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): 17 January 2018

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Galveston District, SWG-2017-00724, City of Conroe, Stewarts Creek, Valwood Branch Creek, Wetlands Z

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: Texas County/Parish: Conroe City: Montgomery
Center coordinates of site (lat/long in degree decimal format, NAD-83): Lat. See Table° N, Long. ° W;
Universal Transverse Mercator: UTM: 15N, N., E.,NAD: 83
Name of nearest water body: Valwood Branch Creek & Stewarts Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Stewarts Creek
Name of watershed or Hydrologic Unit Code (HUC): 120401010401 Stewarts Creek-West Fork San Jacinto River
☒ 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: 28 November 2017
☒ Field Determination. Date(s): 29 November 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** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. **[*Required*]**

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☒ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☒ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: **509** linear feet: width (ft) and/or **0.2141** acres
      Wetlands: **appx. 0.1** acres

   c. **Limits (boundaries) of jurisdiction** based on: **Established by OHWM.**
      Elevation of established OHWM (if known):

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

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

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

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

1. TNW
Identify TNW:

Summarize rationale supporting determination:

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent":

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

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

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, 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 body[4] 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: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** 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 TNW[5]:
Tributary stream order, if known:

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

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain:
☐ Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List**

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:
Presence of run/riffle/pool complexes. Explain:
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime:
Other information on duration and volume:
Surface flow is: **Pick List**. Characteristics:
Subsurface flow: **Pick List**. Explain findings:
☐ Dye (or other) test performed:

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (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;
☐ 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:
Identify specific pollutants, if known:

[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.

(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: acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain:

Surface flow is**: Pick List**

Characteristics:

Subsurface flow: **Pick List**. 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 **Pick List** river miles from TNW.

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

Flow is from: **Pick List.**

Estimate approximate location of wetland as within the **Pick List** 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:

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:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

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: **Flowing water was observed in Stewarts Creek and Valwood Branch Creek during our 29 November 2017 site visit. Stewarts Creek is labeled as perennial on the topographic map. It is a relatively permanent water (RPW) which flows directly into the West Fork San Jacinto River, a tradtional navigable water (TNW). Valwood Branch Creek is a tributary to Stewarts Creek. Water was observed in Valwood Branch Creek in all of the available Google Earth aerial images since 2006 and therefore is determined to be an RPW.**

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

3. Non-RPWs[8] 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 Z (appx 0.1 acre) were observed within the channel and frining Valwood Branch Creek.

☐ 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 jurisidictional. 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.

[8] See Footnote # 3.

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

[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

☐ 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: **Timber Creek Environmental, LLC report dated 20 October 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: **29 November 2017**
☐ Corps navigable waters' study:
☒ U.S. Geological Survey Hydrologic Atlas: **120401010401 Stewarts Creek-West Fork San Jacinto River**
☒ 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: **1958, 1976, and 2013 Conroe, Texas Quadrangles 1:24,000**
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **Soil Survey of Montgomery County, Texas**
☒ National wetlands inventory map(s). Cite name: **Conroe, Texas**
☐ State/Local wetland inventory map(s):
☒ FEMA/FIRM maps: **Panel Number 48339C0390 G, Effective 8/18/2014**
☒ 100-year Floodplain Elevation is: **150 feet** (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): **1940, 1952, 1968, 1979, 1983, 1995, 2004, 2005, 2006, 2010, and 2012 1995 - 2017 Google Earth Aerials**
or ☒ Other (Name & Date): **Site visit photographs included in report submitted by Timber Creek**

Photographs taken during the 29 November 2017 site visit

- ☐ 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: Based on our 29 November 2017 site visit and a review of on and off-site data associated with this request, we have determined that the project area contains waters of the United States, specifically the Stewarts Creek, Valwood Branch Creek, and Wetlands Z. Stewarts Creek and Valwood Branch Creek were determined to be RPWs. Therefore, they are waters of the United States subject to the U.S. Army Corps of Engineers (USACE) jurisdiction under Section 404 of the Clean Water Act (Section 404). Wetlands Z are directly abutting Valwood Branch Creek (RPW) and therefore, are waters of the United States subject to USACE jurisdiction under Section 404. Under Section 404, a Department of the Army permit is required prior to the discharge of dredged and/or fill material into theses jurisdictional waters - Stewarts Creek, Valwood Branch Creek, and Wetlands Z.

