

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): February 10, 2022

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: CESWL-RD, Woodlands Park Residential Development, SWL-2021-00200

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Arkansas County/parish/borough: Pulaski City: Little Rock
Center coordinates of site (lat/long in degree decimal format): Lat. 34.741777°, Long. -92.426853°
Universal Transverse Mercator: NAD 83/UTM Zone 15, 552470 Northing, 3844603 Easting
Name of nearest waterbody: Panther Branch (intermittent stream)
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Fourche Creek
Name of watershed or Hydrologic Unit Code (HUC): Lower Arkansas – Maumelle, 11110207

- 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: November 3, 2021
 Field Determination. Date(s): September 13, 2021

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

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

- Waters subject to the ebb and flow of the tide.
 Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

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

1. Waters of the U.S.

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

- TNWs, including territorial seas
 Wetlands adjacent to TNWs
 Relatively Permanent Waters² (RPWs) that flow directly or indirectly into TNWs
 Non-RPWs that flow directly or indirectly into TNWs
 Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
 Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
 Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
 Impoundments of jurisdictional waters
 Isolated (interstate or intrastate) waters, including isolated wetlands

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

Non-wetland waters: Int-1 linear feet: 263 width: 7.25 (ft) and/or 0.04 acres.
Eph-1 linear feet: 319 width: 2.1 (ft) and/or 0.02 acres.
Eph-2 linear feet: 276 width: 7.0 (ft) and/or 0.04 acres.

Wetlands: W-1, 0.64 acres.
W-2, 0.04 acres.

c. Limits (boundaries) of jurisdiction based on: Established by OHWM

Elevation of established OHWM (if known): Unknown

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.

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.

Explain: Eph-3 is an ephemeral stream with two sections located within the project boundary—a single channel measuring approximately 74 linear feet in length and a braided section with several channels terminating in overland flow measuring approximately 205 linear feet in length and covering an area measuring approximately 0.23 acres. The braided section of Eph-3 is depicted as three channels on the enclosed map. Although the single channel section of Eph-3 contained flowing water when examined in early-June 2021, water was not observed flowing or pooling in the braided section. Approximately 212 feet north of the project boundary, the Eph-3 channel splits from Eph-1 where Eph-1 originally ran into the manmade pond/wetland (W-2). Although Eph-3 transports water, where it begins to braid it loses distinguishable stream features (e.g., ordinary high water mark, bed and bank) and spreads into overland sheet flow at the southern terminus of its braided section. Therefore, Eph-3 is not a jurisdictional water.

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: 1,100 square miles (HUC 8, 11110207, Lower Arkansas-Maumelle)

Drainage area: 0.61 square miles

Average annual rainfall: 50.4 inches

Average annual snowfall: 3.8 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary Eph-1 (ephemeral) flows through 3 tributaries before entering TNW.

Tributary Eph-2 (ephemeral) flows through 3 tributaries before entering TNW.

Tributary Int-1 (intermittent) flows through 2 tributaries before entering TNW.

Project waters are 5-10 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 2-5 aerial (straight) miles from TNW.

Project waters are 1 (or less) aerial (straight) miles from RPW.

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

Project waters cross or serve as state boundaries. Explain: No. These project waters are in Central Arkansas, entirely within Little Rock, Pulaski County, Arkansas.

Identify flow route to TNW⁵: Eph-1 and Eph-2 flow into Int-1 which then flows into Panther Branch (intermittent). Panther Branch flows into Brodie Creek (perennial) and Brodie Creek flows into Fourche Creek (TNW).

Tributary stream order, if known: Unknown

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

- Tributary is:**
- Natural: Int-1 is a natural stream and Eph-2 is a natural stream within the project area. East of the project area EPH-2 has been piped under development.
 - Artificial (man-made). Explain:
 - Manipulated (man-altered). Explain: Eph-1 has been manipulated over time, most recently when a section of its channel was excavated to a greater depth to drain the pond/W-2. Eph-2 east of the project area has been manipulated over time as residential development expanded in the area. Specifically, Eph-2 was routed underground through the residential development directly east of the current project. A large pipe (estimated at 48 inches in diameter) discharges water into Eph-2 where it meets the current project boundary.

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

Tributary	Latitude	Longitude	OHWB (ft)	OHWL (ft)	Length in project area (ft)	Stream Type
Eph-1	34.742611°	-92.426509°	2.1	0.2	319	Ephemeral
Eph-2	34.742347°	-92.426337°	7	0.9	276	Ephemeral
Int-1	34.742055°	-92.426969°	7.25	0.9	263	Intermittent

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: All streams seem relatively stable but can flood out of banks during storm events.

