

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): 16 March 2017

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Galveston District, SWG-2016-00311, Wetlands and ephemeral stream

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Texas County/Parish: Montgomery City: Huntsville
Center coordinates of site (lat/long in degree decimal format, NAD-83): Lat. 30.714406° N, Long. -95.572806° W;
Universal Transverse Mercator: UTM: 15N, 3400778.26 N., 253615.51 E., NAD: 83
Name of nearest water body: Robinson Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: San Jacinto River
Name of watershed or Hydrologic Unit Code (HUC): Robinson Creek-West Fork San Jacinto River 120401010104
 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: 4 November 2016, 11 January 2017
 Field Determination. Date(s): 26 January 2017

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 no** "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: --linear feet: --width (ft) and/or -- acres
Wetlands: acres

c. Limits (boundaries) of jurisdiction based on: **Pick List**

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: see following page- for an approximate 0.63-acre wetlands and a 0.34-mile long, narrow ephemeral 1st order stream

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.

The relevant reach in this significant nexus includes a first order ephemeral tributary and contiguous fringing wetlands. This ephemeral stream feature was identified flowing through a forested wetland area during the site visit. This stream was not mapped on USGS quad maps, nor was it identified in FEMA flood hazard maps, EPA watershed maps or the USFWS NWI map. This unnamed ephemeral 1st order stream runs south-southwest 0.34-miles before it meets an unnamed relative permanent water tributary. This tributary then flows approximately 1.46-miles to a confluence with Robinson Creek. Robinson Creek flows 9.94-miles and then joins the West Fork of the San Jacinto River. The West Fork of the San Jacinto River flows 76.12-miles to the San Jacinto Spillway at Lake Houston, through which it flows into the San Jacinto River. The San Jacinto River has been identified as a traditional navigable water (TNW). The unnamed tributary in this review area has formed from flow coming from 2 stormwater culverts, but it is not known if a stream existed in the site prior to the storm culverts. The topography is similar to that of the mapped unnamed tributary into which this stream flows, but no historical topographic maps show this feature. The National Wetland Inventory Map does not identify/map any wetlands within this reach nor does the USGS map. However, a pond was noted in historical USGS and NWI maps just west of the site in a similar geographic position as a pond from which the mapped unnamed tributary flows. Wetlands were identified along the stream bank, and a small (appx 0.03 acre) abutting, herbaceous wetland was identified during the site visit. These wetlands were identified using the Atlantic Gulf Coast Regional Supplement to the Corps 87 Wetland Delineation Manual; which requires, under normal conditions, wetland hydrology, hydrophytic vegetation, and hydric soils. This wetland is located at a westward meander of the stream, and water from this stream appeared to provide the hydrology. Vegetation and hydrology identified the emergent wetland, however the soil profile was significantly disturbed by installation of the sewage pipe running through the wetland, and according to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coast Coastal Plain Region (Version 2.0), this wetland met the criteria for a problematic hydric soil in being 1) recently developed wetlands and 2) seasonally ponded soils. As such, given the wetland hydrology and vegetation, the soils are presumed hydric.

According to the City of Huntsville, the culverts from which the water for this stream flows are stormwater fed from drainage on adjacent roadways and commercial sites, but the city could not locate any hydrological studies used to construct the culverts and drainage features. It is unknown if a groundwater seep contributes to the water flow feeding this ephemeral stream. Based on this information (site visit, off site maps & information, and information provided by the city of Huntsville) we have determined that the waters within this reach have a limited ephemeral flow. There are scientific studies that provide information that tributaries and adjacent wetlands provide for chemical sequestration in aquatic systems. However, the Corps did not find sufficient site specific evidence/data to support the statement that these waters (within this reach) provide more than speculative or insubstantial effect upon the chemical integrity of the downstream TNW located 85+ miles downstream. There are numerous waterways and tributaries that feed into Robinson Creek and the West Fork of the San Jacinto River prior to it reaching the San Jacinto River, a TNW. The search of EPA water features map on Google Earth Pro also revealed nothing in this reach. Therefore, there is not data nor information that would support that these aquatic resources within this reach (a small ephemeral tributary and adjacent wetlands) provide more than speculative or insubstantial amount of chemical attributes that would affect the chemical integrity of the downstream TNW located 85+ miles downstream.

