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): October 28, 2022

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: CESWL-RD, Bartholomew Project SWL-2022-00259

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: Arkansas County/parish/borough: Washington City: Prairie Grove
Center coordinates of site (lat/long in degree decimal format): Lat. 35.9743°, Long. -94.2954°
Universal Transverse Mercator: NAD 83/UTM Zone 15, 3981868.8 Northing, 383205.8 Easting
Name of nearest waterbody: Tributary to Illinois River
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Illinois River (Oklahoma)
Name of watershed or Hydrologic Unit Code (HUC): 11110103 (Illinois)

☑ 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: October 7, 2022
☑ Field Determination. Date(s): September 19, 2022

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 and are not "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. ***[Required]***

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

☐ TNWs, including territorial seas
☐ Wetlands adjacent to TNWs
☑ Relatively Permanent Waters[2] (RPWs) that flow directly or indirectly into TNWs
☑ Non-RPWs that flow directly or indirectly into TNWs
☑ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
☑ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
☐ Impoundments of jurisdictional waters
☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:
Non-wetland waters: DR01-EPH 680 linear feet: 1 width (ft); DR02-PER 367 linear feet: 3 width (ft); DR03-EPH 160 linear feet: 2 width (ft); DR03-INT 279 linear feet: 3 width (ft); DR03-PER 1,708 linear feet: 3 width (ft); DR04-EPH 378 linear feet: 2 width (ft); DR05-PER 1,263 linear feet: 10 width (ft); DR05-EPH 73 linear feet: 1.5 feet width. DR02-PER-OW: 1.80 acres.
Wetlands: WET03-PEM 0.16 acre; WET04-PEM 0.23 acre; WET04-PFO 0.18 acre; WET07-PEM 0.64 acre; WET08-PEM 0.14 acre; WET11-PFO 1.10 acres; WET16-PEM 0.24 acres.

c. Limits (boundaries) of jurisdiction based on: 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: A wetland delineation conducted by the agent (Cattails Environmental) identified a total of five wetland features as potentially isolated. A Corps site visit on September 19, 2022, determined that one of these features (WET03-PEM) exhibited a direct

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

hydrologic connection to an RPW, therefore that feature is addressed in Section I.B.1. and subsequent sections as needed. The remaining wetland features, (WET09-PEM, WET10-PEM, WET14-PEM, and WET15-PEM), cumulatively totaling 1.03 acres, were identified by the agent (and confirmed by a Corps site visit) as geographically isolated within the subject property. WET09-PEM is a small area of approximately 0.02 acre located in the western portion of the subject property that is situated in broad uplands. WET10-PEM (0.29 acre), located just north of WET09, is similarly situated on a broad upland, lacking hydrologic connection to downstream waters. WET15-PEM (0.54 acre) and WET14-PEM (0.18 acre), located on the east side of the subject property, are similarly situated on broad uplands. These four features were observed to be geographically isolated and would not quality for jurisdiction under Section 404 of the Clean Water Act.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

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

1. TNW

Identify TNW:

Summarize rationale supporting determination:

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent":

B. Characteristics of Tributary (That Is Not a TNW) and Its Adjacent Wetlands (If Any):

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

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

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

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

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

(i) General Area Conditions:

Watershed size: 757.7 square miles
Drainage area: 1.95 square miles

Average annual rainfall: 47.7 inches
Average annual snowfall: 7.0 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.

☑ Tributary flows through tributaries before entering TNW.

Project waters are 30 (or more) river miles from TNW.
Project waters are 1 (or less) river miles from RPW.
Project waters are 30 (or more) aerial (straight) miles from TNW.
Project waters are 1 (or less) aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: No, waters do not cross state boundaries nor serve as boundaries.

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

Identify flow route to TNW[5]: Ephemeral tributaries and intermittent tributaries (DR01-EPH, DR02-INT, DR03-EPH, DR04-EPH, DR05-EPH) flow to perennial channels (DR03-PER and DR05-PER), perennial channel DR03-PER flows to perennial channel DR05-PER, perennial channel DR05-PER flows to Illinois River, Illinois River transitions to a TNW in Oklahoma.
Tributary stream order, if known: Ephemeral channels: 1st Order; DR03-INT: 1st Order; DR02-PER and DR03-PER: 2nd Order; DR05-PER: 3rd Order.

