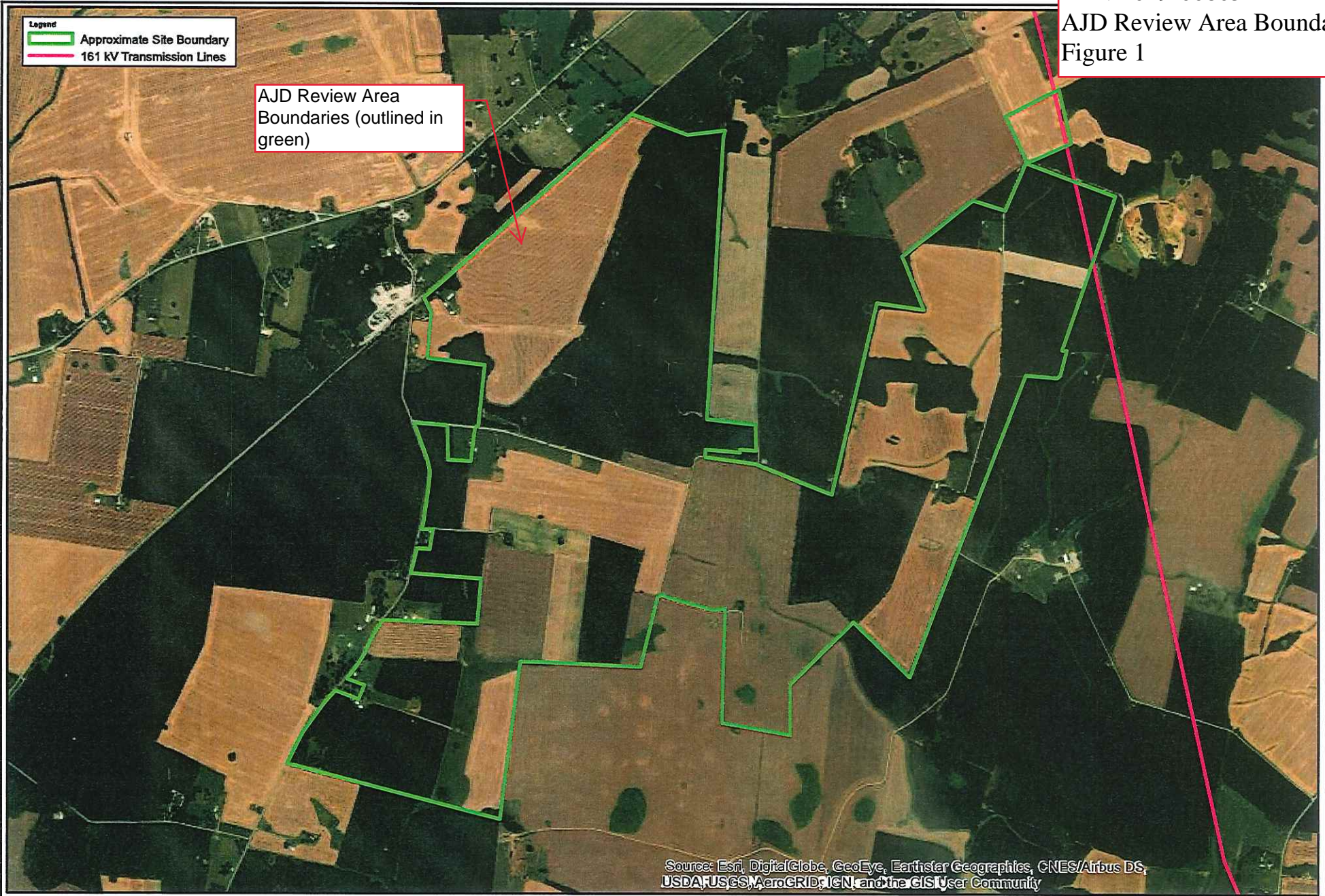
- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
 Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 Prior to the Jan 2001 Supreme Court decision in “*SWANCC*,” the review area would have been regulated based solely on the “Migratory Bird Rule” (MBR).
 Waters do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction. Explain: _____
 Other: (explain, if not covered above): **See SECTION II(B)(2) for non-wetland aquatic features that were identified and found not to flow directly or indirectly into a TNW or other WOUS.**

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).

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

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



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



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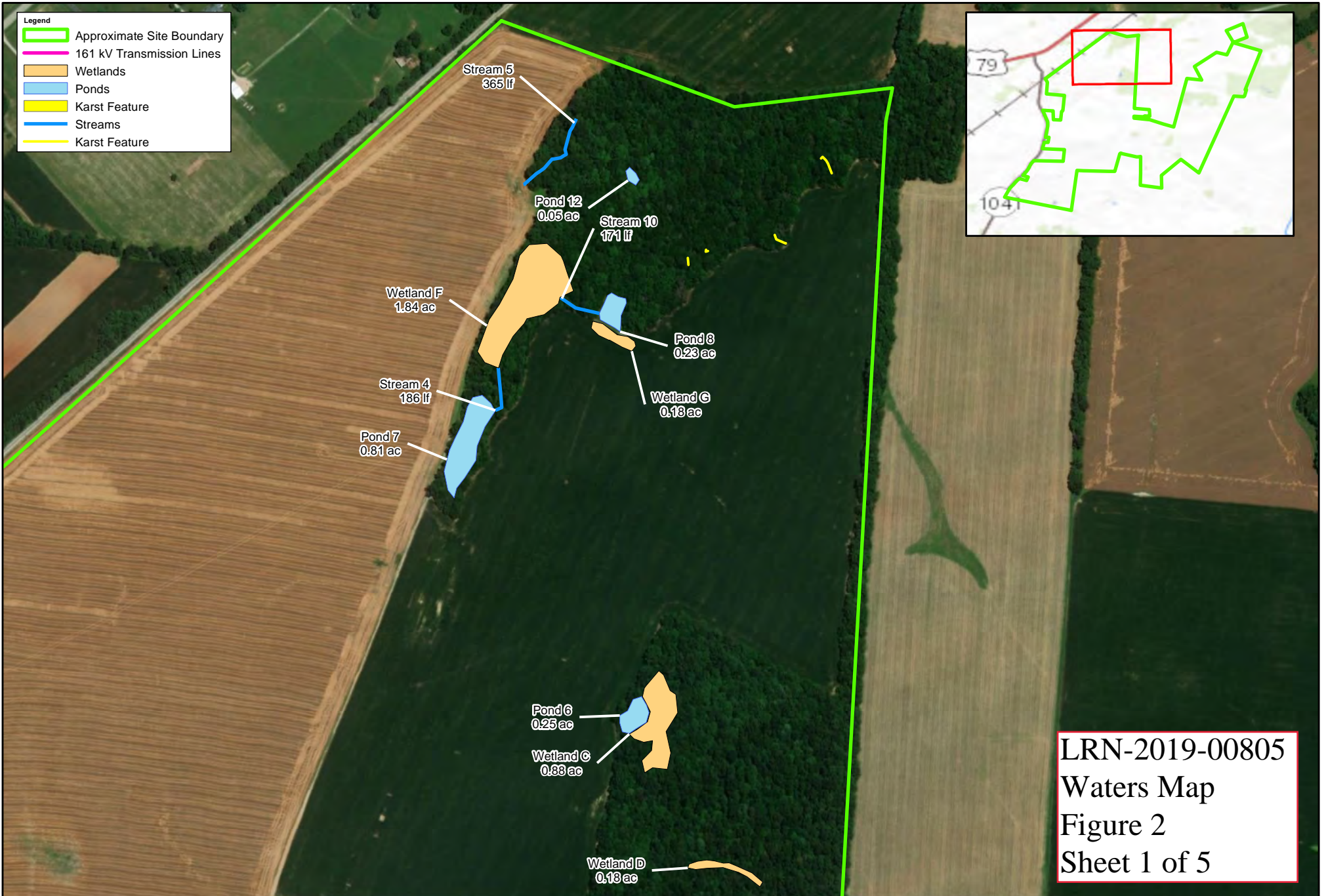
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Drawn By:	MDP
Approved By:	SEW
Date:	6/28/2019