Wetlands and tributaries provide flood plain storage, bank stabilization, sediment load reduction, hydrologic velocity buffers, along with other physical attributes to waterway in which they are hydrologically inseparably bound. Within this reach there is approximate 0.60-acres of forested wetland and 0.03-acres of emergent wetland located outside the mapped floodplain. While there is evidence that a minimal amount of flood plain storage capacity is being provided by the appx. 0.63-acre wetlands located within the reach and there may be some minimal sediment load reduction by these aquatic resources during the short seasonal rainfall events, it is the Corps opinion there is not sufficient evidence that the aquatic resources within this review area provide more than a speculative or insubstantial effect upon the physical attributes for the downstream TNW located 85+ miles downstream.

Aquatic ecosystems are commonly biologically interconnected; thus facilitating aquatic species interchange; e.g. fishes, reptiles, amphibians and aquatic invertebrates to bilaterally share aquatic habitats. This interchange is chiefly directly related to the fact that these waterways are hydrologically inseparably bound. For a water to be within federal jurisdictional purview under Section 404 the water in question must have an effect upon the biological integrity of the TNW (as per the Rapanos guidance). There are numerous other tributaries (perennial and ephemeral flowing) along with adjacent wetlands that are connected hydraulically to this TNW, and thus the aquatic resources within this reach are not unique. The hydrologic regime for this reach is not perennial and thus limits many of the species that require the waters of the TNW to fulfill their lifecycle requirements. There are no known species found in this review area that require these aquatic resources within this reach/review area and the waters of the TNW (85+miles downstream) to full fill their life cycle requirements. Since the hydroperiod for this reach could be described as seasonal and the flow regime is intermittent ephemeral, there is great speculation associated with stating that aquatic biotic species would require both, the TNW located 85+ miles downstream and the aquatic resources within this reach to fulfill their lifecycle requirements. As such, it is our conclusion that there is not sufficient information found that supports that this reach provides more than a speculative or insubstantial effect upon the biological integrity of the downstream TNW, located approximately 85+ miles away.

In conclusion, it is the Corps opinion that there is not sufficient evidence to support the statement that the aquatic resources within this reach (including the 0.63-acre wetland and ephemeral stream) provide a significant nexus (more than speculative or insubstantial) effect upon the chemical, physical and/or biological integrity of the downstream TNW located 25+ miles downstream. Therefore these aquatic resources would not be classified as "water of the United States" subject to federal jurisdiction under Section 404 of the Clean Water Act.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

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

1. TNW

Identify TNW:

Summarize rationale supporting determination:

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”:

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

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

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, fill out Section III.D.2 and 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 water body⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the water body 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: 29509.54 square miles

Drainage area: Unknown Pick List

Average annual rainfall: 48.52 inches

Average annual snowfall: 0 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

Project waters are 30 (or more) river miles from TNW.

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

Project waters are 30 (or more) aerial (straight) miles from TNW.

Project waters are 30 (or more) aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain:

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

Identify flow route to TNW⁵: **Unnamed ephemeral tributary flows into another unnamed RPW tributary, which then flows into Robinson Creek, then flows into the West Fork of the San Jacinto River, which then flows into the San Jacinto River approximately 89.5 miles downstream**
 Tributary stream order, if known: **Based upon the significant nexus stream order, the tributary is a 1st order stream.**

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

Tributary is: Natural

Artificial (man-made). Explain: **no historical evidence exists showing the presence of this tributary, but it is situated in a similar topographic position as a mapped unnamed tributary (RPW) into which it flows and the tree line beneath which this stream runs has been present since before any development in the immediate vicinity. The source of hydrology for this stream appears to be 2 stormwater culverts that open onto the subject property, and flow appears to be primarily precipitation driven and possibly groundwater seepage.**

Manipulated (man-altered). Explain:

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

Average width: **25-35** feet

Average depth: **0.5** feet

Average side slopes: **2:1**

Primary tributary substrate composition (check all that apply):

Silts

Sands

Concrete

Cobbles

Gravel

Muck

Bedrock

Vegetation. Type/% cover: **100**

Other. Explain: **clay**

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

Presence of run/riffle/pool complexes. Explain: **As the slope of the stream decreases, run/riffle/pool complexes are present, but as the slope increases these features diminish, giving way to more pools.**

Tributary geometry: **Relatively straight**

Tributary gradient (approximate average slope): **Unknown** %

(c) Flow:

Tributary provides for: **Ephemeral flow**

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

Describe flow regime: **perennial/Year-round**

Other information on duration and volume: **As the primary source of hydrology is rain and stormwater runoff, each time it rains there is flow in this stream**

Surface flow is: **Discrete**. Characteristics:

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

Dye (or other) test performed:

Tributary has (check all that apply):

Bed and banks

OHWM⁶ (check all indicators that apply):

clear, natural line impressed on the bank

changes in the character of soil

shelving

vegetation matted down, bent, or absent

leaf litter disturbed or washed away

sediment deposition

water staining

other (list):

Discontinuous OHWM.⁷ Explain:

the presence of litter and debris

destruction of terrestrial vegetation

the presence of wrack line

sediment sorting

scour

multiple observed or predicted flow events

abrupt change in plant community

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

High Tide Line indicated by:

oil or scum line along shore objects

fine shell or debris deposits (foreshore)

physical markings/characteristics

tidal gauges

Mean High Water Mark indicated by:

survey to available datum;

physical markings;

vegetation lines/changes in vegetation types.

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

⁶ A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the water body'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.

other (list):

(iii) Chemical Characteristics:

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

Explain: **Unknown**

Identify specific pollutants, if known: **Unknown**

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

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
 - Federally Listed species. Explain findings:
 - Fish/spawn areas. Explain findings:
 - Other environmentally-sensitive species. Explain findings:
 - Aquatic/wildlife diversity. Explain findings:

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

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: **0.63** acres

Wetland type. Explain: **PEFO1 (Palustrine Forested Broad Leafed Deciduous)**

Wetland quality. Explain: **An HGM was not performed on this wetland. The wetland was located at the base of a culvert outfall. Hydrology is driven by precipitation events. The wetland(s) contained FACW and OBL vegetation.**

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Ephemeral flow**. Explain:

Surface flow is: **Discrete**

Characteristics:

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

- Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

- Directly abutting
- Not directly abutting
 - Discrete wetland hydrologic connection. Explain:
 - Ecological connection. Explain:
 - Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **30 (or more)** river miles from TNW.

Project waters are **30 (or more)** aerial (straight) miles from TNW.

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

Estimate approximate location of wetland as within the **500-year or greater** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: **water was clear and colorless, a large amount of litter had accumulated from nearby commercial shopping areas. No aquatic species were observed**

Identify specific pollutants, if known: **Unknown**

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

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain: **100**
- Habitat for:
 - Federally Listed species. Explain findings:
 - Fish/spawn areas. Explain findings:
 - Other environmentally-sensitive species. Explain findings:
 - Aquatic/wildlife diversity. Explain findings:

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

All wetland(s) being considered in the cumulative analysis: **1**

Approximately (**0.63**) 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>
PFO1 (Yes)	0.6		
PEM (Yes)	0.03		

Summarize overall biological, chemical and physical functions being performed:

The Corps did not find sufficient site specific evidence/data to support the statement that these waters (within this reach) provide more than speculative or insubstantial effect upon the chemical integrity of the downstream TNW located 30+ miles downstream. There are numerous waterways and tributaries that feed into Robinson Creek and the EST Fork of the San Jacinto River prior to these flowing into the San Jacinto River, a TNW. Numerous monitoring stations on the West Fork San Jacinto River report elevated bacteria levels, but these stations are well downstream of this unnamed tributary reach being considered. The search of EPA water features map on Google Earth Pro revealed nothing in this reach. Therefore, there is not data nor information that would support that these aquatic resources within this reach (a small ephemeral tributary and adjacent wetland) provide more than speculative or insubstantial amount of chemical attributes that would affect the chemical integrity of the downstream TNW located 25+ miles downstream .

Within this reach there is an approximate 0.63-acre wetland located entirely outside the mapped floodplain. While there is evidence that a minimal amount of flood plain storage capacity is being provided by the appx. 0.63-acre wetland located outside the mapped floodplain in this reach and there may be some minimal sediment load reduction by these aquatic resources during the short seasonal rainfall events, it is the Corps opinion there is not sufficient evidence that the aquatic resources within this review area provide more than a speculative or insubstantial effect upon the physical attributes for the downstream TNW located 30+ miles downstream .

There are no known species found in this review area that require these aquatic resources within this reach/review area and the waters of the TNW (30+miles downstream) to full fill their life cycle requirements . The hydrologic regime for this reach is not perennial and thus limits many of the aquatic species that require these aquatic resources and the the perennial waters of the TNW to fulfill their lifecycle requirements . Since the hydroperiod for this reach could be described as seasonal and precipitation driven and the flow regime is intermittent ephemeral, there is great speculation associated with stating that aquatic biotic species would require both , the TNW located 30+ miles downstream and the aquatic resources within this reach to fulfill their lifecycle requirements. As such, it is the Corps conclusion that there is not sufficient information founded that supports that this reach provides more than a speculative or insubstantial effect upon the biological integrity of the downstream TNW, located approximately 30+ miles away.

