

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): 13 September 2016

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Galveston District, SWG-2016-00106, Union Pacific Railroad Rosenberg Siding Jurisdictional Determination, Rosenberg, Fort Bend County, Texas

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Texas County/Parish: Fort Bend City: Rosenberg
Center coordinates of site (lat/long in degree decimal format, NAD-83): Lat. See Table 1. ° N, Long. ° W;
Universal Transverse Mercator: UTM: See Table 1. , N., E.,NAD:
Name of nearest water body: Seabourne Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: None
Name of watershed or Hydrologic Unit Code (HUC): Lower Brazos - 12070104

- 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: 03 August 2016
 Field Determination. Date(s): 02 August 2016

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

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

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

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

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

1. Waters of the U.S.

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

- TNWs, including territorial seas
 Wetlands adjacent to TNWs
 Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
 Non-RPWs that flow directly or indirectly into TNWs
 Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
 Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
 Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
 Impoundments of jurisdictional waters
 Isolated (interstate or intrastate) waters, including isolated wetlands

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

Non-wetland waters: 190 linear feet: width (ft) and/or acres
Wetlands: ~0.14 acres

c. Limits (boundaries) of jurisdiction based on: **Not Applicable.**

Elevation of established OHWM (if known):

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).

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):

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: ~1,645 square miles

Drainage area: ~1,645 square miles

Average annual rainfall: inches

Average annual snowfall: 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 Pick List river miles from RPW.

Project waters are 15-20 aerial (straight) miles from TNW.

Project waters are Pick List aerial (straight) miles from RPW.

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.

Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW⁵: Seabourne Creek flows approximately 6.45 river miles to where it intersects with Big Creek, another RPW. Big Creek then flows approximately 30 river miles to where it intersects with the Brazos River, the TNW.

Tributary stream order, if known:

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

Tributary is: Natural
 Artificial (man-made). Explain:
 Manipulated (man-altered). Explain: It appears that portions of Seabourne Creek are maintained to facility drainage.

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

Average width: 30 feet

Average depth: 10 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: Seasonal stream course with continuous bed and banks. The stream bed is approximately 30 feet wide by 10 feet wide, with the stream course generally stabilized by herbaceous vegetation.

Presence of run/riffle/pool complexes. Explain: N/A

Tributary geometry: **Meandering**

Tributary gradient (approximate average slope): 0-1 %

(c) Flow:

Tributary provides for: **Seasonal flow**

Estimate average number of flow events in review area/year: **11-20**

Describe flow regime: Primarily channel flow limited to 30-foot-wide by 10-foot-wide stream bed. The stream course is located within the Richmond, Texas 1:24,000 USGS topographic quadrangle map, which depicts the creek as a dotted and dashed blue line, indicating the creek experiences intermittent flow. Based on a review of aerial imagery for 2004, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2014, 2015, and 2016, water is visible within the channel in every year, indicating seasonal flow.

Other information on duration and volume:

Surface flow is: **Confined**. Characteristics: Surface flow is generally channelized flow, unless rainfall amounts exceed the existing channel capacity. Overland sheetflow results when the channel flow capacity is exceeded.

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 the presence of litter and debris
 changes in the character of soil destruction of terrestrial vegetation
 shelving the presence of wrack line
 vegetation matted down, bent, or absent sediment sorting
 leaf litter disturbed or washed away scour
 sediment deposition multiple observed or predicted flow events
 water staining abrupt change in plant community
 other (list):
 Discontinuous OHWM.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: Mean High Water Mark indicated by:
 oil or scum line along shore objects survey to available datum;

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.

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

⁷Ibid.

- fine shell or debris deposits (foreshore) physical markings;
- physical markings/characteristics vegetation lines/changes in vegetation types.
- tidal gauges
- other (list):

(iii) Chemical Characteristics:

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

Explain: No known water quality impairments.

Identify specific pollutants, if known:

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

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics: The seasonal stream course provides a surface conveyance for palustrine fringe wetlands directly abutting the creek channel.
- 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: ~0.14 acres

Wetland type. Explain: Palustrine, emergent, persistent

Wetland quality. Explain: Not assessed

Project wetlands cross or serve as state boundaries. Explain: N/A

(b) General Flow Relationship with Non-TNW:

Flow is: **Perennial flow**. Explain: Seasonal flow generally occurs for approximately 1-2 days following rain flood events.

