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): April 7, 2016

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:Omaha District, South Dakota Regulatory Office, South Dakota Department of Transportation US 18 from South Dakota 19 to I-29- Lincoln and Turner Counties, NWO-2014-2666-PIE

C. PROJECT LOCATION AND BACKGROUND INFORMATION:76 identified wetlands. 21 are wetlands directly abutting RPWs that flow directly or indirectly into TNWs, 12 are wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs and 42 wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

State:South Dakota County/parish/borough:Lincoln and Turner Counties City:N/A Center coordinates of site (lat/long in degree decimal format): Available on request
Universal Transverse Mercator: 14
Name of nearest waterbody: Hurley Creek- Wetlands 02a, 02b, 03a, 03b, 03c, 03d, 03e, 03f, 03g, 04, 05a, 05b, 06a, 06b and 06c. Will be reference in as Hurley Creek Wetlands.
Name of nearest waterbody: The Vermillion River- Wetlands 07a, 07b, 08, 09a, 09b, 12, 13, 16a, 16b, 16c, 17a, 17c, 20a, 20b, 21a, 21b, 21c, 22a, 22b, 23a, 23b, 23c, 24, 25a, 25b, 26, 27, 28a, 28b and 29. Will be reference in as The Vermillion River Wetlands.
Name of nearest waterbody: Long Creek- Wetlands 30, 31, 32, 33a, 33b, 34, 35a, 35b, 35c, 36, 37a, 37b, 37c, 38 and 39. Will be reference in as Long Creek Wetlands.
Name of nearest waterbody: Snake Creek- Wetlands 40a, 40b, 41, 42a, 42b, 42c, 42d, 43a, 43b, 43c, 44a, 44b, 45a, 45b, 46, 45, 46 and 47. Will be reference in as Snake Creek Wetlands.
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:The Missouri River
Name of watershed or Hydrologic Unit Code (HUC):The Vermillion Watershed- 10170102
☒ 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. Isolated wetlands were placed on a separate JD form for the same project location.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date:March 23, 2016 and March 24, 2016
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Appear to be 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 03a, 03b, 03c, 03d, 03e, 07a, 07b, 08, 16a, 16b, 16c, 17a, 17c, 20a, 20b, 33b, 34, 44a, 44b, 45a and 45b.**
   ☒ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs: **Wetlands 02a, 02b, 03f, 03g, 06a, 06b, 06c, 12, 13, 35a, 35b and 35c.**
   ☒ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs: **Wetlands 04, 05a, 05b, 09a, 09b, 21a, 21b, 21c, 22a, 22b, 23a, 23b, 23c, 24, 25a, 25b, 26, 27, 28a, 28b, 29, 30, 31, 32, 33a, 36, 37a, 37b, 37c, 38, 39, 40a, 40b, 41, 42a, 42b, 42c, 42d, 43a, 43b, 43c, 46 and 47.**
   ☐ Impoundments of jurisdictional waters
   ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

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

b. Identify (estimate) size of waters of the U.S. in the review area:
Non-wetland waters: linear feet: width (ft) and/or acres.
Wetlands: 46.42 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: .

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):

Wetlands 03a, 03b, 03c, 03d, 03e, 07a, 07b, 08, 16a, 16b, 16c, 17a, 17c, 20a, 20b, 33b, 34, 44a, 44b, 45a and 45b.

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
Hurley Creek, Long Creek, Snake Creek and the portion of the Vermillion River in the review area are similar in characteristic and only specified when needed.

(i) General Area Conditions: The Vermillion River Watershed encompasses all mentioned creeks.
Watershed size: 372 **square miles**

[3] Supporting documentation is presented in Section III.F.
[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Drainage area: 372 **square miles**
Average annual rainfall: 24.3 inches
Average annual snowfall: 34.2 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

☒ Tributary flows directly into TNW. **The Vermillion River Wetlands**
☒ Tributary flows through **1** tributaries before entering TNW. **The Hurley Creek Wetlands**
☒ Tributary flows through **1** tributaries before entering TNW. **The Long Creek Wetlands**
☒ Tributary flows through **3** tributaries before entering TNW. **The Snake Creek Wetlands**

The Vermillion River Wetlands, the Hurley Creek Wetlands, the Long Creek Wetlands and the Snake Creek Wetlands

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 **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: NO.

The Vermillion River Wetlands

Identify flow route to TNW[5]: The Vermillion river flows south meandering until it reaches the Missouri River a TNW.