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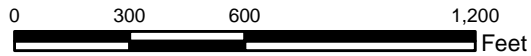
Aerial Image (2018)
Russellville Solar Project
Watermelon Road
Russellville, Logan County, Kentucky

Exhibit
4

- Legend**
- ▬ Approximate Site Boundary
 - ▬ 161 kV Transmission Lines
 - ▭ Wetlands
 - ▭ Ponds
 - ▭ Karst Feature
 - ▬ Streams
 - ▬ Karst Feature



LRN-2019-00805
 Waters Map
 Figure 2
 Sheet 1 of 5



1:6,000



Project No.	N1197212
Drawn By:	MDP
Approved By:	SEW
Date:	10/21/2019

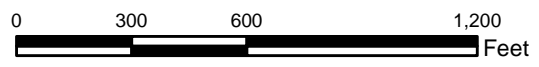
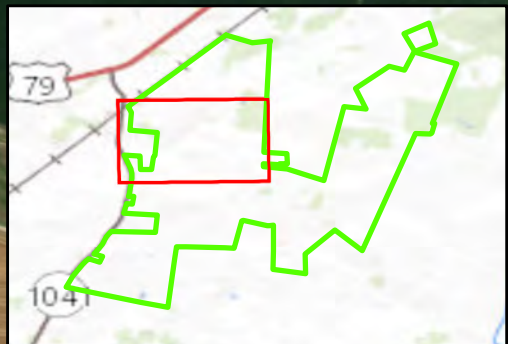
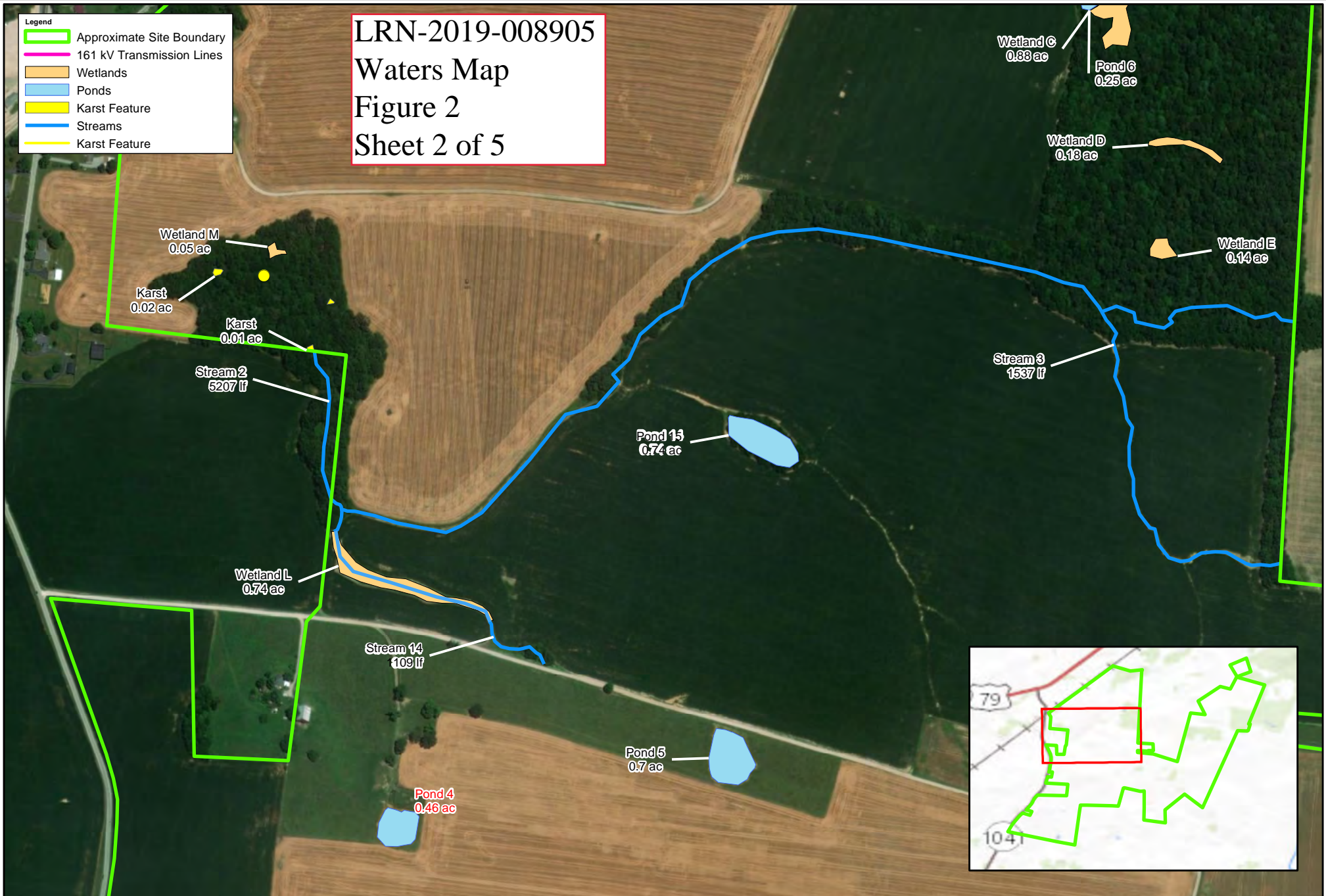
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Wetland Delineation Map Russellville Solar Project Watermelon Road Russellville, Logan County, Kentucky