Sometime in the past 1-2 years, the northern portion of the Eph-1 channel was excavated/trenched to help drain the pond/W-2. The trenched portion is a relatively stable channel, much of which is in sedimentary bedrock. Downstream of the historical pond and the trenched area, the channel displays weak channel development and lacks diverse morphology (no meandering).

Eph-2 displays mild to moderate channel development with weak riffle/pool-like morphology (deeper sections separated by shallower sections) and no meandering. Considering the small drainage area (approximately 0.09 square miles according to USGS Stream Stats), the moderate channel development may be attributed to the large number of impervious surfaces in the watershed and the stormwater runoff the channel receives from the nearby residential subdivisions.

Int-1 displays moderate channel development with some scouring and point bar formation as well as riffle/pool morphology. Though having a very similar ordinary high-water level, the overall channel of Int-1 was deeper and more scoured than Eph-2.

Presence of run/riffle/pool complexes. Explain: In early- and late-June some true riffle/pool morphology was observed along Int-1. In early-September, there were no more standing pools of water in any of the stream channels.

Tributary geometry: Relatively Straight

Tributary gradient (approximate average slope): 2%

(c) Flow:

Tributary Eph-1 provides for: Ephemeral Flow

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.

Tributary Eph-2 provides for: Ephemeral Flow
Tributary Int-1 provides for: Intermittent but not Seasonal Flow

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

Describe flow regime: Due to drainage and upstream topography as well as surrounding hard surfaces from residential development (e.g., roadways, housing roofs, driveways), ephemeral flow through Eph-1 and Eph-2 is primarily from urban rainfall runoff. Intermittent flow through Int-1 is influenced by urban rainfall runoff as well but is also influenced by the level of groundwater.

Other information on duration and volume: Eph-1 and Eph-2 flow during and following storm events. Int-1 flows during and following storm events and also when groundwater is in the stream channel during wetter months of the year,

Surface flow is: Discrete and Confined Characteristics: Surface flow through Int-1, Eph-1, and Eph-2 is both discrete and confined as the channels are distinct and confined within defined banks.

Subsurface flow: Unknown Explain findings:

Dye (or other) test performed:

Tributary has (check all that apply):

Bed and banks

OHWM⁶ (check all indicators that apply):

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

Discontinuous OHWM.⁷ Explain:

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

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

(iii) Chemical Characteristics:

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

Explain: Water observed in the channels was clear, however, an oily sheen was evident on the surface of pools and slower moving flows on each of the channels. Although not entirely developed, the project area's watershed is in a suburban setting and subject to pollutants that leak from automobiles (e.g., hydrocarbon-based lubricants, gasoline, anti-freeze) onto hard surfaces and then are carried downstream by water flows from precipitation events. Chemicals used in residential lawn and garden care also enter the watershed and are carried downstream by precipitation events.

Identify specific pollutants, if known:

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

- Riparian corridor. Characteristics (type, average width): The streams are primarily in a forested setting. Other than the relatively limited number of herbaceous plants along the tree-cleared area of the deeply excavated stream banks of Eph-1, true riparian corridors showing marked differences between forest vegetation and riparian vegetation is not evident through the forested areas of the proposed project.
- Wetland fringe. Characteristics:
- Habitat for:

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.

- Federally Listed species. Explain findings:
- Fish/spawn areas. Explain findings:
- Other environmentally-sensitive species. Explain findings:
- Aquatic/wildlife diversity. Explain findings: Eph-1 and Eph-2 exhibit minimal evidence for aquatic wildlife diversity. Both Eph-1 and Eph-2 have sparse amounts of algae and evidence of macroinvertebrate populations and activity. Int-1 contains sparse amounts of algae and moderate evidence of macroinvertebrate populations and activity.

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: W-1 is approximately 0.64 acres in size.

Wetland type. Explain: W-1 is a palustrine forested wetland abutting the intermittent Panther Branch. Coniferous and deciduous trees are a dominant vegetation throughout W-1.

Wetland quality. Explain: W-1 is fair in quality. With its connection to Panther Branch (off-site intermittent stream) the wetland exhibits adequate hydrology to support a variety of vegetation however this same hydrology also results in stunted and stressed plants during wetter seasons of the year.

Properties:

Wetland size: The portion of W-2 within the project area is approximately 0.04 acres in size.

Wetland type. Explain: W-2 is a palustrine herbaceous wetland adjacent to non-RPW Eph-1. W-2 was once a pond but has since been drained leaving the wetland.