In conclusion, it is the Corps opinion that there is not sufficient evidence to support the statement that the aquatic resources within this reach (including the 0.63-acre wetland and ephemeral stream) provide a significant nexus (more than speculative or insubstantial) effect upon the chemical, physical and/or biological integrity of the downstream TNW located 30+ miles downstream . .

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:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- TNWs: linear feet width (ft), Or, acres.
- Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
- Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

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

- Tributary waters: linear feet width (ft)
- Other non-wetland waters: acres

Identify type(s) of waters:

3. **Non-RPWs⁸ that flow directly or indirectly into TNWs.**

- Water body 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 directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

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

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

⁸See 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 jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: 35.06 acres

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres

7. Impoundments of jurisdictional waters.⁹

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

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

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

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

Identify water body and summarize rationale supporting determination:

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

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

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

- 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: The relevant reach in this significant nexus examination includes a first order ephemeral tributary and a wetlands. An ephemeral stream feature was identified flowing through a forested wetland area. This stream was not mapped on USGS quad maps, nor was it identified in FEMA flood hazard maps, EPA watershed maps or the USFWS NWI map. This unnamed ephemeral 1st order stream runs south-southwest 0.34-miles before it meets an unnamed relative permanent water tributary. This tributary then flows approximately 1.46-miles to a confluence with Robinson Creek. Robinson Creek flows 9.94-miles and then joins the West Fork of the San Jacinto River. The West Fork of the San Jacinto River flows 76.12-miles to the San Jacinto Spillway at Lake Houston, through which it flows into the San Jacinto River. The San Jacinto River has been identified as a traditional navigable water (TNW). The unnamed tributary in this review area has formed from flow coming from 2 stormwater culverts, but it is not known if a stream existed in the site prior to the storm culverts. The topography is similar to that of the mapped unnamed tributary into which this stream flows, but no historical topographic maps show this feature. The National Wetland Inventory Map does not identify/map any wetlands within this reach nor does the USGS map. However, a pond was noted in historical USGS and NWI maps just west of the site in a similar geographic position as a pond from which the mapped unnamed tributary flows. Wetlands were identified along the stream

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.

bank, and a small (appx 0.03 acre) abutting, herbaceous wetland was identified during the site visit. These wetlands were identified using the Atlantic Gulf Coast Regional Supplement to the Corps 87 Wetland Delineation Manual; which requires, under normal conditions, wetland hydrology, hydrophytic vegetation, and hydric soils. This wetland is located at a westward meander of the stream, and water from this stream appeared to provide the hydrology. Vegetation and hydrology identified the emergent wetland, however the soil profile was significantly disturbed by installation of the sewage pipe running through the wetland, and according to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coast Coastal Plain Region (Version 2.0), this wetland met the criteria for a problematic hydric soil in being 1) recently developed wetlands and 2) seasonally ponded soils. As such, given the wetland hydrology and vegetation, the soils are presumed hydric.

According to the City of Huntsville, the culverts from which the water for this stream flows are stormwater fed from drainage on adjacent roadways and commercial sites, but the city could not locate any hydrological studies used to construct the culverts and drainage features. It is unknown if a groundwater seep contributes to the water flow feeding this ephemeral stream. Based on this information (site visit, off site maps & information, and information provided by the city of Huntsville) we have determined that the waters within this reach have a limited ephemeral flow. There are scientific studies that provide information that tributaries and adjacent wetlands provide for chemical sequestration in aquatic systems. However, the Corps did not find sufficient site specific evidence/data to support the statement that these waters (within this reach) provide more than speculative or insubstantial effect upon the chemical integrity of the downstream TNW located 85+ miles downstream. There are numerous waterways and tributaries that feed into Robinson Creek and the West Fork of the San Jacinto River prior to it reaching the San Jacinto River, a TNW. The search of EPA water features map on Google Earth Pro also revealed nothing in this reach. Therefore, there is not data nor information that would support that these aquatic resources within this reach (a small ephemeral tributary and adjacent wetlands) provide more than speculative or insubstantial amount of chemical attributes that would affect the chemical integrity of the downstream TNW located 85+ miles downstream.