TABLE

Feature ID	Approximate Acreage	Linear Feet	Width (feet)	Latitude	Longitude	Northing (Meters)	Easting (Meters)
Stewarts Creek	0.0359	63	35	30.290938°	-95.434757°	3353534.9	265826.4
Valwood Branch Creek	0.1782	446	75	30.288756°	-95.438332°	3353300.4	265477.3
Wetlands Z	0.1	-	-	30.289131°	-95.438271°	3353341.9	265484.1

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): 8 December 2017

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Galveston District, SWG-2017-00724, City of Conroe, Wetlands C, D, E, and F

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: Texas County/Parish: Conroe City: Montgomery
Center coordinates of site (lat/long in degree decimal format, NAD-83): Lat. See Table° N, Long. ° W;
Universal Transverse Mercator: UTM: 15N, N., E.,NAD: 83
Name of nearest water body: Valwood Branch Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: None
Name of watershed or Hydrologic Unit Code (HUC): 120401010401 Stewarts Creek-West Fork San Jacinto River
☒ 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: 28 November 2017
☒ Field Determination. Date(s): 29 November 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 waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: 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: There are 4 isolated wetlands on the project site totaling appx 0.67 acre. The wetlands were identified using the Atlantic and Gulf Coastal Plain Region Supplement to the 1987 Corps of Engineers Wetland Delineation Manual, which requires a dominance of hydrophytic vegetation, wetland hydrology indicators, and hydric soils, under normal conditions. The

[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.

nearest water of the United States is Valwood Creek Branch, a tributary to Stewarts Creek. The West Fork San Jacinto River is the nearest Traditional Navigable Water. According to the FEMA floodplain map, all of these subject wetlands are located outside the 100-year floodplain of any water of the United States. As such they are located outside the anticipated high flow of any water of the United States. Based on the 29 November 2017 site visit and off-site review it has been verified that none of these wetlands have a confined hydrological surface connection to any water of the United States, nor are they “inseparably bound” to any waters of the United States under normal hydrologic conditions.

-Based on off-site data and on-site data collected during the site visit conducted 29 November 2017, there are no known hydrological connections between Wetlands C, D, E, and F and Valwood Creek Branch or any other water of the United States.
-There are no confined surface hydrologic connections between Wetlands C, D, E, and F and any water of the United States.
-Wetlands C, D, E, and F are isolated and are not waters of the United States, as defined in 33 CFR 328.3(a). They are not currently used, were not used in the past, nor are they susceptible to use for interstate or foreign commerce. The destruction of these subject wetlands would not affect interstate or foreign travelers for recreational or other purposes, would not affect fish or shellfish that could be taken and sold in interstate or foreign commerce, and would not affect the current use or potential use for industrial purposes by industries in interstate commerce.
-Wetlands C, D, E, and F are not subject to the ebb and flow of the daily tide.
-Wetlands C, D, E, and F do not cross interstate or tribal boundaries.
-Wetlands C, D, E, and F are not impoundments of a water of the United States.
-Wetlands C, D, E, and F are not part of a surface tributary system of any of the above.
-Wetlands C, D, E, and F are not part of the territorial seas.
-Wetlands C, D, E, and F are not adjacent (bordering, contiguous, or neighboring) as defined by 33CFR 328.3(c) to any waters of the U.S.
-Wetlands C, D, E, and F have been determined not to be "ecologically adjacent", as defined in the Rapanos guidance as being "reasonably close" such that an ecologic interconnectivity is beyond speculation or insubstantial. There are no known species in this georegion that require any of the subject wetlands and the nearest waterbody (a water of the United States other than an adjacent wetland) to fulfill spawning and/or life cycle requirements.