Exhibit 6

LRN-2019-008905
 Waters Map
 Figure 2
 Sheet 2 of 5

- Legend**
- ▬ Approximate Site Boundary
 - ▬ 161 kV Transmission Lines
 - ▭ Wetlands
 - ▭ Ponds
 - ▭ Karst Feature
 - ▬ Streams
 - Karst Feature



1:6,000



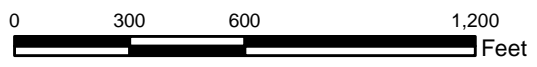
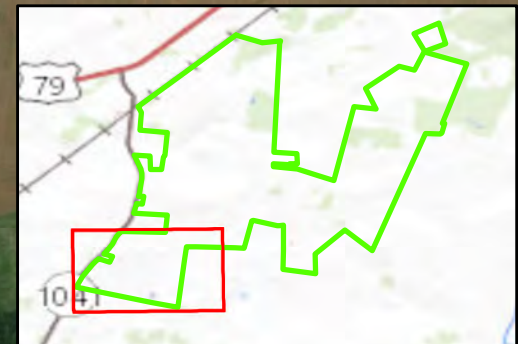
Project No.	N1197212
Drawn By:	MDP
Approved By:	SEW
Date:	10/21/2019

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Wetland Delineation Map
 Russellville Solar Project
 Watermelon Road
 Russellville, Logan County, Kentucky

Exhibit
 6

- Legend**
- ▬ Approximate Site Boundary
 - ▬ 161 kV Transmission Lines
 - ▭ Wetlands
 - ▭ Ponds
 - ▭ Karst Feature
 - ▬ Streams
 - ▭ Karst Feature



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Project No.	N1197212
Drawn By:	MDP
Approved By:	SEW
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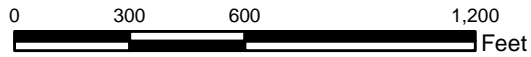
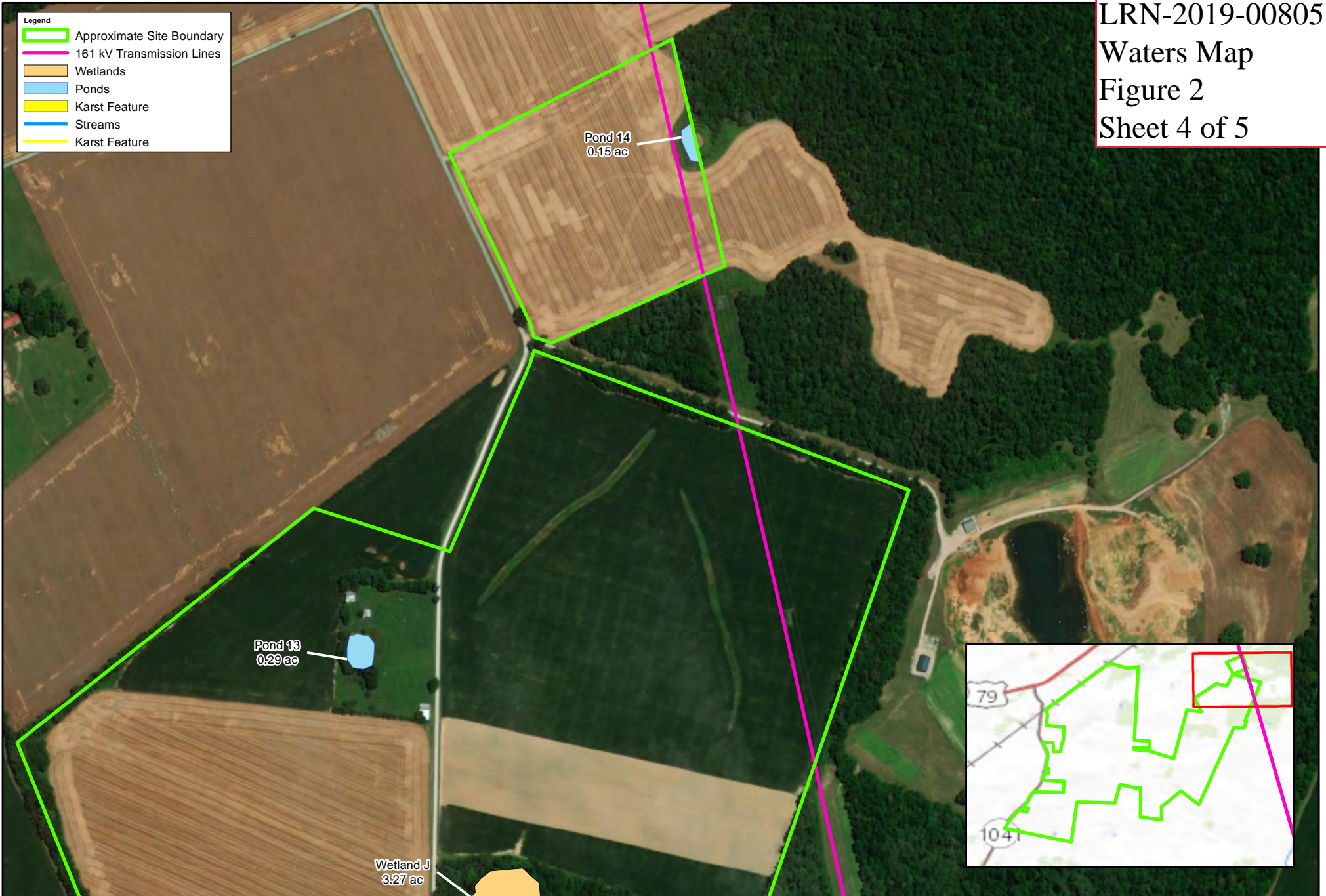
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Wetland Delineation Map
 Russellville Solar Project
 Watermelon Road
 Russellville, Logan County, Kentucky