The Hurley Creek Wetlands

Identify flow route to TNW[6]: Hurley creek flows east into the Vermillion River that then flows south to the Missouri River a TNW.

The Long Creek Wetlands

Identify flow route to TNW[7]: Long Creek flows south into the Vermillion River that flows south into the Missouri River a TNW.

The Snake Creek Wetlands

Identify flow route to TNW[8]: Snake Creek flows south into Saddle Creek before flowing west into Long Creek. Long creek then flows south into the Vermillion River that then flows south into the Missouri River a TNW.
Tributary stream order, if known: N/A.

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

Tributary is: ☒ Natural
☐ Artificial (man-made). Explain: .
☒ Manipulated (man-altered). Explain: Intensive agricultural practices, highway construction and residential development have greatly altered the hydrology of the area.

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

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: The tributary appears to be stable, several years of areal imagery was used to examine the tributary. With increased development in the area it is likely that the tributaries will receive increasing amounts of surface water and may begin to erode and have stability decrease. .

Presence of run/riffle/pool complexes. Explain: Riffle/pool complexes are likely present downstream of the review area the Vermillion River.

Tributary geometry: **Meandering**
Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Perennial**
Estimate average number of flow events in review area/year: **20 (or greater)**
Describe flow regime: Flow is perennial and year round in all of the mentioned tributaries.
Other information on duration and volume: .

[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] 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.
[7] 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.
[8] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

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

Tributary has (check all that apply):
☒ Bed and banks
☒ OHWM[9] (check all indicators that apply):
- ☒ clear, natural line impressed on the bank
- ☐ changes in the character of soil
- ☐ shelving
- ☒ vegetation matted down, bent, or absent
- ☐ leaf litter disturbed or washed away
- ☒ sediment deposition
- ☐ water staining
- ☐ other (list):
- ☐ the presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ the presence of wrack line
- ☒ sediment sorting
- ☒ scour
- ☒ multiple observed or predicted flow events
- ☒ abrupt change in plant community

☐ Discontinuous OHWM.[10] 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 quality of the tributaries are unknown; however, it is likely that water is affected by urban and agricultural runoff.
Identify specific pollutants, if known: Specific pollutants are not known; however, pollutants associated with urban and agricultural runoff probably affect the system.

(iv) Biological Characteristics. Channel supports (check all that apply):
☐ Riparian corridor. Characteristics (type, average width): .
☒ Wetland fringe. Characteristics: .
☒ Habitat for:
☒ Federally Listed species. Explain findings: The Pallid sturgeon, Topeka shiner, Red knot, Whooping crane, Northern long-eared bat and West Prairie Fringed orchid are all possible inhabitants in the Lincoln County region and Turner County. All tributaries help filter contaminents that reduce the ecological stress on the Vermillion River Watershed. All tributaries have a high potential to harbor habitats that are suitable for several of the endangered specieas listed for the counties as well as are known to have residential populations of Topeka shiner.
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☒ Aquatic/wildlife diversity. Explain findings: The tributary provides habitat for a variety of wildlife species including migratory birds, small mammals, aquatic and terrestrial invertebrates, reptiles and amphibians.

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: 16.45 acres
Wetland type. Explain:Palustrine Emergent and Riverine Emergent wetlands are located within the review area.
Wetland quality. Explain: .
Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:
Flow is: **Perennial flow**. Explain: Flow is continuous and year round.

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

[9]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.
[10]Ibid.

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

(c) Wetland Adjacency Determination with Non-TNW:
☒ Directly abutting (RPW): **Wetlands 03a, 03b, 03c, 03d, 03e, 07a, 07b, 08, 16a, 16b, 16c, 17a, 17c, 20a, 20b, 33b, 34, 44a, 44b, 45a and 45b.**
☒ Directly abutting (non-RPW): **Wetlands 04, 05a, 05b, 09a, 09b, 21a, 21b, 21c, 22a, 22b, 23a, 23b, 23c, 24, 25a, 25b, 26, 27, 28a, 28b, 29, 30, 31, 32, 33a, 36, 37a, 37b, 37c, 38, 39, 40a, 40b, 41, 42a, 42b, 42c, 42d, 43a, 43b, 43c, 46 and 47.**
☒ Not directly abutting: **Wetlands 02a, 02b, 03f, 03g, 06a, 06b, 06c, 12, 13, 35a, 35b and 35c.**
☐ Discrete wetland hydrologic connection. Explain: .
☐ 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/from navigable waters.**
Estimate approximate location of wetland as within the **2-year or less** 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 quality of the tributaries are unknown; however, it is likely that water is affected by urban and agricultural runoff.
Identify specific pollutants, if known: Specific pollutants are not known; however, pollutants associated with urban and agricultural runoff probably affect the system.