Wetland quality. Explain: W-2 is in poor condition as it continues to dry up due to lack of connection from its original primary source of water north of the project area and because of the deep drainage ditch excavated to drain the pond from the south end.

Project wetlands cross or serve as state boundaries. Explain: N/A. The project wetlands do not cross or serve as state boundaries. Both W-1 and W-2 are within Pulaski County, which is entirely within Arkansas and does not border other states.

(b) General Flow Relationship with Non-TNW:

Flow is: Intermittent Flow Explain: W-1 abuts the intermittent stream Panther Branch and likely extends upstream along Panther Branch but outside of the proposed project area. Intermittent stream Int-1 appears to flow directly into W-1 west of the project area.

Surface flow is: Discrete and Confined

Characteristics: Int-1 flows through a discrete and confined channel into W-1 and W-1 is abutting Panther Branch

Flow is: Ephemeral Flow Explain: North of the project boundary, what would be the Eph-1 channel used to flow into W-2 but presently W-2 does not receive waters except during precipitation events large enough to reach the culvert inlet near the northwestern corner of W-2. Non-RPW Eph-1 is adjacent to W-2 but only carries water when W-2 experiences a precipitation event large enough to raise water levels to flow into Eph-1.

Surface flow is: Discrete and Confined

Characteristics: Water from W-2 flows/drains into the discrete and confined channel Eph-1, which flows into the discrete and confined Int-1 channel which terminates in W-1 offsite.

Subsurface flow: Unknown Explain findings:

- Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting—W-1 directly abuts Panther Branch, a non-TNW intermittent stream to the south. Additionally,

- intermittent stream and non-TNW Int-1 flows directly into W-1 after leaving the project parcel. W-2 is adjacent to non-RPW Eph-1, as the excavated ditch constructed to drain W-2/previous pond exits the southeastern corner of W-2.

- Not directly abutting

- Discrete wetland hydrologic connection. Explain:

- Ecological connection. Explain:

- Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are 5-10 river miles from TNW.

Project waters are 2-5 aerial (straight) miles from TNW.

Flow is from: Wetland to Navigable Waters

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

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: As with the streams, water observed in the wetlands was relatively clear, however, an oily sheen was evident on some surface waters in the wetlands. Although not entirely developed, the project area's watershed is in a suburban setting and subject to pollutants that leak from automobiles (e.g., hydrocarbon-based lubricants, gasoline, anti-freeze) onto hard surfaces and then are carried downstream by water flows from precipitation events. Chemicals used in residential lawn and garden care also enter the watershed and are carried downstream by precipitation events.

Identify specific pollutants, if known:

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

- Riparian buffer. Characteristics (type, average width): Wetland-specific riparian vegetation is evident around and within W-1 and W-2. See the list of plant species observed in W-1 and W-2 in the inserted table below.
- Vegetation type/percent cover. Explain: See table
- Habitat for:
 - Federally Listed species. Explain findings:
 - Fish/spawn areas. Explain findings:
 - Other environmentally-sensitive species. Explain findings:
 - Aquatic/wildlife diversity. Explain findings: Because W-1 abuts perennial Panther Branch where aquatic flora and fauna can survive year-round, W-1 supports a relatively diverse spread of aquatic flora and fauna. Amphibians (frogs and tadpoles), reptiles (Cottonmouth), and macroinvertebrates were observed by USACE personnel in W-1 during a late-June field visit. W-2's relative lack of connection with upstream and downstream aquatic resources limits its aquatic flora and fauna diversity in comparison with W-1. However, amphibians, reptiles, and macroinvertebrates may presently be encountered in W-1 and at least until it dries up given the lack of connection with a feeding stream.