Intermittent Channels: DR02-PER, DR03-INT

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

Tributary is:
- ☐ Natural
- ☐ Artificial (man-made). Explain:
- ☑ Manipulated (man-altered). Explain: Reaches of both channels include channelized portions.

Tributary properties with respect to top of bank (estimate):
Average width: DR02-PER 3 feet; DR03-INT 3 feet
Average depth: DR02-PER 0.5 feet; DR03-INT 3 0.5
Average side slopes: 2:1

Primary tributary substrate composition (check all that apply):

☑ Silts	☐ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☑ Muck
☐ Bedrock	☑ Vegetation. Type/% cover: Water cress (*Nasturtium officinale*) and *Ludiwigia* sp./2%	
☐ Other. Explain:		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Tributaries exhibited generally narrow riparian zones.
Presence of run/riffle/pool complexes. Explain: Both DR02-PER and DR03-INT were channelized and consists primarily of long runs and narrow pools.
Tributary geometry: Relatively Straight
Tributary gradient (approximate average slope): <0.01%

(c) Flow:
Tributary provides for: Seasonal Flow
Estimate average number of flow events in review area/year: 20 (or greater)
Describe flow regime: DR02-PER and DR03-INT exhibited characteristics of seasonal flow and supported standing water at time of Corps site visit during moderate drought (National Weather Service, Tulsa 2022; APT 2022).
Other information on duration and volume: No information specifically available regarding gage data for stream flow; however, aerial photography and field observations suggest channels support intermittent flow. Water was present during agent wetland delineation (July 2022) during drier than normal conditions (APT 2022) and at time of Corps site visit during normal conditions, with drought index listed as mild drought (APT 2022).
Surface flow is: Discrete and Confined Characteristics: Channels exhibit relatively defined banks, although hydrology was observed directly from wetland communities that abut DR02-PER. In addition, DR02-PER is impounded (DR02-PER-OW) and discharges from the impoundment via a 36" metal culvert.
Subsurface flow: Unknown Explain findings: Groundwater influence was noted during site visit and was observed as a "spring" within the upper reaches of DR02-PER.
- ☐ Dye (or other) test performed:

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

☑ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☑ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☑ leaf litter disturbed or washed away	☐ scour
☑ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.
[6] A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

☐ Discontinuous OHWM.[7] Explain:

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

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

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

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: Water was clear during site visit; watershed is located in an agricultural and suburban area (experiencing moderate growth), therefore, water quality likely impacted by increased sediment, nutrients, etc.

Identify specific pollutants, if known: Likely pollutants include increased sediment/siltation due to impervious drainage, nutrients from agricultural practices, pesticides and herbicides (associated with agri and suburban application).

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

☑ Riparian corridor. Characteristics (type, average width): DR02-Per and DR03-INT support a narrow herbaceous and shrub/scrub riparian zone.

☑ Wetland fringe. Characteristics: An emergent wetland community borders portions of DR02-PER.

☑ Habitat for:
- ☑ Federally Listed species. Explain findings: A few trees were observed within the riparian zone that could support summer roosting habitat for federally listed bats, such as Indiana bat and northern long-eared bat.
- ☑ Fish/spawn areas. Explain findings: A fish community was observed in DR02-PER consisting of mosquitofish and green sunfish.
- ☐ Other environmentally-sensitive species. Explain findings:
- ☑ Aquatic/wildlife diversity. Explain findings: A diversity of fish, herpetofauna, and aquatic insects were observed during the Corps site visit. The channels and associated riparian zones also support habitat for birds, mammals, and terrestrial insects.

Ephemeral Channels: DR01-EPH, DR03-EPH, DR04-EPH, DR05-EPH

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

Tributary is:
- ☐ Natural
- ☐ Artificial (man-made). Explain:
- ☑ Manipulated (man-altered). Explain: All four ephemeral channels have been channlized or support portions of reach as channelized.

Tributary properties with respect to top of bank (estimate):
Average width: DR01-EPH 1 feet; DR03-EPH 2 feet; DR04-EPH 2 feet; DR05-EPH 1.5 feet.
Average depth: DR01-EPH 0.5 feet; DR03-EPH 0.5 feet; DR04-EPH 0.5 feet; DR05-EPH 0.5 feet.
Average side slopes: 2:1

Primary tributary substrate composition (check all that apply):

☑ Silts	☐ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☑ Vegetation. Type/% cover: Herbaceous hydrophytes/5%	
☐ Other. Explain:		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Tributaries exhibited narrow riparian zones; DR01-EPH and DR03-EPH have been relocated along roadways with limited function and some erosion observed.
Presence of run/riffle/pool complexes. Explain: Ephemeral channels that flow in response to storm events and lack riffle/run/pool complexes.
Tributary geometry: Relatively Straight
Tributary gradient (approximate average slope): <0.05%

(c) Flow:
Tributary provides for: Ephemeral Flow
Estimate average number of flow events in review area/year: 11-20

[7]Ibid.