Surface flow is: **Confined**

Characteristics: Well defined channel

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 **15-20** aerial (straight) miles from TNW.

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

Estimate approximate location of wetland as within the **50 - 100-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: Not assessed.

Identify specific pollutants, if known:

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

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain:
- 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: **Pick List**

Approximately () 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>
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Summarize overall biological, chemical and physical functions being performed:

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: Seabourne Creek has a well defined bed and bank, and is depicted on the National Hydrologic Dataset as an intermittent water body. Aerial photos for 2004, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2014, 2015, and 2016 show water present within the channel every year.

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

- Tributary waters: 190 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: The abutting wetland is contiguous with Seabourne Creek, located within the creek channel up to the toe of the creek bank.

Provide acreage estimates for jurisdictional wetlands in the review area: ~0.15 acres

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

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

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

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

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

Provide estimates for jurisdictional wetlands in the review area: 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):

⁸See Footnote # 3.

⁹To 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.

- 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: Maps submitted by Olsson Associates.
- 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: Data sheets for 02 August 2016 site visit
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas: Lower Brazos -- 12070104
 - 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: Richmond, Texas, 1982
- USDA Natural Resources Conservation Service Soil Survey. Citation:
- National wetlands inventory map(s). Cite name: Online USFWS NWI Mapper, accessed 30 June 2016
- State/Local wetland inventory map(s):
- FEMA/FIRM maps: Fort Bend County, Texas and Incorporated Areas, Panel 48157C0240L (02 April 2014)
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): Google Earth Pro Aerials (2004-2016)
 - or Other (Name & Date): Site visit photographs, 02 August 2016
- 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: Seabourne Creek has a well defined bed and bank, and is depicted on the National Hydrologic Dataset as an intermittent water body. Aerial photos for 2004, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2014, 2015, and 2016 show water present within the channel every year, indicating seasonal water flow. Seabourne Creek is therefore considered a RPW, subject to Section 404 of the Clean Water Act. The abutting wetland is contiguous with Seabourne Creek, located within the creek channel up to the toe of the creek bank. The wetland is therefore considered adjacent to the RPW and subject to Section 404 of the Clean Water Act.

Table 1.								
Site	Latitude	Longitude	UTM Zone	UTM Easting	UTM Northing	Approximate Size (acres/lf)	Cowardin Class	Regulatory Authority
Seabourne Creek	29.545534	-95.840544	15N	224738.1	3271795	190 lf	R2EM	Section 404
Wetland B	29.545565	-95.840535	15N	224739	3271798.4	0.15 ac	PEM1	Section 404

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

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SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 13 September 2016

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Galveston District, SWG-2016-00106, Union Pacific Railroad, Rosenber Siding Relevant Reach - Wetland D, Rosenberg, Fort Bend County, Texas

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Texas County/Parish: Fort Bend City: Rosenberg
Center coordinates of site (lat/long in degree decimal format, NAD-83): Lat. 29.558223° N, Long. -95.819725° W;
Universal Transverse Mercator: UTM: 15R, 3273152.6 N., 226790.6 E., NAD: 83
Name of nearest water body: Brazos River
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Brazos River
Name of watershed or Hydrologic Unit Code (HUC): Big Creek-Brazos River - 1207010404
 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: 17 June 2016
- Field Determination. Date(s): 15 March 2016

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

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

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

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

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

1. Waters of the U.S.

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

- TNWs, including territorial seas
- Wetlands adjacent to TNWs
- Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
- Non-RPWs that flow directly or indirectly into TNWs
- Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- Impoundments of jurisdictional waters
- Isolated (interstate or intrastate) waters, including isolated wetlands

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

Non-wetland waters: 250 linear feet: 5 width (ft) and/or ~0.6 acres
Wetlands: ~0.03 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

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.

- 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):

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: ~252,000 acres

Drainage area: ~252,000 acres

Average annual rainfall: 49.3 inches

Average annual snowfall: N/A inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 1 tributaries before entering TNW.