Plant Species	W-1	W-2	Indicator Status	Relative Stratum Coverage at Sample Location (%)*												
				Tree			Sapling/Shrub			Herb			Woody			
				W-1 ^a	W-1 ^b	W-2	W-1 ^a	W-1 ^b	W-2	W-1 ^a	W-1 ^b	W-2	W-1 ^a	W-1 ^b	W-2	
<i>Acer rubrum</i>	X		FAC				50.0									
<i>Boehmeria cylindrica</i>	X		FACW							14.3						
<i>Carya tomentosa</i>	X		UPL		11.1											
<i>Cyperus esculentus</i>		X	FACW									30.0				
<i>Eleocharis palustris</i>		X	OBL									10.0				
<i>Juncus effusus</i>	X	X	FACW							14.3		10.0				
<i>Ligustrum sinense</i>	X		FACU				50.0	33.3			36.4					
<i>Liquidambar styraciflua</i>	X		FAC	42.9	22.2			33.3								
<i>Microstegium vimineum</i>	X		FAC							28.6						
<i>Nyssa sylvatica</i>	X		FAC					33.3								
<i>Ostrya virginiana</i>	X		FACU		33.3											
<i>Parthenocissus quinquefolia</i>	X		FACU							45.5						
<i>Panicum pensylvanicum</i>	X	X	FACW							38.1		20.0				
<i>Pinus taeda</i>	X		FAC	57.1												
<i>Quercus pagoda</i>	X		FACW		33.3											
<i>Salix nigra</i>		X	OBL								100					
<i>Scirpus cyperinus</i>		X	FACW									10.0				
<i>Smilax rotundifolia</i>	X		FAC							4.8						100
<i>Toxicodendron radicans</i>	X		FAC										100			
<i>Typha latifolia</i>		X	OBL									20.0				
<i>Vaccinium corymbosum</i>	X		FACW								18.2					
TOTAL:				100	100	0	100	100	100	100	100	100	0	100		

*Shrub stratum plants were not observed.

W-1^a is Sampling Point 0450 in the Delineation Report and was taken in W-1.

W-1^b is Sampling Point 0451 in the Delineation Report and was taken in W-1.

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

All wetland(s) being considered in the cumulative analysis: 2
 Approximately (0.68) 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>
W-1 Yes	0.64	W-2 No	0.04

W-1 directly abuts Panther Branch. W-2 is adjacent to non-RPW Eph-1.

Summarize overall biological, chemical and physical functions being performed: W-1 and W-2 provide wildlife habitat and refugia for aquatic life, transportation of storm water runoff, and cycling nutrients and organic matter within the watershed. W-1 and W-2 also have the capacity to reduce the amount of pollutants and floodwaters reaching downstream waters.

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 Eph-2 does not have adjacent wetlands but flows into Int-1 which flows into Panther Branch and then into Brodie Creek and then into Fourche Creek (TNW). Eph-2 provides limited aquatic habitat due to its ephemeral nature except in pooled areas where they provide minimal and temporary aquatic habitat following storm events for reptiles and amphibians, as well as macro- and micro-invertebrates. Eph-2 has the capacity to carry pollutants or flood waters to Fourche Creek. Additionally, Eph-2 has the capacity to transfer nutrients and organic carbon that support downstream foodwebs.
- 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: Stream Eph-1 and its adjacent wetland W-2 have a significant nexus with a downstream TNW (Fourche Creek). The physical connection is made as Eph-1's stream channel flows into Int-1 which flows into Panther Branch, then Brodie Creek, then Fourche Creek. Eph-1 and W-2 provide limited aquatic habitat due to Eph-1's ephemeral nature and because W-2 has been largely cutoff from feeding waters save in times of heavy precipitation or flooding. W-2 appears to still support a relatively diverse vegetation community but will likely eventually disappear because of its ephemeral connection to feeding upstream and downstream waters. In pooled areas during or following precipitation events, Eph-1 provides minimal and temporary aquatic habitat for reptiles and amphibians, as well as macro- and micro-invertebrates. Eph-1 has the capacity to carry pollutants or flood waters to Fourche Creek. W-2 also has the capacity to reduce the amount of pollutants and floodwaters reaching downstream waters. Additionally, Eph-1 has the capacity to transfer nutrients and organic carbon that support downstream foodwebs.
- 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: N/A

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: The Int-1 stream channel substrate consisted of mostly gravel and cobble and displayed a riffle/pool morphology. The channel displayed moderate development with some scouring and point bar formation. The stream currently serves a variety of functions such as providing flood control; seasonal wildlife habitat and refugia for aquatic and semi-aquatic life; transporting storm water runoff; and reducing the migration of nutrients, sediment, and organic matter within the watershed. Hydrology in the intermittent stream is primarily contributed by surface water from storm water runoff with some groundwater likely keeping the largest pools wet seasonally in its lower reaches.

Int-1 flows into W-1 which abuts Panther Branch, an RPW just outside of the proposed project area. According to the National Hydrography Dataset, Panther Branch is an intermittent stream.

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

- Tributary waters: Int-1 is 263 linear feet in length with an average width of 7.25 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: Eph-1 is 319 linear feet in length with an average width of 2.1 ft. Eph-2 is 276 linear feet in length with average width of 7 ft.
- Other non-wetland waters: acres.
- Identify type(s) of waters:

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

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
- Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
- Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: W-1 connects directly to, or touches, Panther Branch, without separation by manmade dikes or barriers, natural river berms, beach dunes, and the like.