Describe flow regime: All four channels exhibit characteristics of ephemeral flow, likely flowing only shortly after storm events of enough magnitude to trigger runoff/sheet flow. Channels were relatively straight (low sinuosity) with uniform substrate and rooted vegetation in portions of channel.

Other information on duration and volume: No information specifically available regarding gage data for stream flow; however, aerial photography and a site visit suggests channels support only ephemeral flow.

Surface flow is: Discrete and Confined Characteristics: Channels support relatively low banks, however, they exhibited relatively defined channels. DR01-EPH and DR04-EPH contribute hydrology to abutting wetlands.

Subsurface flow: Unknown Explain findings: Subsurface flow unlikely due to ephemeral characteristics.

☐ Dye (or other) test performed:

Tributary has (check all that apply):

☐ Bed and banks

☑ OHWM[8] (check all indicators that apply):

☑ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☑ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☑ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☑ scour
☑ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	

☐ Discontinuous OHWM.[9] Explain:

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

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

(iii) Chemical Characteristics:

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

Explain: All four channels were dry at time of site visit; therefore, water conditions were not observed; likely impacted by agricultural practices within the immediate area of the watershed.

Identify specific pollutants, if known: Likely pollutants include increased sediment/siltation due to nutrients from agricultural practices, pesticides and herbicides (associated with agricultural and suburban application).

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

☑ Riparian corridor. Characteristics (type, average width): Very narrow, primarily herbaceous riparian zones (less than 10 feet). A few trees were observed along portions of some reaches, however, overall riparian zone poorly developed and primarily herbaceous.

☐ Wetland fringe. Characteristics:

☑ Habitat for:

☑ Federally Listed species. Explain findings: A few trees were observed within the riparian zone that could support summer roosting habitat for federally listed bats, such as Indiana bat and northern long-eared bat.

☐ Fish/spawn areas. Explain findings:

☐ Other environmentally-sensitive species. Explain findings:

☑ Aquatic/wildlife diversity. Explain findings: Semi-aquatic species, such as frogs, salamander, possibly insects, may utilize the channels during extended rain events. Terrestrial species, including birds, herpetofauna, small/large mammals may utilize the channels and riparian areas for foraging, 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: WET03-PEM 0.16 acre; WET07-PEM 0.64 acre; WET08-PEM 0.14 acre; and WET16-PEM 0.24 acre.

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

[9]Ibid.

Wetland type. Explain: Palustrine Emergent and Palustrine Forested wetlands.
Wetland quality. Explain: Emergent wetlands that support hydrophyte diversity; in addition, they provide functionality for flood storage, nutrient collection, and habitat for aquatic and terrestrial species.

Project wetlands cross or serve as state boundaries. Explain: No, wetlands do not cross or serve as state boundaries.

(b) General Flow Relationship with Non-TNW:
Flow is: Intermittent Flow and Ephemeral Flow. Explain: WET03-PEM and WET16-PEM abut intermittent channels and receive intermittent flow with these tributaries. WET07-PEM and WET08-PEM are hydrologically connected to an ephemeral tributary (DR04-EPH) providing ephemeral flow.

Surface flow is: Discrete and Confined
Characteristics: Wetlands contribute hydrology via directly abutting both ephemeral and intermittent channels; overall, channels exhibit relatively low banks with out-of-bank flooding a likely contributor to hydrology. Wetlands WET07 and WET08 flow to an ephemeral channel that then flows to a perennial channel.

Subsurface flow: Unknown Explain findings: During Corps field visit, it was noted that WET03-PEM could be partially influenced by groundwater (associated with DR02-PER).

☐ Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

☑ Directly abutting: WET03-PEM and WET16-PEM directly abut intermittent channels.

☑ Not directly abutting WET07-PEM and WET08-PEM

☑ Discrete wetland hydrologic connection. Explain: Wetlands flow to ephemeral channel that connects to perennial stream.