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

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

Project waters are 1 (or less) 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:

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: The Relevant Reach, a 1st order ephemeral tributary, flows approximately 0.96 miles to where it joins with a 2nd order unnamed tributary to the Brazos River. The unnamed tributary, a RPW with seasonal water flow, flows approximately 0.32 miles to where it joins the Brazos River, a TNW.

Tributary stream order, if known: 1

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

Tributary is: Natural
 Artificial (man-made). Explain:
 Manipulated (man-altered). Explain: It appears that portions of the natural tributary were re-routed to facilitate previous development and drainage.

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

Average width: 5 feet
Average depth: 1-2 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: Ephemeral stream course with continuous bed and banks, with an estimated 5 foot bed width and 1-2 foot depth. The streamcourse is generally stabilized with grasses and forbs. Lower portions of the stream bed are deeply incised with high, steep banks.

Presence of run/riffle/pool complexes. Explain: None

Tributary geometry: **Meandering**

Tributary gradient (approximate average slope): 1-2 %

(c) Flow:

Tributary provides for: **Intermittent but not seasonal flow**

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

Describe flow regime: **Primarily channel flow limited to 5 foot wide and 1-2 foot deep streambanks. The streamcourse is located within the Richmond, Texas 1:24,000 USGS topographic quadrangle map, which represents this streamcourse as a dotted and dashed line, indicating that the reach is an ephemeral stream. The relevant reach flows for approximately 1-2 days following an average rain flood event.**

Other information on duration and volume:

Surface flow is: **Confined**. Characteristics: **Surface flow is generally channelized flow, unless rainfall amounts exceed the existing channel capacity. Overland sheetflow results when the channel flow capacity is exceeded.**

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 the presence of litter and debris
 changes in the character of soil destruction of terrestrial vegetation
 shelving the presence of wrack line

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.

- | | |
|---|---|
| <input checked="" type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> sediment sorting |
| <input type="checkbox"/> leaf litter disturbed or washed away | <input checked="" type="checkbox"/> scour |
| <input checked="" type="checkbox"/> sediment deposition | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> water staining | <input type="checkbox"/> abrupt change in plant community |
| <input type="checkbox"/> other (list): | |
- Discontinuous OHWM.⁷ Explain:

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

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

(iii) Chemical Characteristics:

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

Explain: The Relevant Reach has no known water quality impairments. A few aerial photos show standing water along portions of the reach demonstrating the ephemeral nature of the aquatic feature. Water color varies depending on storm water input. Very turbid at times and clear at times. At the confluence of the unnamed tributary and the Brazos River, the TNW water quality is presently not impaired (Segment TX-1202_02). The closest impaired water segment is for Upper Oyster Creek (Segment TX-1245_03), which is located approximately 12.7 river miles upstream, at the . The nearest downstream segment is also Upper Oyster Creek (TX-1245_01), which is located approximately 30.1 river miles, at the confluence of Flat Bank Creek and the Brazos River.

Identify specific pollutants, if known:

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

- Riparian corridor. Characteristics (type, average width): The Relevant Reach has a broken riparian corridor characterized by hardwood and pine tree, shrub, and grass species ranging from 5 to 10 feet in width throughout the lower stream course from the project site to it's confluence with the unnamed tributary to the Brazos River, approximately 0.3 miles downstream.
- Wetland fringe. Characteristics: The ephemeral streamcourse provides a surface conveyance for one (1) palustrine wetland (approximately 0.02 acres) directly abutting the stream reach.
- Habitat for:
 - Federally Listed species. Explain findings:
 - Fish/spawn areas. Explain findings:
 - Other environmentally-sensitive species. Explain findings:
 - Aquatic/wildlife diversity. Explain findings: Habitat variation along the relevant reach likely provides a habitat mosaic utilized by various aquatic and terrestrial wildlife species, as well as a riparian corridor to the Brazos River.

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: 0.02 acres

Wetland type. Explain: Palustrine, emergent, intermittently flooded

Wetland quality. Explain: Not Assessed

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

⁷Ibid.

Flow is: **Ephemeral flow**. Explain: Flow generally occurs for approximately 1-2 days following rain flood events.