Provide acreage estimates for jurisdictional wetlands in the review area: 0.64 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: 0.04 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).

⁸See Footnote # 3.

⁹To 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):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: Eph-3 is an ephemeral stream extending southward from the northern border of the proposed project area. The first 74 feet of Eph-3 is a single stream channel. South of its single channel, Eph-3 becomes a braided system for approximately 205 feet and covering an area of about 0.23 acres. The braided system terminates in overland sheet flow. There is no significant nexus connection between Eph-3 and a downstream TNW. See also Section II.B.2 above.
- Other: (explain, if not covered above):

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

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

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

- Non-wetland waters (i.e., rivers, streams): Eph-3 (single channel) 74 linear feet by 4 width (ft) for 0.007 acres; Eph-3 (braided section) 205 linear feet by varying width for 0.23 acres. Eph-3 is a non-jurisdictional ephemeral stream with two sections located within the project boundary—a single channel measuring approximately 74 linear feet in length and 4 feet wide (0.007 acres) and a braided section with several channels terminating in overland flow, measuring approximately 205 linear feet in length, and covering an area measuring approximately 0.23 acres.
- project boundary—
- 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: GBMc & Associates, Jurisdictional Determination, dated June 24, 2021.
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report. USACE-SWL concurs with the data sheets/delineation for Int-1 (jurisdictional), Eph-2 (jurisdictional), Eph-3 (non-jurisdictional), and W-1 (jurisdictional).

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*.

- Office does not concur with data sheets/delineation report. USACE-SWL does not concur with the non-jurisdictional assumption reflected in the data sheets/delineation for Eph-1 and W-2. USACE-SWL determined that Eph-1 and W-2 are jurisdictional.
- Data sheets prepared by the Corps:
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas: 11110207, Lower Arkansas – Maumelle
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: Alexander, Arkansas 7.5 minute quadrangle
- USDA Natural Resources Conservation Service Soil Survey. Citation:
- National wetlands inventory map(s). Cite name:
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): GBMc & Associates, Jurisdictional Determination, dated June 24, 2021.
- or Other (Name & Date): Google Earth aerial photographs between 1985 and 2021; HistoricAerials.com aerial photographs from 1955, 1960, and 1970; Digital Globe (Spring 2017 through Fall 2021)
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify): 2015 LiDAR data accessed through USGS National Map Viewer

B. ADDITIONAL COMMENTS TO SUPPORT JD: The review area for this approved jurisdictional determination consists of approximately 10 acres of relatively flat forested property located in an area undergoing a high degree of residential and commercial development. Streams Eph-1 and Eph-2 are jurisdictional ephemeral streams and have a significant nexus to a TNW due to the following characteristics: an indirect physical connection to a TNW through Int-1 (intermittent stream RPW), Panther Branch (another intermittent stream RPW, but located outside of the project area), and Brodie Creek (perennial stream RPW located outside of the project area); presence of defined banks, scour, disturbance of leaf litter, and a defined OHWM; ability to transmit chemicals and nutrients to a TNW; and their ability to provide limited biological habitat and nutrients onsite and to the biological resources downstream. Intermittent stream Int-1 is a jurisdictional RPW directly connecting to Panther Branch and currently serving a variety of functions, including providing seasonal wildlife habitat and refugia for aquatic life, transporting storm water runoff, and cycling nutrients and organic matter within the watershed. Palustrine forested wetland W-1 is jurisdictional as it abuts intermittent Panther Branch, which flows into Brodie Creek, which then flows into Fourche Creek (TNW). Herbaceous wetland W-2 is adjacent to non-RPW Eph-1, which flows into Int-1 and then to Panther Branch, Brodie Creek, and Fourche Creek. W-2 is jurisdictional with a significant nexus to a TNW (Fourche Creek) through Eph-1, Int-1, Panther Branch, and Brodie Creek. In addition to the physical connection to a TNW, W-2 also provides some habitat to aquatic life, has the capacity to reduce the amount of pollutants and floodwaters reaching downstream waters, and, through connect streams channels, can provide nutrients and organic carbon that support downstream foodwebs. Eph-3 is an ephemeral stream channel that does not connect to downstream waters save by overland sheet flow. Although Eph-3 transports water, where it begins to braid it loses distinguishable stream features (e.g., ordinary high water mark, bed and bank) and spreads into overland sheet flow at the southern terminus of its braided section. Therefore, Eph-3 is not a jurisdictional water. Enclosed maps indicate the locations of aquatic resources delineated within the project area for this approved jurisdictional determination.

February 10, 2022

James Beers
Project Manager

Date