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 12, 2018

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Louisville District, INDOT I70 widening Hendricks and Morgan Counties, Indiana, LRL-2017-461-djd

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Indiana County/parish/borough: Hendricks and Morgan Counties City: Plainfield
Center coordinates of site (lat/long in degree decimal format): Lat. 39.642049°, Long. -86.424372°
Universal Transverse Mercator: 16
Name of nearest waterbody: White River and Eel River
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: White River
Name of watershed or Hydrologic Unit Code (HUC): Upper White River: 05120201, Eel River: 05120203

- ☑ 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: August 23, 2017
- ☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

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

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

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

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

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

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

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
   Non-wetland waters: 3,063 linear feet: 15 avg. width (ft) and/or 1.67 acres.
   Wetlands: 2.52 acres.

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

   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:

[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.

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: 2,725 square miles (Upper White River)
1,194 square miles (Eel River)
Drainage area: 1,761,300 acres
764,300 acres

Average annual rainfall: 42 inches
Average annual snowfall: 29 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.

☑ Tributary flows through 2 to 4 tributaries before entering TNW.

Project waters are 20-25 river miles from TNW.
Project waters are 1 (or less) river miles from RPW.
Project waters are 10-15 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:

Identify flow route to TNW[5]: Eight waters (UNT McCracken 8, 9, UNT McCracken 1, 2, 3, 6, 7, and Guilford Branch) which flow through the review area, to flow into McCracken Creek, which flows into White Lick Creek, which then flows into TNW (White River). Two waters (West Fork White Lick Creek, Clarks Creek) which flow through the review area, to flow into White Lick Creek, which flows into TNW (White River). One water (White Lick Creek) which flows through the review area, to flow into TNW (White River). One water (UNT Lake Ditch 1) which flows through the review area, to flow into Lake Ditch, which flows into Mill Creek and Cagles Mill Lake, which flows into Mill Creek, which then flows into Eel River, which flows into TNW (White River).
Tributary stream order, if known:

[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.

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

Tributary is:
- [x] Natural
- [ ] Artificial (man-made). Explain:
- [x] Manipulated (man-altered). Explain: Partially channelized.

Tributary properties with respect to top of bank (estimate):
Average width: 25 feet
Average depth: 15 feet
Average side slopes: 2:1

Primary tributary substrate composition (check all that apply):
- [x] Silts
- [x] Sands
- [ ] Concrete
- [x] Cobbles
- [x] Gravel
- [ ] Muck
- [ ] Bedrock
- [ ] Vegetation. Type/% cover:
- [ ] Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Relatively stable
Presence of run/riffle/pool complexes. Explain: Eight of the twelve RPWs had run/riffle/pool complexes.
Tributary geometry: Meandering (UNT McCracken 8, 9, 6, Clark Creek, White Lick Creek, West Fork White Lick Creek
Relatively Straight (UNT McCracken 1, 2, 3, 7, UNT Lake Ditch 1, Guilford Branch)

Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: Seasonal Flow
Estimate average number of flow events in review area/year: 20 (or greater)
Describe flow regime: Perennial
Other information on duration and volume:

Surface flow is: Discrete and Confined Characteristics:

Subsurface flow: Unknown Explain findings:
- [ ]

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

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):
- [ ] High Tide Line indicated by:
  - [ ] oil or scum line along shore objects
  - [ ] fine shell or debris deposits (foreshore)
  - [ ] physical markings/characteristics
  - [ ] tidal gauges
  - [ ] other (list):
- [ ] Mean High Water Mark indicated by:
  - [ ] survey to available datum;
  - [ ] physical markings;
  - [ ] vegetation lines/changes in vegetation types.

[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.
[7]Ibid.

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: Streams have narrow to wide riparian buffers and are surrounded by agricultural and forested land. Water is clear to slightly silty.

Identify specific pollutants, if known:

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

- [x] Riparian corridor. Characteristics (type, average width): Forested, 200 ft. wide avg.
- [ ] Wetland fringe. Characteristics:
- [x] Habitat for:
  - [x] Federally Listed species. Explain findings: Potential forested habitat suitable for Indiana and NLEB.
  - [ ] Fish/spawn areas. Explain findings:
  - [ ] Other environmentally-sensitive species. Explain findings:
  - [ ] Aquatic/wildlife diversity. Explain findings:

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

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: 4.54 acres

Wetland type. Explain: Palustrine Emergent

Wetland quality. Explain: Poor, due to association with highway roadside ditches and disturbance.

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: Intermittent Flow Explain: Flows to Non-TNW during high rainfall events.