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 **1 (or less)** river miles from TNW.
Project waters are **1 (or less)** aerial (straight) miles from TNW.
Flow is from: **Wetland to navigable waters**.
Estimate approximate location of wetland as within the **100 - 500-year** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: **Not Assessed**
Identify specific pollutants, if known:

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

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain:
- 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: **2**
Approximately (**0.52**) 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>
Offsite W-1, Y	0.5	Onsite W-2, Y	0.02

Summarize overall biological, chemical and physical functions being performed: The relevant reach, a 0.96-mile long 1st order ephemeral tributary to the downstream traditional navigable water (TNW), the Brazos River, is a part of a surface tributary system (Non-RPW). The relevant reach starts approximately 0.4 mile south of the project site, near the intersection of Dyer Road and Bamore Road in Rosenberg, Texas. It flows to the north a total of approximately 0.96 mile to where it joins with a 2nd order unnamed tributary to the Brazos River. The 2nd order unnamed tributary, a relatively permanent water (RPW) with seasonal water flow, flows approximately 0.32 mile to where it joins the downstream TNW. The relevant reach is located approximately 0.32 river mile and 0.24 aerial mile from the downstream TNW. The relevant reach is served by approximately a 0.02-acre onsite abutting palustrine emergent wetland and a 0.5-acre offsite abutting palustrine forested wetland. The offsite 0.5-acre wetland is within the 1% annual flood risk zone (100-year floodplain) of the Brazos River, and is neighboring the relevant reach.

The relevant reach is located within a developing area that was historically agricultural fields. The agricultural fields have gradually been developed into residential subdivisions and commercial properties. The upstream portion of the relevant reach is located in developed and undeveloped residential lands.

The Corps has found evidence/data to support the statement that these waters (the relevant reach and all similarly situated adjacent wetlands within this relevant reach) provide more than a speculative or insubstantial effect upon the chemical integrity of the downstream TNW, into which this relevant reach flows. There is a direct surface hydrologic connection between this approximate 0.93-mile-long relevant reach and the downstream TNW, the Brazos River. The relevant reach and its approximate 0.52 acre of adjacent wetlands provide important filtration to sediment-laden stormwater runoff prior to it entering the Brazos River. The adjacent wetlands also serve to aid in reducing thermal and chemical pollutants flowing into the Brazos River. While the Brazos River is not identified by the TCEQ as a 303(d) impaired water, the adjacent wetlands within the relevant reach contribute to maintaining the current water quality of the Brazos River. The wetlands are situated in a developing area that is converting farm land to residential and commercial properties. The aquatic resources within this reach provide more than speculative or insubstantial effects that are inseparably bound to the chemical integrity of the downstream TNW.

Since the relevant reach is located 0.32 river miles upstream from the TNW, it has the effect of extending the ordinary high water mark of the downstream TNW. The retention of water and retardation of overbank flooding associated with adjacent wetlands is vital to maintain and protect the physical integrity of the downstream TNW. The effects of removing the abutting wetlands would increase water velocity and flow into the Brazos River, resulting in more than a speculative or insubstantial effect upon the physical attributes of the downstream TNW. Increased flow will increase "out of bank" flooding and scouring, resulting in potential loss of personal property and the physical condition of the TNW. Therefore, the aquatic resources within this reach provide more than speculative or insubstantial effects that are inseparably bound to maintain the physical integrity of the downstream TNW.

There are no known specific species found in this review area that require the aquatic resources of the relevant reach and its adjacent wetlands to fulfill their life cycle requirements. However, the relevant reach has a direct hydrologic connection through a 2nd order tributary to the downstream TNW. As such, it is highly likely to support aquatic organisms that require both the aquatic features within this reach and the downstream TNW. It is highly probable that various fish and/or invertebrate species utilize the relevant reach for portions of their life cycles. However, there is insufficient evidence at this time to identify specific species requiring the noted features. The abutting wetlands aid in providing a mosaic of foraging and cover habitat. Therefore, it is the Corps' conclusion, that the aquatic resources within this relevant reach, although speculative, provide more than an insubstantial effect on the biological integrity of the downstream TNW.

In conclusion, we have determined that there is sufficient evidence to support the statement that the aquatic resources within the approximate 0.96-mile-long relevant reach and its 0.52 acre of abutting wetlands provide a significant nexus (more than speculative or insubstantial effect) to the chemical, physical and/or biological integrity of the downstream TNW, the Brazos River. In conclusion, it is our opinion that this relevant reach and its adjacent wetlands are waters of the United States subject to Section 404 of the Clean Water Act.