-Wetlands C, D, E, and F are isolated wetlands as defined in 33 CFR 330.2(e): those non-tidal waters of the United States that are not part of a surface tributary system to interstate or navigable waters of the United States, and are not adjacent to such tributary waterbodies. They are all located outside of the 100-year floodplain of any water of the United States and do not have a confined hydrological surface connection to any water of the United States.

-The wetlands have no known nexus to interstate commerce. We determined the wetlands are not waters of the United States and are not subject to Section 404 of the Clean Water Act.

TABLE

Wetland Feature ID	Approximate Acreage	Latitude	Longitude	Northing (Meters)	Easting (Meters)	Distance to Valwood Branch Creek (mile)
Wetlands C	0.2516	30.291016°	-95.442481°	3353559.5	265083.5	0.18
Wetlands D	0.1971	30.289779°	-95.443132°	3353423.7	265017.9	0.29
Wetlands E	0.0585	30.288808°	-95.441700°	3353313.1	265153.4	0.22
Wetlands F	0.1639	30.290566°	-95.444032°	3353512.9	264933.2	0.27

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 body[4] 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: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** 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 TNW[5]:
Tributary stream order, if known:

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

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain:
☐ Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List**

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:
Presence of run/riffle/pool complexes. Explain:
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime:
Other information on duration and volume:
Surface flow is: **Pick List**. Characteristics:
Subsurface flow: **Pick List**. Explain findings:
☐ Dye (or other) test performed:

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (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;
☐ 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:
Identify specific pollutants, if known:

[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.

(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: acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain:

Surface flow is**: Pick List**

Characteristics:

Subsurface flow: **Pick List**. 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 **Pick List** river miles from TNW.

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

Flow is from: **Pick List.**

Estimate approximate location of wetland as within the **Pick List** 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:

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:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

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:

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

3. Non-RPWs[8] 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.

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

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

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

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: **appx 0.67** 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: **Timber Creek Environmental, LLC report dated 20 October 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: **29 November 2017**
☐ Corps navigable waters' study:
☒ U.S. Geological Survey Hydrologic Atlas: **120401010401 Stewarts Creek-West Fork San Jacinto River**
☒ 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: **1958, 1976, and 2013 Conroe, Texas Quadrangles 1:24,000**
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **Soil Survey of Montgomery County, Texas**
☒ National wetlands inventory map(s). Cite name: **Conroe, Texas**
☐ State/Local wetland inventory map(s):
☒ FEMA/FIRM maps: **Panel Number 48339C0390 G, Effective 8/18/2014**
☒ 100-year Floodplain Elevation is: **150 feet** (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): **1940, 1952, 1968, 1979, 1983, 1995, 2004, 2005, 2006, 2010, and 2012 1995 - 2017 Google Earth Aerials**
or ☒ Other (Name & Date): **Site visit photographs included in report submitted by Timber Creek Photographs taken during the 29 November 2017 site visit**

☐ 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: There are 4 isolated wetlands on the project site totaling appx 0.67 acre. The wetlands were identified using the Atlantic and Gulf Coastal Plain Region Supplement to the 1987 Corps of Engineers Wetland Delineation Manual, which requires a dominance of hydrophytic vegetation, wetland hydrology indicators, and hydric soils, under normal conditions. The nearest water of the United States is Valwood Creek Branch, a tributary to Stewarts Creek. The West Fork San Jacinto River is the nearest Traditional Navigable Water. According to the FEMA floodplain map, all of these subject wetlands are located outside the 100-year floodplain of any water of the United States. As such they are located outside the anticipated high flow of any water of the United States. Based on the 29 November 2017 site visit and off-site review it has been verified that none of these wetlands have a confined hydrological surface connection to any water of the United States, nor are they "inseparably bound" to any waters of the United States under normal hydrologic conditions.