Exhibit
 6

- Legend**
- ▬ Approximate Site Boundary
 - ▬ 161 kV Transmission Lines
 - ▬ Wetlands
 - ▬ Ponds
 - ▬ Karst Feature
 - ▬ Streams
 - ▬ Karst Feature



1:6,000



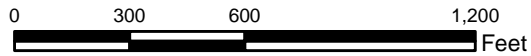
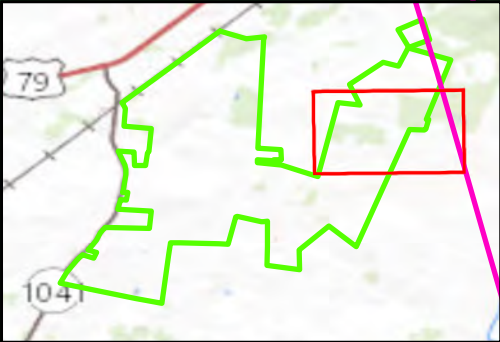
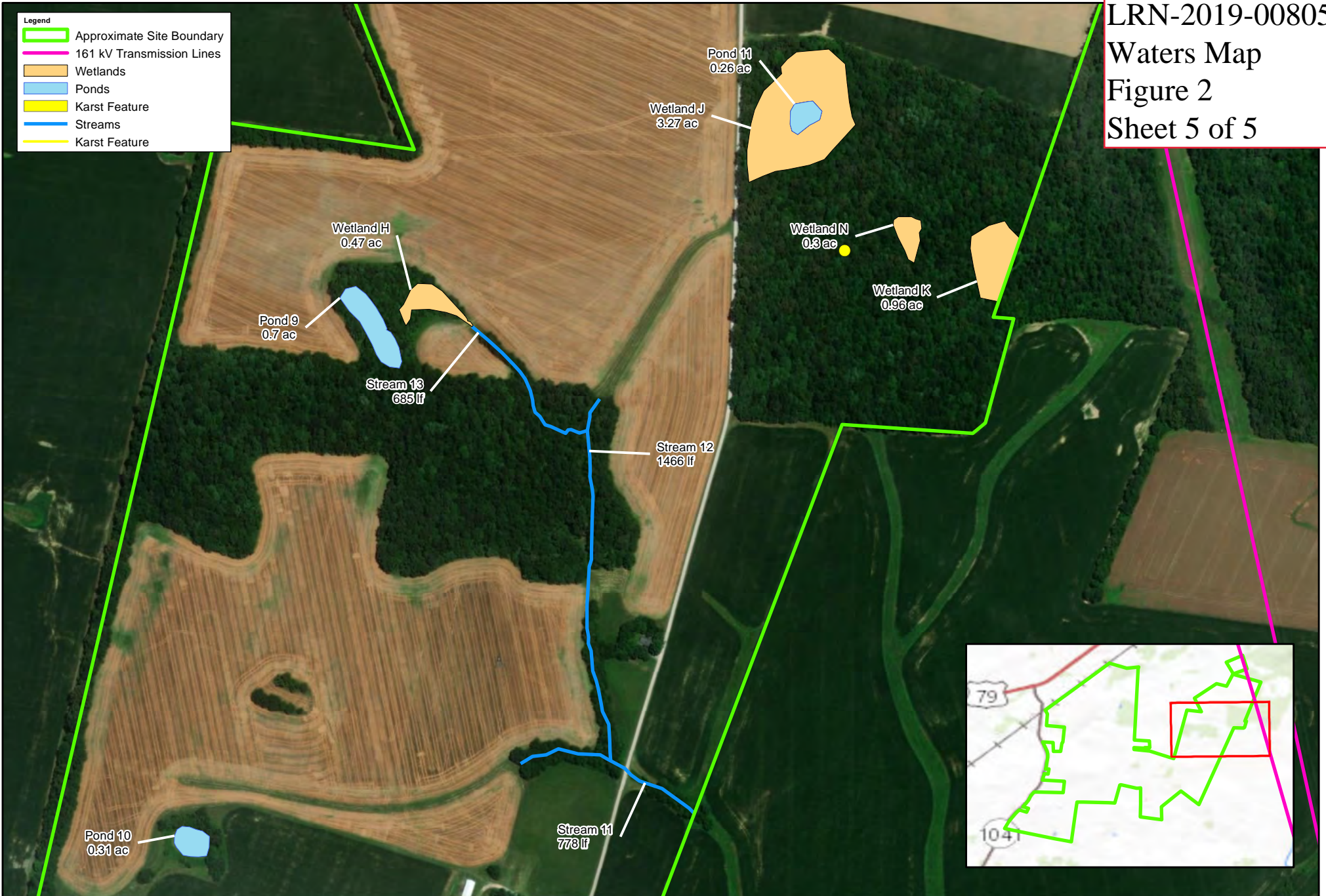
Project No.	N1197212
Drawn By:	MDP
Approved By:	SEW
Date:	10/21/2019

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Wetland Delineation Map
 Russellville Solar Project
 Watermelon Road
 Russellville, Logan County, Kentucky

Exhibit
 6

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- ▬ Approximate Site Boundary
 - ▬ 161 kV Transmission Lines
 - Wetlands
 - Ponds
 - Karst Feature
 - ▬ Streams
 - Karst Feature