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: The relevant reach, a 0.96-mile long 1st order ephemeral tributary to the downstream traditional navigable water (TNW), the Brazos River, is a part of a surface tributary system (Non-RPW). The relevant reach starts approximately 0.4 mile south of the project site, near the intersection of Dyer Road and Bamore Road in Rosenberg, Texas. It flows to the north a total of approximately 0.96 mile to where it joins with a 2nd order unnamed tributary to the Brazos River. The 2nd order unnamed tributary, a relatively permanent water (RPW) with seasonal water flow, flows approximately 0.32 mile to where it joins the downstream TNW. The relevant reach is located approximately 0.32 river mile and 0.24 aerial mile from the downstream TNW. The relevant reach is served by approximately a 0.02-acre onsite abutting palustrine emergent wetland and a 0.5-acre offsite abutting palustrine forested wetland. The relevant reach and it's approximately 0.52 acre of abutting wetlands have more than a speculative or insubstantial effect on the down stream TNW to carry pollutants or flood waters and/or reduce the amount of pollutants of floodwaters reaching the TNW. The relevant reach and it's approximately 0.52 acres of abutting wetlands have more than a speculative or insubstantial effect on the downstream TNW to provide habitat and life cycle support functions for fish and other wildlife species, such as feeding, nesting, spawning, or rearing young of young species that are present in the TNW. The relevant reach and it's approximately 0.52 acres of abutting wetlands have more than a speculative or insubstantial effect on the downstream TNW to have the capacity to transfer nutrients and organic carbon that support downstream food webs. Based on this information, the Corps has determined that the relevant reach and it's approximately 0.52 acres of abutting wetlands have more than a speculative or insubstantial effect on the chemical, physical, and biological integrity of the downstream TNW, the Brazos River. Therefore, the relevant reach and it's approximately 0.52 acres of abutting wetlands are subject to jurisdiction under Section 404 of the Clean Water Act.
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: ~240 linear feet 5 width (ft).
 Other non-wetland waters: acres

Identify type(s) of waters: **Ephemeral stream**

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.

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

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

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

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

Provide estimates for jurisdictional wetlands in the review area: ~0.02 acres

7. Impoundments of jurisdictional waters.⁹

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

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

⁸See Footnote # 3.

⁹To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

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

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

Identify water body and summarize rationale supporting determination:

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

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

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

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 - Prior to the Jan 2001 Supreme Court decision in “SWANCC,” the review area would have been regulated based solely on the “Migratory Bird Rule” (MBR).
 - Waters do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction. Explain:
- 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: **Aerial images and project area boundary submitted by applicant**
- 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
- Galveston District’s Approved List of Navigable Waters
- U.S. Geological Survey map(s). Cite scale & quad name: 1:24K Richmond, Texas (1955, 1971, 1980, 2009, and 2013)

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.

- USDA Natural Resources Conservation Service Soil Survey. Citation: Web Soil survey accessed 14 March 2016.
- National wetlands inventory map(s). Cite name: USFWS NWI Mapper accessed 14 March 2016.
- State/Local wetland inventory map(s):
- FEMA/FIRM maps: 48157C0230L (04/02/2014), and 48157C0240L (04/02/2014).
- 100-year Floodplain Elevation is: Zone AE (no base flood elevations determined) (National Geodectic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): NAIP 2012 and 2014, Google Earth Pro Aerials (1995 - 2014) 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: The relevant reach, a 0.96-mile long 1st order ephemeral tributary to the downstream traditional navigable water (TNW), the Brazos River, is a part of a surface tributary system (Non-RPW). The relevant reach starts approximately 0.4 mile south of the project site, near the intersection of Dyer Road and Bamore Road in Rosenberg, Texas. It flows to the north a total of approximately 0.96 mile to where it joins with a 2nd order unnamed tributary to the Brazos River. The 2nd order unnamed tributary, a relatively permanent water (RPW) with seasonal water flow, flows approximately 0.32 mile to where it joins the downstream TNW. The relevant reach is located approximately 0.32 river mile and 0.24 aerial mile from the downstream TNW. The relevant reach is served by approximately a 0.02-acre onsite abutting palustrine emergent wetland and a 0.5-acre offsite abutting palustrine forested wetland. The offsite 0.5-acre wetland is within the 1% annual flood risk zone (100-year floodplain) of the Brazos River.