Surface flow is: Discrete and Confined

Characteristics:

Subsurface flow: Explain findings:

- [ ] Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

- [x] Directly abutting
- [x] Not directly abutting
  - [ ] Discrete wetland hydrologic connection. Explain:
  - [x] Ecological connection. Explain: Drains into a Non-TNW
  - [ ] Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are 20-25 river miles from TNW.

Project waters are 10-15 aerial (straight) miles from TNW.

Flow is from: Wetland to Navigable Waters

Estimate approximate location of wetland as within the 5 - 10-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 from highway drains into wetlands. Assumed poor water quality due to drainage from highway.

Identify specific pollutants, if known:

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

- [ ] Riparian buffer. Characteristics (type, average width):
- [x] Vegetation type/percent cover. Explain: Emergent persistent ad non-persistent vegetation/90+%
- [ ] Habitat for:
  - [ ] Federally Listed species. Explain findings:
  - [ ] Fish/spawn areas. Explain findings:
  - [ ] Other environmentally-sensitive species. Explain findings:
  - [x] Aquatic/wildlife diversity. Explain findings: habitat for terrestrial and some aquatic species

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

All wetland(s) being considered in the cumulative analysis: 9

LRL-2017-461 RPW and adjacent/abutting wetlands

Approximately (2.5) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

	Directly abuts? (Y/N)	Size (in acres)
Wetland 6:	No	0.32
Wetland 8	No	0.56
Wetland 9	No	0.45
Wetland 17	Yes	0.08
Wetland 18	Yes	0.10
Wetland 19	Yes	0.17
Wetland 20	No	0.46
Wetland 27	No	1.26
Wetland 24	Yes	0.29
Wetland 26	No	0.62
Wetland 29	No	0.16
Wetland 33:	Yes	0.09

Summarize overall biological, chemical and physical functions being performed: flood buffering, water filtration, nutrient storage and transport, supporting biodiversity of plant species, and providing habitat for animal species

C. SIGNIFICANT NEXUS DETERMINATION

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

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

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

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

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

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

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: Wetlands that do not directly abut the RPW (Wetlands 6, 8, 9, 20, 27, 29, and 32) provide primary productivity and nutrient transport to downstream waters, eventually draining to a TNW. These wetlands provide some habitat for aquatic invertebrates. The wetlands have the capacity to transfer, as well as filter/reduce pollutants/runoff from the surrounding area, which is seeing a lot of commercial and residential growth and development. Flow of water through these wetlands helps reduce the flow of runoff. Water from these wetlands flow into headwater tributaries that cool and oxygenate the water before flowing into a TNW. These functions provide substantial or more than speculative or insubstantial effect and this effect is transferred to the RPWs and the TNW, thereby contributing to the physical, chemical, and biological integrity of the TNW (White River). Therefore, these wetlands have a significant nexus to a downstream TNW and are considered waters of the US.

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 were flowing during low rainfall periods of mid to late summer. Data supporting this conclusion is provided at Section III.C.

☐ 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: 3,063 linear feet 15 width (ft).

☐ Other non-wetland waters: acres.
Identify type(s) of waters:

3. Non-RPWs[8] that flow directly or indirectly into TNWs.

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

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

☐ Tributary waters: linear feet width (ft).

☐ Other non-wetland waters: acres.
Identify type(s) of waters:

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

☑ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.

☑ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: Wetlands 17, 18, and 19 abut UNT McCracken Creek 6, Wetland 24 abuts White Lick Creek, Wetland 33 abuts Guilford Branch.

☐ 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: 0.73 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: 1.79 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:

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

Identify water body and summarize rationale supporting determination:

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

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

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

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

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: Waters Report
- ☑ 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:
  - ☑ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite scale & quad name: 1:24K Bridgeport, Plainfield, Mooresville, and Hall
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: USDA NRCS Online Soil Data
- ☑ National wetlands inventory map(s). Cite name: NWI Wetland Mapper online
- ☐ State/Local wetland inventory map(s):
- ☑ FEMA/FIRM maps: GIS floodplain data from FEMA
- ☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- ☑ Photographs: ☑ Aerial (Name & Date): ArcGIS Aerial Photo Data from Esri 2013-2015
  - ☐ or ☑ Other (Name & Date): Site Photographs from Waters Report
- ☐ 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:

RPWs that flow directly or indirectly into TNWs							
ID	**Latitude**	**Longitude**	**Cowardin Class**	**Stream Flow**	**OHWM (width in feet)**	**Estimated Amount of Aquatic Resource in Review Area**	**Class of Aquatic Resource**
Streams							
UNT McCracken Creek 8	39.616171	-86.472609	Riverine Lower Perennial	Perennial	20	100 linear feet and/or 0.05 acre	Non-Section 10, Non-Wetland
UNT McCracken Creek 9 B	39.630700	-86.445400	Riverine Lower Perennial	Perennial	35	475 linear feet and/or 0.38 acre	Non-Section 10, Non-Wetland
West Fork White Lick Creek	39.646817	-86.412266	Riverine Lower Perennial	Perennial	67	187 linear feet and/or 0.29 acre	Non-Section 10, Non-Wetland
White Lick Creek	39.660400	-86.388300	Riverine Lower Perennial	Perennial	85	240 linear feet and/or 0.47 acre	Non-Section 10, Non-Wetland
Clarks Creek	39.665000	-86.379800	Riverine Lower Perennial	Perennial	56	185 linear feet and/or 0.24 acre	Non-Section 10, Non-Wetland
UNT Lake Ditch 1	39.602000	-86.515000	Riverine Upper Perennial	Perennial	9	224 linear feet and/or 0.05 acre	Non-Section 10, Non-Wetland
UNT McCracken 1	39.607200	-86.501000	Riverine Upper Perennial	Perennial	3	200 linear feet and/or 0.014 acre	Non-Section 10, Non-Wetland
UNT McCracken 2	39.608700	-86.496300	Riverine Upper Perennial	Perennial	1.5	200 linear feet and/or 0.007 acre	Non-Section 10, Non-Wetland
UNT McCracken 3	39.612600	-86.484200	Riverine Upper Perennial	Perennial	5	250 linear feet and/or 0.03 acre	Non-Section 10, Non-Wetland
UNT McCracken 6A and 6B	39.632400	-86.441900	Riverine Upper Perennial	Perennial	10	428 linear feet and/or 0.10 acre	Non-Section 10, Non-Wetland
UNT McCracken 7	39.641800	-86.425300	Riverine Upper Perennial	Perennial	1.5	184 linear feet and/or 0.006 acre	Non-Section 10, Non-Wetland
Guilford Branch	39.677697	-86.347099	Riverine Intermittent	Perennial	3	390 linear feet and/or 0.03 acre	Non-Section 10, Non-Wetland
					Total:	**3,063 linear feet and/or 1.67 acres**	

Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.						
ID	**Latitude**	**Longitude**	**Wetland Type**	**Estimated Amount of Aquatic Resource in Review Area**	**Quality**	**Class of Aquatic Resource**
Wetland 17	39.632634	-86.442466	Palustrine Emergent	0.08 acre	Poor	Jurisdictional Wetland
Wetland 18	39.632411	-86.442121	Palustrine Forested	0.10 acre	Poor	Jurisdictional Wetland
Wetland 19	39.632778	-86.442179	Palustrine Forested	0.17 acre	Poor	Jurisdictional Wetland
Wetland 24	39.660222	-86.387906	Palustrine Scrub-Shrub	0.29 acre	Fair	Jurisdictional Wetland
Wetland 33	39.677265	-86.346305	Palustrine Emergent	0.09 acre	Poor	Jurisdictional Wetland
			Total Acres:	**0.73 acre**		

Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.						
ID	**Latitude**	**Longitude**	**Wetland Type**	**Estimated Amount of Aquatic Resource in Review Area**	**Quality**	**Class of Aquatic Resource**
Wetland 6	39.613659	-86.480245	Palustrine Emergent	0.32 acre	Poor	Jurisdictional Wetland

Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.						
ID	**Latitude**	**Longitude**	**Wetland Type**	**Estimated Amount of Aquatic Resource in Review Area**	**Quality**	**Class of Aquatic Resource**
Wetland 8	39.613192	-86.479105	Palustrine Emergent	0.56 acre	Poor	Jurisdictional Wetland
Wetland 9	39.612930	-86.480335	Palustrine Emergent	0.45 acre	Poor	Jurisdictional Wetland
Wetland 20	39.636428	-86.435370	Palustrine Emergent	0.46 acre	Poor	Jurisdictional Wetland
Wetland 27	39.667968	-86.367325	Palustrine Emergent	1.26 acre	Poor	Jurisdictional Wetland
Wetland 29	39.675865	-86.349905	Palustrine Emergent	0.62 acre	Poor	Jurisdictional Wetland
Wetland 32	39.676918	-86.348780	Palustrine Emergent	0.16 acre	Poor	Jurisdictional Wetland
			Total:	**3.83 acre**		