☐ Ecological connection. Explain:

☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW
Project wetlands are 30 (or more) river miles from TNW.
Project waters are 30 (or more) aerial (straight) miles from TNW.
Flow is from: Wetland to Navigable Waters
Estimate approximate location of wetland as within the 100 - 500-year floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: Water color was clear (in wetlands supporting surface water during field visit) with a slight noticeable bacterial sheen. Watershed is affected by agricultural activities and development; therefore nutrients, sediment, and other factors contribute to somewhat impacted water quality.

Identify specific pollutants, if known: General pollutants that likely affect these wetlands include hydrocarbons, sediment, increased nutrients, herbicides, and pesticides.

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

☑ Riparian buffer. Characteristics (type, average width): Wetlands (WET03-PEM, WET07-PEM, WET08-PEM, and WET16-PEM) supported narrow riparian/upland buffers consisting of early successional communities.

☑ Vegetation type/percent cover. Explain: Emergent wetlands were dominated by caric sedges (*Carex* spp.), cutgrass (*Leersia* sp.), rushes (*Juncus* spp.), barnyard grass (*Echinochloa crusgalli*), and additional hydrophytes; approximately 90 percent coverage (or greater).

☑ Habitat for:

☑ Federally Listed species. Explain findings: A few scattered trees were observed within the emergent wetland communities that could support habitat for roosting bats (Indiana or norther long-eared bat).

☑ Fish/spawn areas. Explain findings: WET03-PEM could support a seasonal fish community, although lacked water during Corps site visit (during moderate drought conditions).

☐ Other environmentally-sensitive species. Explain findings:

☑ Aquatic/wildlife diversity. Explain findings: The emergent wetland communities provide for a diversity of aquatic/semiaquatic and terrestrial wildlife species. During the Corp visit several species of frogs were observed, as well as insects such as damselflies and dragonflies. Birds, including neotropical migrants, mammals (sign of raccoon and white-tail deer were observed), herpetofauna, and insects utilize the wetland communities within the subject property.

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

All wetland(s) being considered in the cumulative analysis: 4
Approximately (1.18) 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)
WET03-PEM	Yes	0.16		
WET07-PEM	No	0.64		
WET08-PEM	No	0.14		
WET16-PEM	Yes	0.24		

Summarize overall biological, chemical and physical functions being performed: The wetland features support habitat for a diversity of semi-aquatic, aquatic, and terrestrial wildlife species, include the potential for seasonal use by waterfowl. They function for chemical processes such as nutrient filtration and organic carbon cycle. They are hydrologically connected to TNWs (Illinois River) and provide flood storage within the watershed.

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: Two ephemeral channels lacking adjacent wetlands were identified within the subject property, DR03-EPH and DR05-EPH. Both support relatively short reaches of ephemeral channel that exhibited indicators of an OHWM. DR03-EPH drains from a slightly sloping area that supports a mixture of upland and wetland conditions. This channel flows directly into DR03-PER, a perennial channel (RPW) and eventually to Illinois River (TNW). This channel functions to transfer flood water and nutrients to the downstream TNW. In addition, its support some habitat for aquatic species, or at the very least provides habitat for brief periods that would support movement of aquatic or semi-aquatic species that would affect species within the TNW. DR05-EPH is a narrow ephemeral channel exhibiting an OHWM that flows directly into a perennial channel (DR05-PER), then to Illinois River (TNW). This channel also provides a nexus for flood water, nutrients, and wildlife habitat within the TNW.

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: DR01-EPH is a narrow ephemeral channel, supporting an OHWM, that flows into an emergent wetland (WET03-PEM, which directly abuts an RPW). This channel drains a slightly sloping upland area, flowing for short durations during and after precipitation events. The channel functions to transfer flood water, nutrients, and aquatic species to downstream TNWs (Illinois River). DR04-EPH is an ephemeral channel supporting an OHWM that is located downstream of two emergent wetlands (WET07-PEM, WET08-PEM). This channel and the two associated wetlands provide flood storage, flood transfer, organic carbon cycling, nutrient storage/transfer, and habitat for aquatic species that would provide a significant nexus to downstream TNWs (Illinois River).