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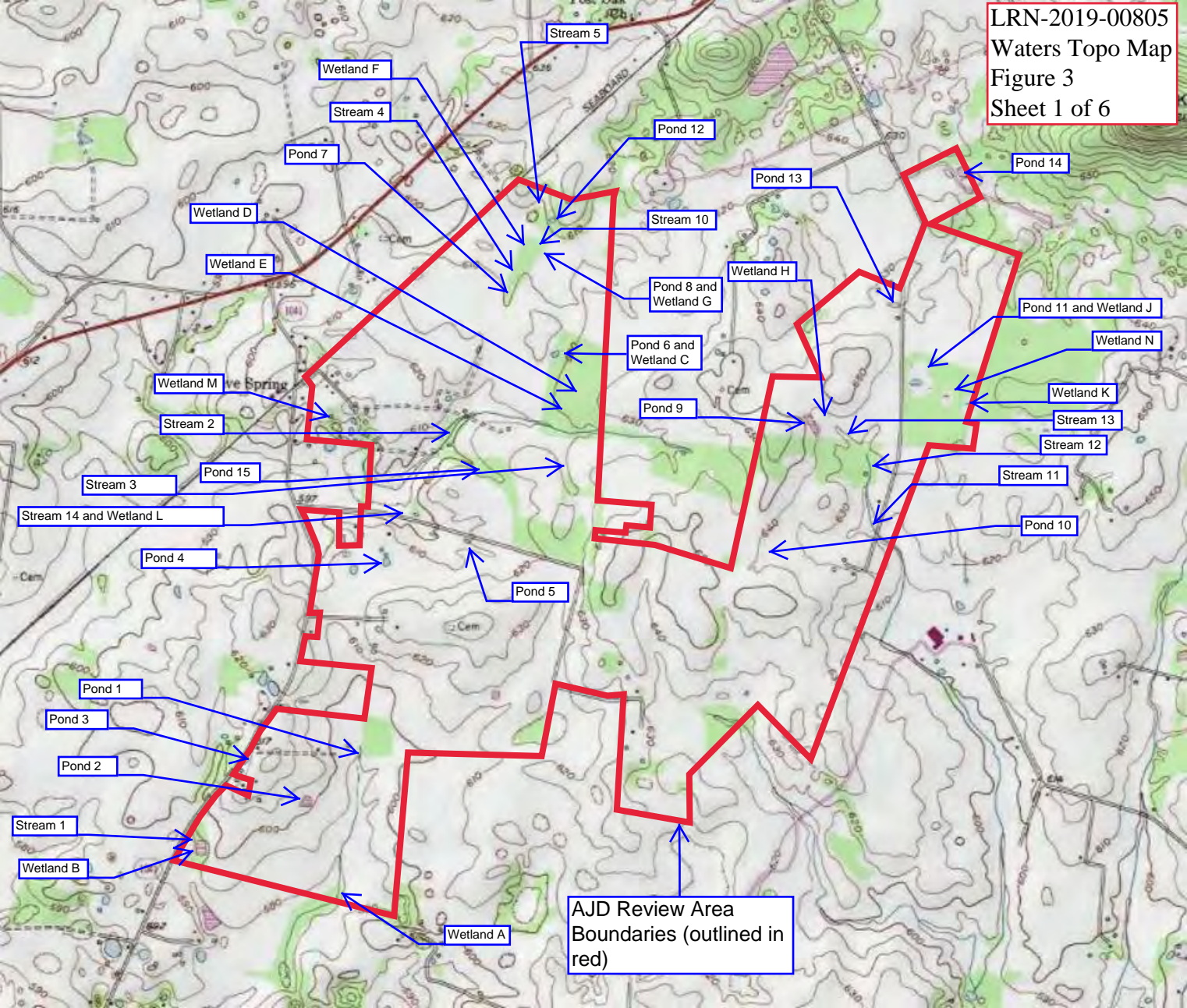