Wetlands and tributaries provide flood plain storage, bank stabilization, sediment load reduction, hydrologic velocity buffers, along with other physical attributes to waterway in which they are hydrologically inseparably bound. Within this reach there is approximate 0.60-acres of forested wetland and 0.03-acres of emergent wetland located outside the mapped floodplain. While there is evidence that a minimal amount of flood plain storage capacity is being provided by the appx. 0.63-acre wetlands located within the reach and there may be some minimal sediment load reduction by these aquatic resources during the short seasonal rainfall events, it is the Corps opinion there is not sufficient evidence that the aquatic resources within this review area provide more than a speculative or insubstantial effect upon the physical attributes for the downstream TNW located 85+ miles downstream.

Aquatic ecosystems are commonly biologically interconnected; thus facilitating aquatic species interchange; e.g. fishes, reptiles, amphibians and aquatic invertebrates to bilaterally share aquatic habitats. This interchange is chiefly directly related to the fact that these waterways are hydrologically inseparably bound. For a water to be within federal jurisdictional purview under Section 404 the water in question must have an effect upon the biological integrity of the TNW (as per the Rapanos guidance). There are numerous other tributaries (perennial and ephemeral flowing) along with adjacent wetlands that are connected hydraulically to this TNW, and thus the aquatic resources within this reach are not unique. The hydrologic regime for this reach is not perennial and thus limits many of the species that require the waters of the TNW to fulfill their lifecycle requirements. There are no known species found in this review area that require these aquatic resources within this reach/review area and the waters of the TNW (85+miles downstream) to full fill their life cycle requirements. Since the hydroperiod for this reach could be described as seasonal and the flow regime is intermittent ephemeral, there is great speculation associated with stating that aquatic biotic species would require both, the TNW located 85+ miles downstream and the aquatic resources within this reach to fulfill their lifecycle requirements. As such, it is our conclusion that there is not sufficient information found that supports that this reach provides more than a speculative or insubstantial effect upon the biological integrity of the downstream TNW, located approximately 85+ miles away.

In conclusion, it is the Corps opinion that there is not sufficient evidence to support the statement that the aquatic resources within this reach (including the 0.63-acre wetland and ephemeral stream) provide a significant nexus (more than speculative or insubstantial) effect upon the chemical, physical and/or biological integrity of the downstream TNW located 25+ miles downstream. Therefore these aquatic resources would not be classified as "water of the United States" subject to federal jurisdiction under Section 404 of the Clean Water Act.

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): 1795 linear feet, 25width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: **0.63** 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: **20 April 2016, 11 January 2017**
- 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: **26 January 2017**
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas: **Robinson Creek-West Fork San Jacinto River 120401010104**
 - USGS NHD data
 - USGS 8 and 12 digit HUC maps
- Galveston District's Approved List of Navigable Waters
- U.S. Geological Survey map(s). Cite scale & quad name: **1:24,000 Huntsville, Moore Grove, San Jacinto, Shephard Hill, Cowl Spur, Conroe, Tamina, Outlaw Pond, Maeden, Moonshine Hill, Harmaston,**
- USDA Natural Resources Conservation Service Soil Survey. Citation: **1978 Walker County, Texas Soil Survey**
- National wetlands inventory map(s). Cite name: **USFWS NWI map**
- State/Local wetland inventory map(s):
- FEMA/FIRM maps: **48471C0355D, Published 16 August 2011**
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): **2009 Infrared, 1995-2015 Google Earth aeriels**
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: An ephemeral stream feature was identified flowing through a forested wetland area. This stream was not mapped on USGS quad maps, nor was it identified in FEMA flood hazard maps, EPA watershed maps or the USFWS NWI map. This unnamed ephemeral 1st order stream runs south-southwest 0.34-miles before it meets an unnamed relative permanent water tributary. This tributary then flows approximately 1.46-miles to a confluence with Robinson Creek. Robinson Creek flows 9.94-miles and then joins the West Fork of the San Jacinto River. The West Fork of the San Jacinto River flows 76.12-miles to the San Jacinto Spillway at Lake Houston, through which it flows into the San Jacinto River. The San Jacinto River has been identified as a traditional navigable water (TNW). The unnamed tributary in this review area has formed from flow coming from 2 stormwater culverts, but it is not known if a stream existed in the site prior to the storm culverts. The topography is similar to that of the mapped unnamed tributary into which this stream flows, but no historical topographic maps show this feature. The National Wetland Inventory Map does not identify/map any wetlands within this reach nor does the USGS map. However, a pond was noted in historical USGS and NWI maps just west of the site in a similar geographic position as a pond from which the mapped unnamed tributary flows. Wetlands were identified along the stream bank, and a small (appx 0.03 acre) abutting, herbaceous wetland was identified during the site visit. These wetlands were identified using the Atlantic Gulf Coast Regional Supplement to the Corps 87 Wetland Delineation Manual; which requires, under normal conditions, wetland hydrology, hydrophytic vegetation, and hydric soils. This wetland is located at a westward meander of the stream, and water from this stream appeared to provide the hydrology. Vegetation and hydrology identified the emergent wetland, however the soil profile was significantly disturbed by installation of the sewage pipe running through the wetland, and according to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coast Coastal Plain Region (Version 2.0), this wetland met the criteria for a problematic hydric soil in being 1) recently developed wetlands and 2) seasonally ponded soils. As such, given the wetland hydrology and vegetation, the soils are presumed hydric.