-Based on off-site data and on-site data collected during the site visit conducted 29 November 2017, there are no known hydrological connections between Wetlands C, D, E, and F and Valwood Creek Branch or any other water of the United States.
-There are no confined surface hydrologic connections between Wetlands C, D, E, and F and any water of the United States.
-Wetlands C, D, E, and F are isolated and are not waters of the United States, as defined in 33 CFR 328.3(a). They are not currently used, were not used in the past, nor are they susceptible to use for interstate or foreign commerce. The destruction of these subject wetlands would not affect interstate or foreign travelers for recreational or other purposes, would not affect fish or shellfish that could be taken and sold in interstate or foreign commerce, and would not affect the current use or potential use for industrial purposes by industries in interstate commerce.
-Wetlands C, D, E, and F are not subject to the ebb and flow of the daily tide.
-Wetlands C, D, E, and F do not cross interstate or tribal boundaries.
-Wetlands C, D, E, and F are not impoundments of a water of the United States.
-Wetlands C, D, E, and F are not part of a surface tributary system of any of the above.
-Wetlands C, D, E, and F are not part of the territorial seas.
-Wetlands C, D, E, and F are not adjacent (bordering, contiguous, or neighboring) as defined by 33CFR 328.3(c) to any waters of the U.S.
-Wetlands C, D, E, and F have been determined not to be "ecologically adjacent", as defined in the Rapanos guidance as being "reasonably close" such that an ecologic interconnectivity is beyond speculation or insubstantial. There are no known species in this georegion that require any of the subject wetlands and the nearest waterbody (a water of the United States other than an adjacent wetland) to fulfill spawning and/or life cycle requirements.

-Wetlands C, D, E, and F are isolated wetlands as defined in 33 CFR 330.2(e): those non-tidal waters of the United States that are not part of a surface tributary system to interstate or navigable waters of the United States, and are not adjacent to such tributary waterbodies. They are all located outside of the 100-year floodplain of any water of the United States and do not have a confined hydrological surface connection to any water of the United States.

-The wetlands have no known nexus to interstate commerce. We determined the wetlands are not waters of the United States and are not subject to Section 404 of the Clean Water Act.

-In conclusion, it is SWG's draft determination that these 4 wetlands on the tract totaling appx 0.67 acre are "isolated" and lack a nexus to interstate commerce. As such, these wetlands are not waters of the United States subject to Section 404 of the Clean Water Act.

TABLE

Wetland Feature ID	Approximate Acreage	Latitude	Longitude	Northing (Meters)	Easting (Meters)	Distance to Valwood Branch Creek (mile)
Wetlands C	0.2516	30.291016°	-95.442481°	3353559.5	265083.5	0.18
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Wetlands F	0.1639	30.290566°	-95.444032°	3353512.9	264933.2	0.27

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): 18 January 2018

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Galveston District, SWG-2017-00724, City of Conroe, Unnamed Tributary to Valwood Branch Creek 1

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: Texas County/Parish: Conroe City: Montgomery
Center coordinates of site (lat/long in degree decimal format, NAD-83): Lat. 30.288995° N, Long. -95.443216° W;
Universal Transverse Mercator: UTM: 15N, 3353337 N., 265008 E.,NAD: 83
Name of nearest water body: Valwood Branch Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: West Fork San Jacinto River
Name of watershed or Hydrologic Unit Code (HUC): 120401010401 Stewarts Creek-West Fork San Jacinto River
☒ 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: 28 November 2017
☒ Field Determination. Date(s): 29 November 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 waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: 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: The relevant reach in this significant nexus examination includes a first order ephemeral tributary which we are calling the Unnamed Tributary to Valwood Branch Creek 1. The Unnamed Tributary to Valwood Branch Creek 1 is very narrow and approximately 400 feet in length before it becomes a second order ephemeral tributary at its confluence with the Unnamed Tributary to

[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.

Valwood Branch Creek 2 where it becomes the Unnamed Tributary to Valwood Branch Creek 3. The Unnamed Tributary to Valwood Branch Creek 3 then flows approximately 1,500 feet before joining Valwood Branch Creek. Valwood Branch Creek (an RPW at this confluence) then joins Stewarts Creek (an RPW) approximately 720 feet downstream. Stewarts Creek joins the West Fork San Jacinto River, a "traditional navigable water" (TNW), approximately 3.65 miles downstream. The National Wetland Inventory Map does not identify/map any wetlands within this reach nor does the USGS map. Based on this information (site visits and off site information) we have determined that the waters within this reach have a very limited ephemeral flow.