The relevant reach is located within a developing area that was historically agricultural fields. The agricultural fields have gradually been developed into residential subdivisions and commercial properties. The upstream portion of the relevant reach is located in developed and undeveloped residential lands.

The Corps has found evidence/data to support the statement that these waters (the relevant reach and all similarly situated adjacent wetlands within this relevant reach) provide more than a speculative or insubstantial effect upon the chemical integrity of the downstream TNW, into which this relevant reach flows. There is a direct surface hydrologic connection between this approximate 0.93-mile-long relevant reach and the downstream TNW, the Brazos River. The relevant reach and it's approximate 0.52 acre of adjacent wetlands provide important filtration to sediment-laden stormwater runoff prior to it entering the Brazos River. The adjacent wetlands also serve to aid in reducing thermal and chemical pollutants flowing into the Brazos River. While the Brazos River is not identified by the TCEQ as a 303(d) impaired water, the adjacent wetlands within the relevant reach contribute to maintaining the current water quality of the Brazos River. The wetlands are situated in a developing area that is converting farm land to residential and commercial properties. The aquatic resources within this reach provide more than speculative or insubstantial effects that are inseparably bound to the chemical integrity of the downstream TNW.

Since the relevant reach is located 0.32 river miles upstream from the TNW, it has the effect of extending the ordinary high water mark of the downstream TNW. The retention of water and retardation of overbank flooding associated with adjacent wetlands is vital to maintain and protect the physical integrity of the downstream TNW. The effects of removing the abutting wetlands would increase water velocity and flow into the Brazos River, resulting in more than a speculative or insubstantial effect upon the physical attributes of the downstream TNW. Increased flow will increase "out of bank" flooding and scouring, resulting in potential loss of personal property and the physical condition of the TNW.

Therefore, the aquatic resources within this reach provide more than speculative or insubstantial effects that are inseparably bound to maintain the physical integrity of the downstream TNW.

There are no known specific species found in this review area that require the aquatic resources of the relevant reach and its adjacent wetlands to fulfill their life cycle requirements. However, the relevant reach has a direct hydrologic connection through a 2nd order tributary to the downstream TNW. As such, it is highly likely to support aquatic organisms that require both the aquatic features within this reach and the downstream TNW. It is highly probable that various fish and/or invertebrate species utilize the relevant reach for portions of their life cycles. However, there is insufficient evidence at this time to identify specific species requiring the noted features. The abutting wetlands aid in providing a mosaic of foraging and cover habitat. Therefore, it is the Corps' conclusion, that the aquatic resources within this relevant reach, although speculative, provide more than an insubstantial effect on the biological integrity of the downstream TNW.

In conclusion, we have determined that there is sufficient evidence to support the statement that the aquatic resources within the approximate 0.96-mile-long relevant reach and its 0.52 acre of abutting wetlands provide a significant nexus (more than speculative or insubstantial effect) to the chemical, physical and/or biological integrity of the downstream TNW, the Brazos River. In conclusion, it is our opinion that this relevant reach and its adjacent wetlands are waters of the United States subject to Section 404 of the Clean Water Act.