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: DR05-PER is mapped as intermittent within the subject property by USGS topographic maps and NHD; however, it is mapped by both as perennial just downstream of the subject property. Review of aerial photography indicates this channel supports perennial flow. The Corps site visit revealed the channel supported a moderately diverse fishery, including black-spotted topminnow, green sunfish, long-ear sunfish, mosquitofish, and likely additional species. The area was experiencing a moderate drought (APT) at the time of the Corps site visit and supported moderate flow. An earlier site visit by the agent during drought conditions (July 2022) revealed the channel was flowing at that time as well (per APT and NWS drought monitor). An additional channel, DR03-PER, is also mapped as intermittent by NHD, although it is unmapped on older versions of USGS

topographic quadrangle Prairie Grove, AR (although more recent USGS quadrangle maps the channel). This channel was also flowing during both the Corps site visit and initial wetland delineation by the agent. The presence of flow during drought condition and the presence of fish (green sunfish and mosquitofish) and benthic macroinvertebrates, confirm the perennial nature of the channel. This channel can also be seen flowing in some aerial imagery records on Google Earth, however, due to its narrow width it is difficult to determine flow/water status during numerous periods of record (due to vegetation, tree cover).

☑ 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: DR02-PER and DR03-INT supported water, although little or no flow during Corps site visit. DR02-INT supported fish and aquatic invertebrates. Aerial photography indicates the channels support flow during wet season and sometimes during dry season. Agent identified DR02-PER as perennial, although it appeared to support seasonal flow (although probably flows except in dry conditions) and identified DR03-INT as intermittent.

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

☑ Tributary waters: DR02-PER 367 linear feet 3 width; DR03-INT: 279 linear feet 3 width; DR03-PER 1,708 linear feet 3 width (ft); DR05-PER: 1,263 linear feet 10 width.

☑ Other non-wetland waters: DR02-PER-OW-1: 1.8 acres.

Identify type(s) of waters: Man-made pond. DR02-PER flows into the pond and discharges via a 36" metal pipe directly into DR03-PER (perennial channel).

3. Non-RPWs[10] 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: DR01-EPH 680 linear feet 1 width (ft); DR03-EPH 160 linear feet 2 width (ft); DR04-EPH 378 linear feet 2 width (ft); DR05-EPH 73 linear feet 1.5 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: WET04-PEM and WET04-PFO directly abut a perennial (spring-fed) channel (DR03-PER) that supports perennial flow up to its confluence with DR05-PER. WET11-PFO abuts the perennial channel, DR05-PER.

☑ 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: WET03-PEM is located on the upper reach of DR02-PER (the channel directly exits the emergent wetland). The channel flows south and is impounded (DR02-PER-OW); the impounded seasonally discharges into DR03-PER (a perennial channel). WET16-PEM directly abuts an off-site intermittent channel that flows to DR05-PER and then to Illinois River (TNW).

Provide acreage estimates for jurisdictional wetlands in the review area: 1.91 acres.

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

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

Provide acreage estimates for jurisdictional wetlands in the review area: 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: 0.78 acres (WET07-PEM and WET08-PEM).

7. Impoundments of jurisdictional waters.[11]

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).

[10]See Footnote # 3.

[11] To complete the analysis, refer to the key in Section III.D.6 of the Instructional Guidebook.

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[12]

☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.

☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.

☐ which are or could be used for industrial purposes by industries in interstate commerce.

☐ Interstate isolated waters. Explain:

☐ Other factors. Explain:

Identify water body and summarize rationale supporting determination:

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

☐ Tributary waters: linear feet width (ft).

☐ Other non-wetland waters: acres.

Identify type(s) of waters:

☐ Wetlands: acres.

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

☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.

☑ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.

☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).

☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:

☐ Other: (explain, if not covered above):

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

☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).

☐ Lakes/ponds: acres.

☐ Other non-wetland waters: acres. List type of aquatic resource: .

☑ Wetlands: 1.03 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: Preliminary Waters of the U.S. Assessment & Wetland Delineation Report: Bartholomew Project, Prairie Grove, Washington County, Arkansas dated August 2022 by Cattails Environmental.

☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.

☐ Office concurs with data sheets/delineation report.

☑ Office does not concur with data sheets/delineation report.

☐ Data sheets prepared by the Corps:

☐ Corps navigable waters' study:

☑ U.S. Geological Survey Hydrologic Atlas: HUC 8: 11110103 (Illinois) and HUC 12: 111101030402. NHD provided by agent and accessed via National Regulatory Viewer (NRV).

☑ USGS NHD data.

☑ USGS 8 and 12 digit HUC maps.