(iii) Biological Characteristics. Wetland supports (check all that apply):
☐ Riparian buffer. Characteristics (type, average width): .
☒ Vegetation type/percent cover. Explain:See Wetland Delineation for list of all present vegetation, available on request.
☒ Habitat for:
☒ Federally Listed species. Explain findings:The Pallid sturgeon, Topeka shiner, Red knot, Whooping crane, Northern long-eared bat and West Prairie Fringed orchid are all possible inhabitants in the Lincoln County region and Turner County. All tributaries help filter contaminants that reduce the ecological stress on the Vermillion River Watershed. All tributaries have a high potential to harbor habitats that are suitable for several of the endangered species listed for the counties as well as are known to have residential populations of Topeka shiner .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☒ Aquatic/wildlife diversity. Explain findings:The tributary provides habitat for a variety of wildlife species including migratory birds, small mammals, aquatic and terrestrial invertebrates, reptiles and amphibians.

3. Characteristics of all wetlands adjacent to the tributary (if any)
All wetland(s) being considered in the cumulative analysis: **30 (or more)**
Approximately (46.42) 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)
See attached table			

Summarize overall biological, chemical and physical functions being performed: Land use surrounding the wetlands consists of a mix of agricultural lands and urban development. The reviewed wetlands moderate the downstream transport of storm water generated from urban and agricultural lands. Similarly, the wetlands have some capacity to capture and process pollutants associated with storm water runoff. The wetlands moderate the downstream flow of floodwaters associated with impervious urban surfaces and agricultural lands. The wetlands also provide marginal habitat for a variety wildlife species in an agricultural and urban environment.

C. SIGNIFICANT NEXUS DETERMINATION

Wetlands 02a, 02b, 03f, 03g, 06a, 06b, 06c, 12, 13, 35a, 35b, 35c, 04, 05a, 05b, 09a, 09b, 21a, 21b, 21c, 22a, 22b, 23a, 23b, 23c, 24, 25a, 25b, 26, 27, 28a, 28b, 29, 30, 31, 32, 33a, 36, 37a, 37b, 37c, 38, 39, 40a, 40b, 41, 42a, 42b, 42c, 42d, 43a, 43b, 43c, 46 and 47.

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: **Wetlands 04, 05a, 05b, 09a, 09b, 21a, 21b, 21c, 22a, 22b, 23a, 23b, 23c, 24, 25a, 25b, 26, 27, 28a, 28b, 29, 30, 31, 32, 33a, 36, 37a, 37b, 37c, 38, 39, 40a, 40b, 41, 42a, 42b, 42c, 42d, 43a, 43b, 43c, 46 and 47.**

   The area is heavily effected by agriculture and associated ditches as well as road ditches and or natural drainages. Due to these ditches several wetlands are connected by non-RPWs to adjacent wetlands and or RPWs. Wetlands 04, 05a and 05b are located along SD 18 and are connected by a culvert south by an agricultural ditch and or natural drainage that goes to Hurley Creek. Wetlands 09a and 09b are connected by a culvert under SD 18 and flow south along a ditch and or natural drainage to an unnamed tributary to the Vermillion River. Wetlands 21a, 21b and 21c are all together and located along a ditch and or natural drainage that travels south to Long Creek. Wetlands 22a, 22b, 23a, 23b, 23c, 24, 25a, 25b, 26, 27, 28a, 28b, 29, 30, 31, 32 and 33a are all located in close proximity to one another and connect back and forth across SD 18 by culvert, road ditched and or natural drainages. They eventually travel south along either an agricultural drainage and or natural drainages and travel along 464th avenue until connecting to Long Creek south. Wetlands 36, 37a, 37b, 37c, 38 and 39 connect as linear wetlands along SD 18 by road ditches and culverts. They connect east to west to Ditch Number 8 through agricultural fields until traveling south and connecting to Long Creek. Wetlands 40a, 40b, 41, 42a, 42b, 42c, 42d, 43a, 43b and 43c are connected by either natural drainages or agricultural ditches west to east to Snake Creek. They travel across SD 18 through several culverts before entering the drainage in an agricultural field. Wetland 46 connects east, south east by linear wetlands before entering a drainage that travels south and eventually enters into Snake Creek. Wetland 47 is connected south to snake creek by road ditches and or natural drainages. The wetlands and their flow into associated tributaries allow for a slower discharge of water to downstream areas, due to velocity reduction from increased roughness factors, allowing for longer periods of normal flow versus high flow pulses. In addition, the wetlands provide for potential contaminant filtering of runoff and retaining agricultural chemicals and soil solids eroded from farm fields and contaminants from the road. The wetland also provides carbon export to downstream areas which is important to the food web which directly impacts game fish, their prey, and their predators. One of the species of interest in the area is the Topeka Shiner, a listed endangered species. Populations of Topeka Shiner are found in these tributaries, which the wetlands could aid in provided the needed water quality for survival. Based upon the factors discussed, the wetlands are providing more than a substantial effect on the RPWs and downstream that connect to the Missouri River (TNW)