There are scientific studies that provide information that tributaries provide for chemical sequestration in aquatic systems. However, the Corps did not find sufficient site specific evidence/data to support the statement that the waters (within this reach – 400 feet) provide more than speculative or insubstantial effect upon the chemical integrity of the downstream TNW located approximately four miles downstream. There are numerous waterways and tributaries that feed into the West Fork San Jacinto River prior to it being a TNW. This 400-foot reach has not been identified as a 303(d) listed water by the Texas Commission on Environmental Quality who is the responsible agency for water quality matters within the state. Therefore, there is not data nor information that would support that these aquatic resources within this reach (a 400-foot ephemeral tributary) provide more than speculative or insubstantial amount of chemical attributes that would affect the chemical integrity of the downstream TNW located approximately four miles downstream.

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. This tributary is beyond the mapped floodplain. While 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 approximately four 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 (approximately four miles downstream) to fulfill their life cycle requirements. Since the hydroperiod for this reach could be described as seasonal (at best) and the flow regime is ephemeral, there is great speculation associated with stating that aquatic biotic species would require both, the TNW located approximately four 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 founded that supports that this reach provides more than a speculative or insubstantial effect upon the biological integrity of the downstream TNW, located approximately four 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 (a 400-foot 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 approximately four 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 body[4] 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: **19.35 square miles**
Drainage area: **Pick List**
Average annual rainfall: **49.19** inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☒ Tributary flows through **3** tributaries before entering TNW.

Project waters are **2-5** river miles from TNW.
Project waters are **1 (or less)** river miles from RPW.
Project waters are **2-5** aerial (straight) miles from TNW.
Project waters are **1 (or less)** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: **NA**

[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 TNW[5]: **Unnamed Tributary to Valwood Branch Creek to Unnamed Tributary to Valwood Branch Creek 3 to Valwood Branch Creek to Stewarts Creek to West Fork San Jacinto River**
Tributary stream order, if known: **First**

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☐ Natural
☐ Artificial (man-made). Explain:
☒ Manipulated (man-altered). Explain: **The headwaters of the tributary appears to have been manipulated in order to connect to receive stormwater from the adjacent subdivision.**

Tributary properties with respect to top of bank (estimate):
Average width: **10** feet
Average depth: **4** feet
Average side slopes: **3:1**

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: **Stable**
Presence of run/riffle/pool complexes. Explain:
Tributary geometry: **Relatively straight**
Tributary gradient (approximate average slope): **3** %

(c) Flow:
Tributary provides for: **Ephemeral flow**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime:
Other information on duration and volume:
Surface flow is: **Confined**. Characteristics:
Subsurface flow: **Unknown**. Explain findings:
☐ Dye (or other) test performed:

Tributary has (check all that apply):
☒ Bed and banks
☐ OHWM[6] (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;
☐ 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: **Observed ponding water in a few locations. The water appeared to be discolored by suspended sediments. The water quality is unknown.**

[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.

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: acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain:

Surface flow is**: Pick List**

Characteristics:

Subsurface flow: **Pick List**. 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 **Pick List** river miles from TNW.

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

Flow is from: **Pick List.**

Estimate approximate location of wetland as within the **Pick List** 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:

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:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

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: **The relevant reach in this significant nexus examination includes a first order ephemeral tributary which we are calling the Unnamed Tributary to Valwood Branch Creek 1. The Unnamed Tributary to Valwood Branch Creek 1 is very narrow and approximately 400 feet in length before it becomes a second order ephemeral tributary at its confluence with the Unnamed Tributary to Valwood Branch Creek 2 where it becomes the Unnamed Tributary to Valwood Branch Creek 3.The Unnamed Tributary to Valwood Branch Creek 3 then flows approximately 1,500 feet before joining Valwood Branch Creek. Valwood Branch Creek (an RPW at this confluence) then joins Stewarts Creek (an RPW) approximately 720 feet downstream. Stewarts Creek joins the West Fork San Jacinto River, a "traditional navigable water" (TNW), approximately 3.65 miles downstream. The National Wetland Inventory Map does not identify/map any wetlands within this reach nor does the USGS map. Based on this information (site visits and off site information) we have determined that the waters within this reach have a very limited ephemeral flow. Based on our review, it is the Corps opinion that there is not sufficient evidence to support the statement that the aquatic resources within this reach (a 400-foot 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 approximately four 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.**