[12] 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.*

- ☑ U.S. Geological Survey map(s). Cite scale & quad name: Prairie Grove, AR (1:24K)
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: Soil Survey of Washington County, Arkansas (1969); soil data provided by agent.
- ☑ National wetlands inventory map(s). Cite name: NWI map provided by agent in wetland delineation.
- ☐ State/Local wetland inventory map(s):
- ☐ FEMA/FIRM maps:
- ☐ 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- ☑ Photographs: ☑ Aerial (Name & Date): Google Earth (1994-2021); Imagery provided by agent in wetland delineation.
- ☑ or ☑ Other (Name & Date): Site photos provided by agent in wetland delineation and collected during Corps site visit.
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Applicable/supporting case law:
- ☐ Applicable/supporting scientific literature:
- ☑ Other information (please specify): Corps site visit conducted on September 19, 2022. Antecedent Precipitation Tool (APT) was utilized for climatic conditions corresponding to Corps site visit on September 19, 2022.

B. ADDITIONAL COMMENTS TO SUPPORT JD: A wetland delineation was conducted the agent (Cattails Environmental, LLC) during July 2022. A Corps site visit was conducted on September 19, 2022. During each visit the area was experiencing a moderate to severe drought. The agent's wetland delineation describes a four ephemeral channels (DR01-EPH, DR03-EPH, DR04-EPH, and DR05-EPH), one intermittent channel (DR02-INT), three perennial channels (DR02-PER, DR03-PER, DR05-PER), 11 wetlands (five were identified as isolated), and one man-made pond (DR02-PER-OW). The Corps site visit confirmed the presence of the aquatic resources, with the following determinations differing from those described in the agent's wetland delineation. The wetland delineation describes the ephemeral channel (DR01-EPH) as flowing into an emergent wetland (WET03-PEM). A perennial channel (DR02-PER), determined to be intermittent during Corps site visit and evaluation, is identified as exiting the wetland and flowing to a man-made pond (DR02-PER-OW). The agent described the features as entering the pond with no hydrologic connection to downstream TNWs. However, the Corps site visit identified a short reach of 36" culvert that exits the pond and connects directly to a perennial channel (DR03-PER). The culvert is placed at an elevation well below the channel bank and numerous indicators of OHWM were observed at the culvert confluence with the perennial channel (although it wasn't flowing at time of the site visit, during moderate drought conditions). Therefore, the ephemeral channel (DR01-EPH), intermittent channel (DR02-PER), wetland (WET03-PEM), and man-made pond (DR02-PER-OW), were all identified as supporting a hydrologic connection to a downstream TNW (Illinois River) and would therefore be regulated under Section 404 of the CWA.

Three wetlands were further identified by the agent as being adjacent to a non-RPW (WET07-PEM and WET08-PEM) and a RPW (WET16-PEM). Both WET07 and WET08 support a hydrologic connection to ephemeral channel (DR04-EPH), which then flows to a perennial RPW (DR05-PER). Wetland (WET16-PEM) abuts a seasonal RPW (the channel is located outside subject property) that flows into a perennial RPW (DR05-PER). The Corps site visit and evaluation confirmed the adjacency of these waters to Illinois River (TNW).

Finally, the agent identified four additional wetlands as geographically isolated. These include WET09-PEM, WET10-PEM, WET14-PEM, and WET15-PEM. WET09-PEM is located primarily outside the subject property, with a very small area within the property. This feature is located in surrounding uplands, the Corps site visit confirmed the feature is geographically isolated. WET10-PEM, is located nearby (in the southwestern portion of subject property). This feature was confirmed to be a geographically isolated as well. Both features were depressional features that collect rainwater/direct precipitation with no connected to WOTUS. Further to the east, are two additional wetlands, WET14-PEM and WET15-PEM. WET14-PEM is located in a broad upland area that based on aerial imagery appeared to include a swale/channel that connected to a RPW (DR05-PER). The agent (and confirmed by Corps site visit) indicated the feature (swale) was upland and did not support a connection to the RPW. The Corps site visit confirmed this, with the only the portion of the swale/channel near the RPW (identified as DR05-EPH) qualifying as WOTUS. WET15-PEM is located immediately west of the WET14-PEM, this feature was entirely situated in uplands and geographically isolated. In summary, it was confirmed that these four wetland features were geographically isolated and would not qualify for Corps jurisdiction under Section 404 of the CWA.

October 28, 2022

David Rupe
Project Manager

Date