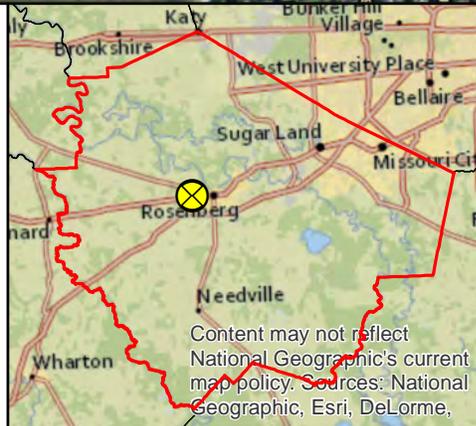


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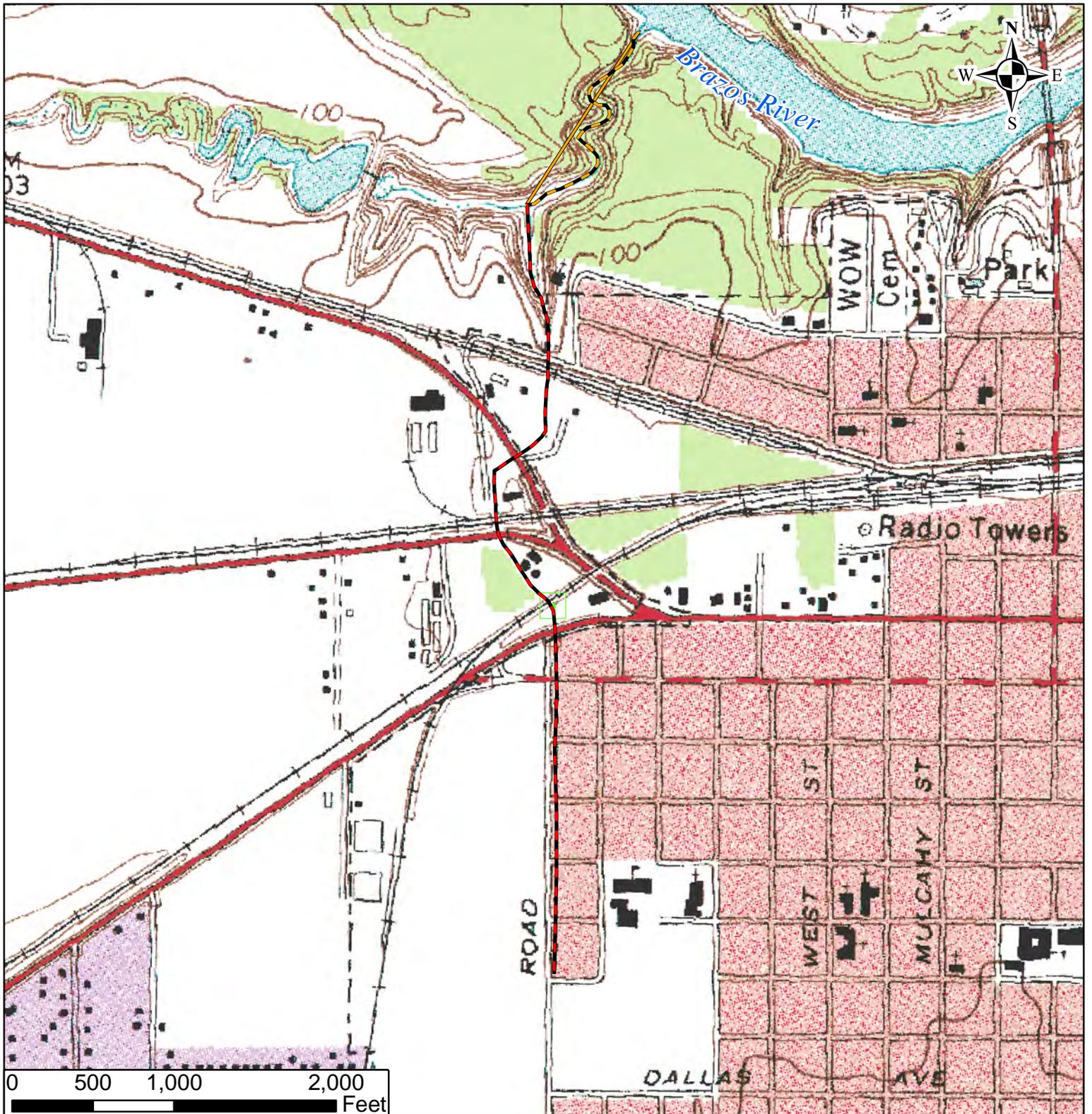
- Relevant_Reach (Non-RPW) ~ 0.96 mi
- River_Miles_To_TNW ~ 0.32 mi
- Aerial_Miles_To_TNW ~ 0.24 mi
- Onsite_Wetland ~ 0.02 ac



Data Source: ESRI Basemap
 Date: 14 March 2016



Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme,



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