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 02a, 02b, 03f, 03g, 06a, 06b, 06c, 12, 13, 35a, 35b and 35c.**

   The area is heavily effected by agriculture and associated ditches as well as road ditches and or natural drainages. Wetlands 02a and 02b travel east along the road ditch on 285th street / SD 18 before flowing into Hurley creek less than a mile away. Wetland 03f flows west along the road ditch and or natural drainage to Hurley Creek less than a mile away after passing under a culvert on 458th avenue adjacent to other associated wetlands directly abutting Hurley Creek. 03g follows the drainage south along 458th avenue and enters into Hurley Creek. Wetlands 06a, 06b and 06c are closely associated with the Vermillion River, they flow east along SD 18 before entering the Vermillion River. Wetlands 12 and 13 are less than .25 miles from an unnamed tributary to the vermillion that

flows south. They enter the tributary flowing east along SD 18. Wetlands 35a, 35b and 35c are located slightly west from Long Creek. They flow west less than .25 miles before connecting to the creek. The wetlands and their flow into associated tributaries allow for a slower discharge of water to downstream areas, due to velocity reduction from increased roughness factors, allowing for longer periods of normal flow versus high flow pulses. In addition, the wetlands provide for potential contaminant filtering of runoff and retaining agricultural chemicals and soil solids eroded from farm fields and contaminants from the road. The wetlands also provide carbon export to downstream areas which is important to the food web which directly impacts game fish, their prey, and their predators. One of the species of interest in the area is the Topeka Shiner, a listed endangered species. Populations of Topeka Shiner are found in these tributaries, which the wetlands could aid in provided the needed water quality for survival. Based upon the factors discussed, the wetlands are providing more than a substantial effect on the RPWs and downstream that connect to the Missouri River (TNW)

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: The tributaries in the direct vicinity of the project location are Hurley Creek, The Vermillion River, Long Creek and Snake Creek. They have had documented year round flow and can be seen to have saturation in areal imagery.
- ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  Identify type(s) of waters: .

3. Non-RPWs[11] 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. The review area and surrounding area is heavily affected by agricultural ditching and or natural drainages. There are several ditches along roads and through agricultural fields that connect directly into RPWs that flow to the Missouri River a TNW. The ditches and or natural drainages along roads are often connected by a series of culverts to allow flow to pass from one side to the other.

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: **Flow has been examined and was determined to be year round and supports populations of species that are found in habits that have continuous flow.**
  - ☐ 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: **16.45**acres.

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

[11]See Footnote # 3.

☒ 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: **11.65**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: **18.32**acres.

7. Impoundments of jurisdictional waters.[12]

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):[13]

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

Identify water body and summarize rationale supporting determination: .

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

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

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

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

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

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

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

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

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

[13] **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.***

☐ 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: .
☒ 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: .
☒ 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 Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): .
  or ☒ Other (Name & Date): .
☐ 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:

Land use surrounding the wetlands consists of a mix of agricultural lands and urban development. The reviewed wetlands moderate the downstream transport of storm water generated from urban and agricultural lands. Similarly, the wetlands have some capacity to capture and process pollutants associated with storm water runoff. The wetlands moderate the downstream flow of floodwaters associated with impervious urban surfaces and agricultural lands. The wetlands also provide marginal habitat for a variety wildlife species in an agricultural and urban environment.