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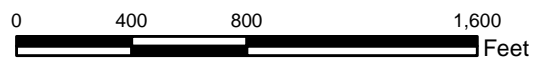
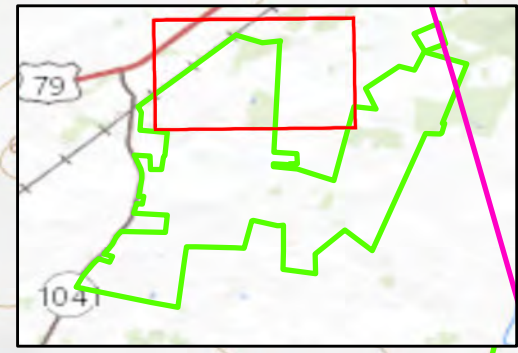
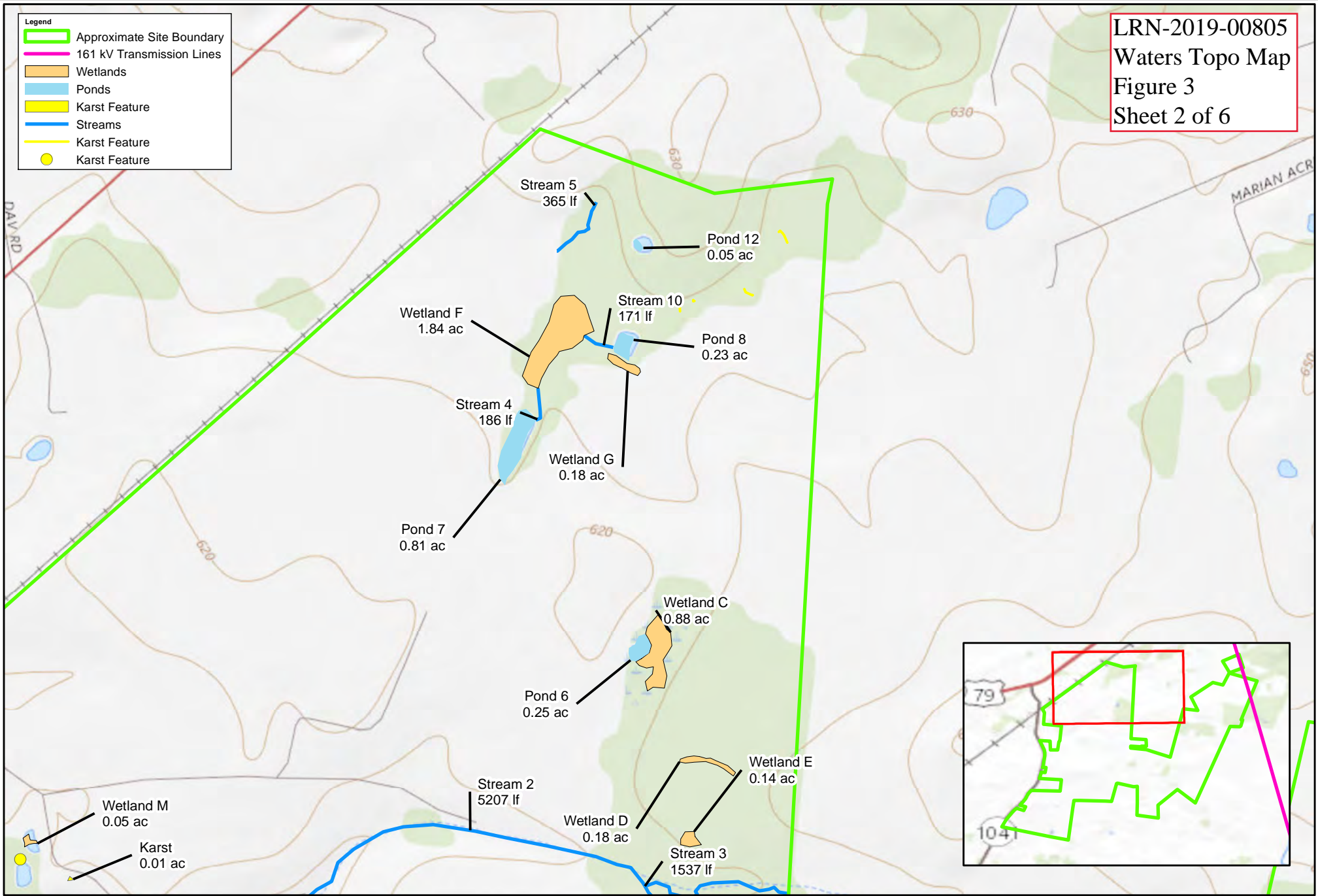
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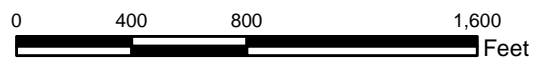