According to the City of Huntsville, the culverts from which the water for this stream flows are stormwater fed from drainage on adjacent roadways and commercial sites, but the city could not locate any hydrological studies used to construct the culverts and drainage features. It is unknown if a groundwater seep contributes to the water flow feeding this ephemeral stream. Based on this information (site visit, off site maps & information, and information provided by the city of Huntsville) we have determined that the waters within this reach have a limited ephemeral flow. There are scientific studies that provide information that tributaries and adjacent wetlands provide for chemical sequestration in aquatic systems. However, the Corps did not find sufficient site specific evidence/data to support the statement that these waters (within this reach) provide more than speculative or insubstantial effect upon the chemical integrity of the downstream TNW located 85+ miles downstream. There are numerous waterways and tributaries that feed into Robinson Creek and the West Fork of the San Jacinto River prior to it reaching the San Jacinto River, a TNW. The search of EPA water features map on Google Earth Pro also revealed nothing in this reach. Therefore, there is not data nor information that would support that these aquatic resources within this reach (a small ephemeral tributary and adjacent wetlands) provide more than speculative or insubstantial amount of chemical attributes that would affect the chemical integrity of the downstream TNW located 85+ miles downstream.

Wetlands and tributaries provide flood plain storage, bank stabilization, sediment load reduction, hydrologic velocity buffers, along with other physical attributes to waterway in which they are hydrologically inseparably bound. Within this reach there is approximate 0.60-acres of forested wetland and 0.03-acres of emergent wetland located outside the mapped floodplain. While there is evidence that a minimal amount of flood plain storage capacity is being provided by the appx. 0.63-acre wetlands located within the reach and there may be some minimal sediment load reduction by these aquatic resources during the short seasonal rainfall events, it is the Corps opinion there is not sufficient evidence that the aquatic resources within this review area provide more than a speculative or insubstantial effect upon the physical attributes for the downstream TNW located 85+ miles downstream.

Aquatic ecosystems are commonly biologically interconnected; thus facilitating aquatic species interchange; e.g. fishes, reptiles, amphibians and aquatic invertebrates to bilaterally share aquatic habitats. This interchange is chiefly directly related to the fact that these waterways are hydrologically inseparably bound. For a water to be within federal jurisdictional purview under Section 404 the water in question must have an effect upon the biological integrity of the TNW (as per the Rapanos guidance). There are numerous other tributaries (perennial and ephemeral flowing) along with adjacent wetlands that are connected hydraulically to this TNW, and thus the aquatic resources within this reach are not unique. The hydrologic regime for this reach is not perennial and thus limits many of the species that require the waters of the TNW to fulfill their lifecycle requirements. There are no known species found in this review area that require these aquatic resources within this reach/review area and the waters of the TNW (85+miles downstream) to full fill their life cycle requirements. Since the hydroperiod for this reach could be described as seasonal and the flow regime is intermittent ephemeral, there is great speculation associated with stating that aquatic biotic species would require both, the TNW located 85+ miles downstream and the aquatic resources within this reach to fulfill their lifecycle requirements. As such, it is our conclusion that there is not sufficient information found that supports that this reach provides more than a speculative or insubstantial effect upon the biological integrity of the downstream TNW, located approximately 85+ miles away.

In conclusion, it is the Corps opinion that there is not sufficient evidence to support the statement that the aquatic resources within this reach (including the 0.63-acre wetland and ephemeral stream) provide a significant nexus (more than speculative or insubstantial) effect upon the chemical, physical and/or biological integrity of the downstream TNW located 25+ miles downstream . Therefore these aquatic resources would not be classified as "water of the United States" subject to federal jurisdiction under Section 404 of the Clean Water Act.