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-RPWs[8] 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.**
   - ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

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

[8] See Footnote # 3.
[9] To 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: The relevant reach in this significant nexus examination includes a first order ephemeral tributary which we are calling the Unnamed Tributary to Valwood Branch Creek 1. The Unnamed Tributary to Valwood Branch Creek 1 is very narrow and approximately 400 feet in length before it becomes a second order ephemeral tributary at its confluence with the Unnamed Tributary to Valwood Branch Creek 2 where it becomes the Unnamed Tributary to Valwood Branch Creek 3. The Unnamed Tributary to Valwood Branch Creek 3 then flows approximately 1,500 feet before joining Valwood Branch Creek. Valwood Branch Creek (an RPW at this confluence) then joins Stewarts Creek (an RPW) approximately 720 feet downstream. Stewarts Creek joins the West Fork San Jacinto River, a "traditional navigable water" (TNW), approximately 3.65 miles downstream. The National Wetland Inventory Map does not identify/map any wetlands within this reach nor does the USGS map. Based on this information (site visits and off site information) we have determined that the waters within this reach have a very limited ephemeral flow.

Based on our review, it is the Corps opinion that there is not sufficient evidence to support the statement that the aquatic resources within this reach (a 400-foot 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 approximately four 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): 400 linear feet, 10 width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource:
☐ Wetlands: acres.

[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.*

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: **Timber Creek Environmental, LLC report dated 20 October 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: **29 November 2017**
- ☐ Corps navigable waters' study:
- ☒ U.S. Geological Survey Hydrologic Atlas: **120401010401 Stewarts Creek-West Fork San Jacinto River**
  - ☒ 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: **1958, 1976, and 2013 Conroe, Texas Quadrangles 1:24,000**
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **Soil Survey of Montgomery County, Texas**
- ☒ National wetlands inventory map(s). Cite name: **Conroe, Texas**
- ☐ State/Local wetland inventory map(s):
- ☒ FEMA/FIRM maps: **Panel Number 48339C0390 G, Effective 8/18/2014**
- ☒ 100-year Floodplain Elevation is: **150 feet** (National Geodectic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): **1940, 1952, 1968, 1979, 1983, 1995, 2004, 2005, 2006, 2010, and 2012 1995 - 2017 Google Earth Aerials**
  or ☒ Other (Name & Date): **Site visit photographs included in report submitted by Timber Creek Photographs taken during the 29 November 2017 site visit**

- ☐ 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 in this significant nexus examination includes a first order ephemeral tributary which we are calling the Unnamed Tributary to Valwood Branch Creek 1. The Unnamed Tributary to Valwood Branch Creek 1 is very narrow and approximately 400 feet in length before it becomes a second order ephemeral tributary at its confluence with the Unnamed Tributary to Valwood Branch Creek 2 where it becomes the Unnamed Tributary to Valwood Branch Creek 3.The Unnamed Tributary to Valwood Branch Creek 3 then flows approximately 1,500 feet before joining Valwood Branch Creek. Valwood Branch Creek (an RPW at this confluence) then joins Stewarts Creek (an RPW) approximately 720 feet downstream. Stewarts Creek joins the West Fork San Jacinto River, a "traditional navigable water" (TNW), approximately 3.65 miles downstream. The National Wetland Inventory Map does not identify/map any wetlands within this reach nor does the USGS map. Based on this information (site visits and off site information) we have determined that the waters within this reach have a very limited ephemeral flow.