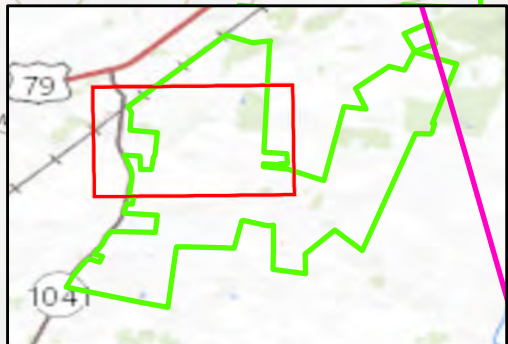
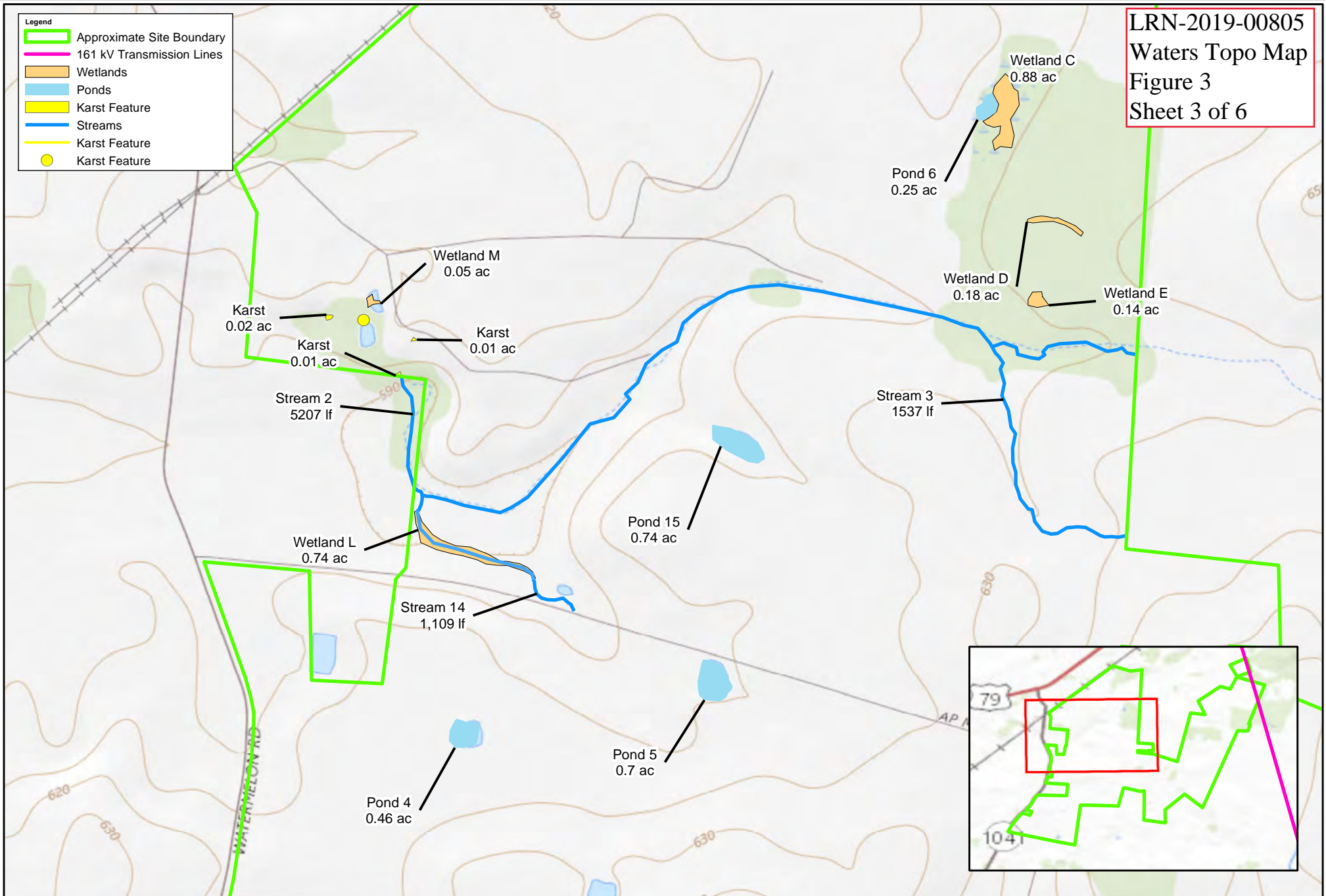
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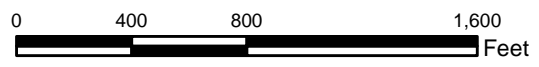
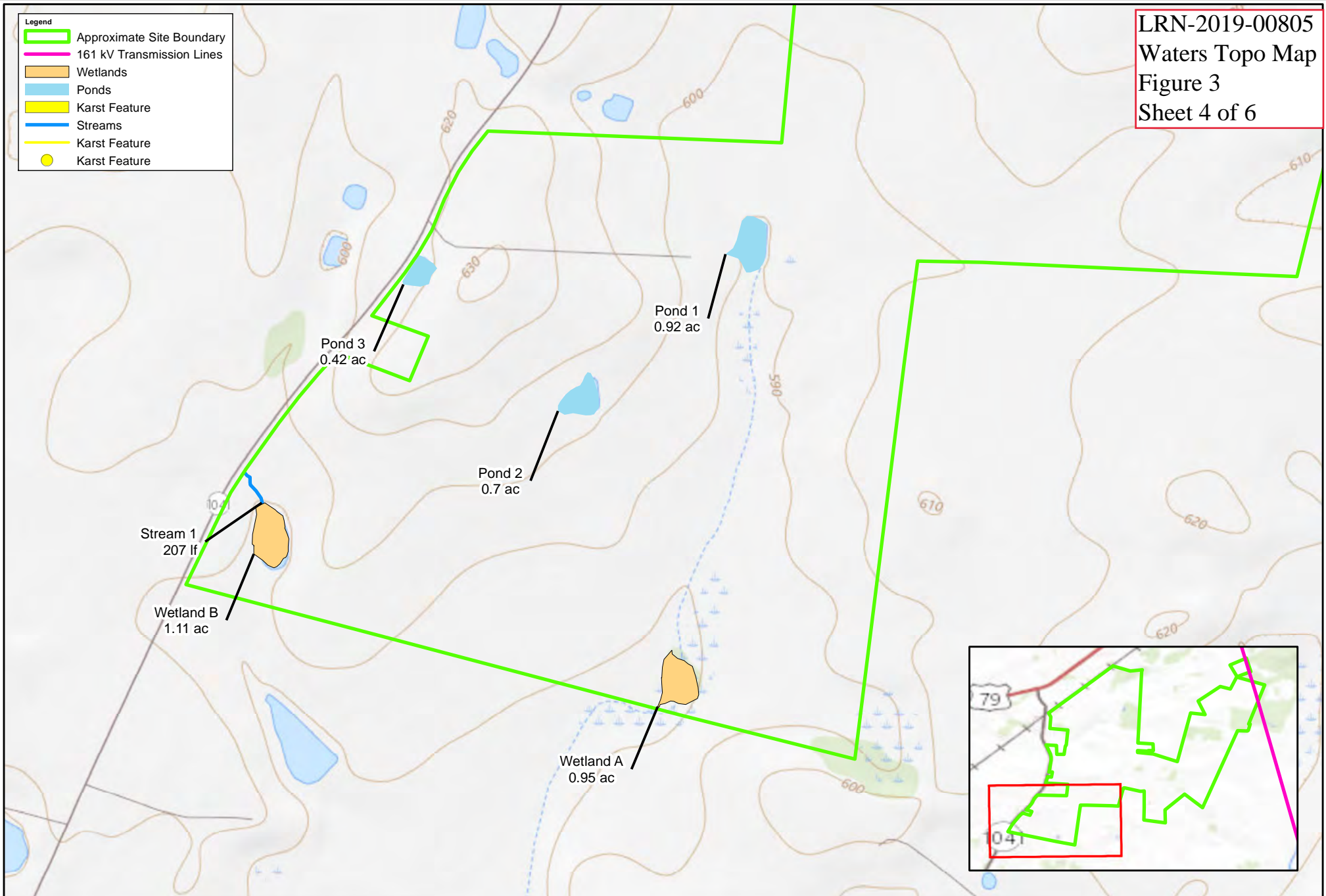
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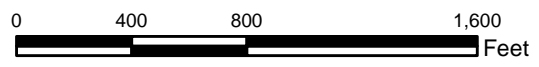
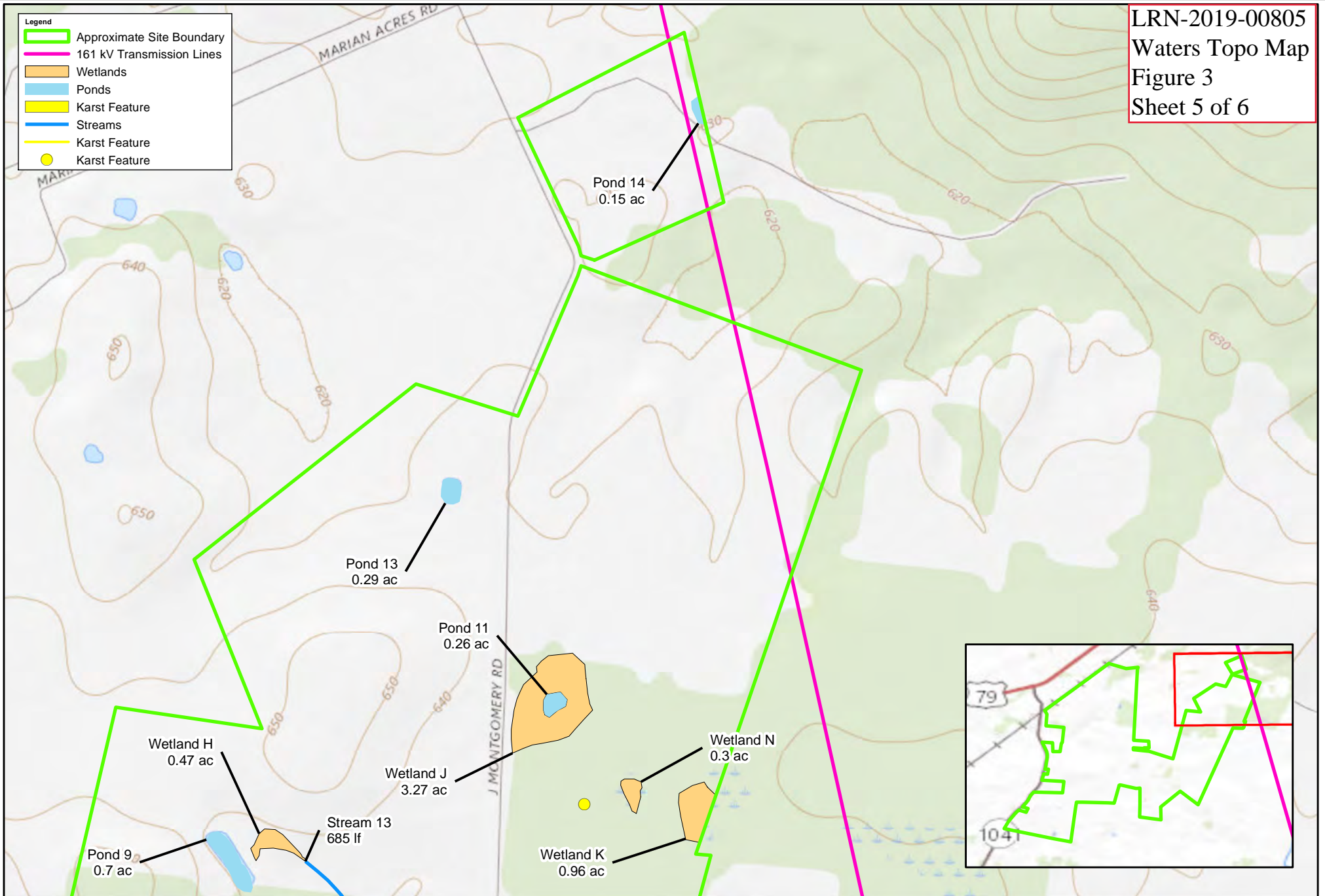
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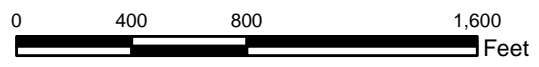
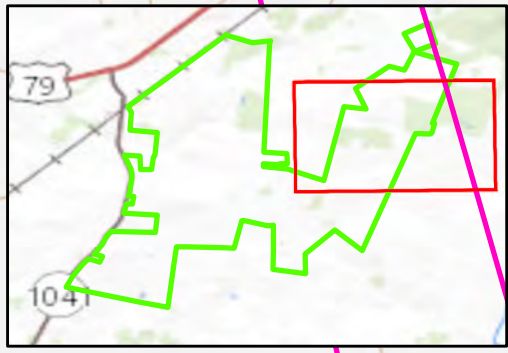
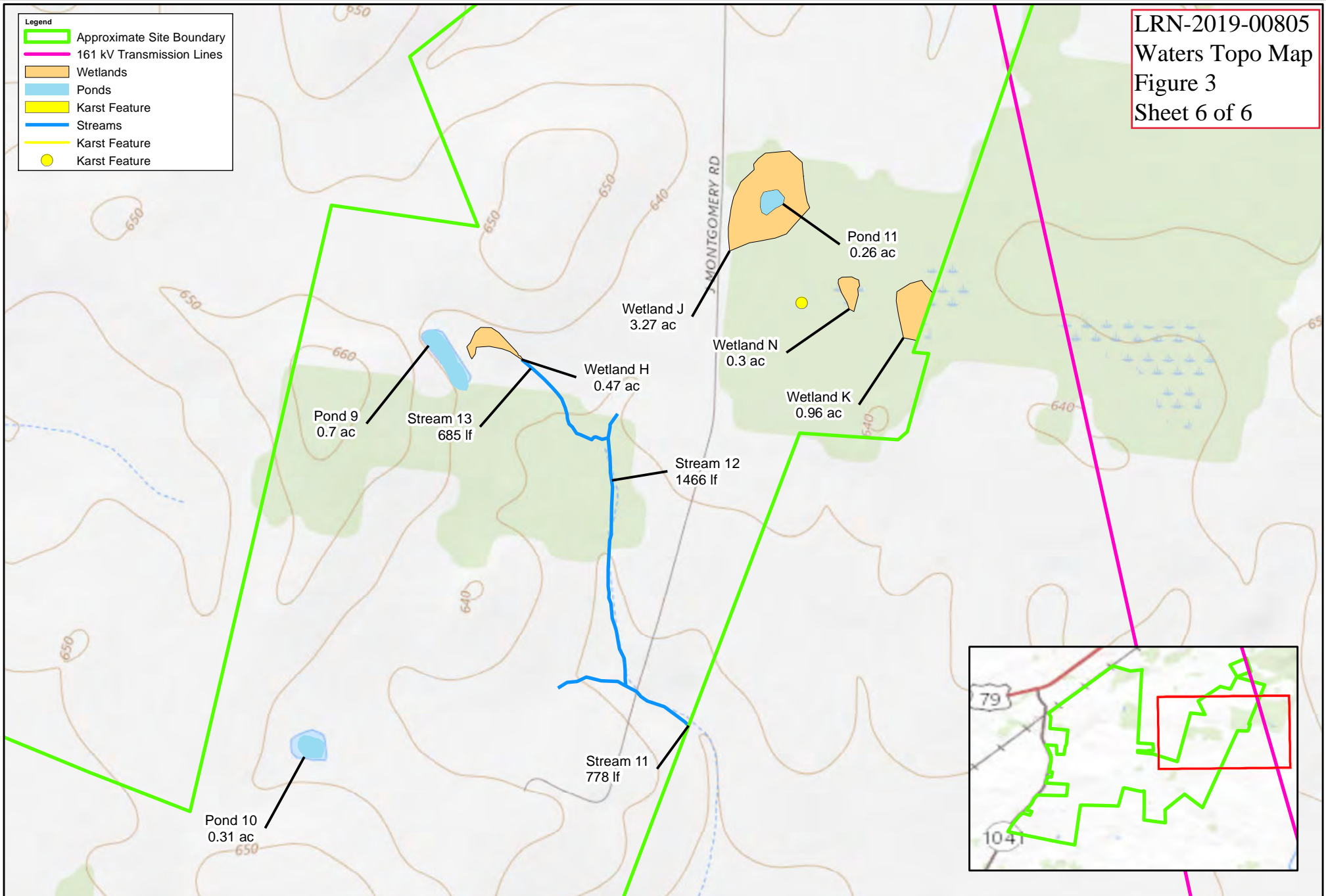
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