There are scientific studies that provide information that tributaries provide for chemical sequestration in aquatic systems. However, the Corps did not find sufficient site specific evidence/data to support the statement that the waters (within this reach – 400 feet) provide more than speculative or insubstantial effect upon the chemical integrity of the downstream TNW located approximately four miles downstream. There are numerous waterways and tributaries that feed into the West Fork San Jacinto River prior to it being a TNW. This 400-foot reach has not been identified as a 303(d) listed water by the Texas Commission on Environmental Quality who is the responsible agency for water quality matters within the state. Therefore, there is not data nor information that would support that these aquatic resources within this reach (a 400-foot ephemeral tributary) provide more than speculative or insubstantial amount of chemical attributes that would affect the chemical integrity of the downstream TNW located approximately four miles downstream.

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. This tributary is beyond the mapped floodplain. While 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 approximately four 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 (approximately four miles downstream) to fulfill their life cycle requirements. Since the hydroperiod for this reach could be described

as seasonal (at best) and the flow regime is ephemeral, there is great speculation associated with stating that aquatic biotic species would require both, the TNW located approximately four 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 founded that supports that this reach provides more than a speculative or insubstantial effect upon the biological integrity of the downstream TNW, located approximately four 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 (a 400-foot 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 approximately four 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.

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): 18 January 2018

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Galveston District, SWG-2017-00724, City of Conroe, Unnamed Tributary to Valwood Branch Creek 2

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: Texas County/Parish: Conroe City: Montgomery
Center coordinates of site (lat/long in degree decimal format, NAD-83): Lat. 30.289187° N, Long. -95.443011° W;
Universal Transverse Mercator: UTM: 15N, 3353357.9 N., 265028.2 E.,NAD: 83
Name of nearest water body: Valwood Branch Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: West Fork San Jacinto River
Name of watershed or Hydrologic Unit Code (HUC): 120401010401 Stewarts Creek-West Fork San Jacinto River
☒ 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: 28 November 2017
☒ Field Determination. Date(s): 29 November 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 waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: 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: The relevant reach in this significant nexus examination includes a first order ephemeral tributary which we are calling the Unnamed Tributary to Valwood Branch Creek 2. The Unnamed Tributary to Valwood Branch Creek 2 is very narrow and approximately 370 feet in length before it becomes a second order ephemeral tributary at its confluence with the Unnamed Tributary to

[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.

Valwood Branch Creek 1 where it becomes the Unnamed Tributary to Valwood Branch Creek 3. The Unnamed Tributary to Valwood Branch Creek 3 then flows approximately 1,500 feet before joining Valwood Branch Creek. Valwood Branch Creek (an RPW at this confluence) then joins Stewarts Creek (an RPW) approximately 720 feet downstream. Stewarts Creek joins the West Fork San Jacinto River, a "traditional navigable water" (TNW), approximately 3.65 miles downstream. The National Wetland Inventory Map does not identify/map any wetlands within this reach nor does the USGS map. Based on this information (site visits and off site information) we have determined that the waters within this reach have a very limited ephemeral flow.

There are scientific studies that provide information that tributaries provide for chemical sequestration in aquatic systems. However, the Corps did not find sufficient site specific evidence/data to support the statement that the waters (within this reach – 370 feet) provide more than speculative or insubstantial effect upon the chemical integrity of the downstream TNW located approximately four miles downstream. There are numerous waterways and tributaries that feed into the West Fork San Jacinto River prior to it being a TNW. This 370-foot reach has not been identified as a 303(d) listed water by the Texas Commission on Environmental Quality who is the responsible agency for water quality matters within the state. Therefore, there is not data nor information that would support that these aquatic resources within this reach (a 370-foot ephemeral tributary) provide more than speculative or insubstantial amount of chemical attributes that would affect the chemical integrity of the downstream TNW located approximately four miles downstream.

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. This tributary is beyond the mapped floodplain. While 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 approximately four 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 (approximately four miles downstream) to fulfill their life cycle requirements. Since the hydroperiod for this reach could be described as seasonal (at best) and the flow regime is ephemeral, there is great speculation associated with stating that aquatic biotic species would require both, the TNW located approximately four 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 founded that supports that this reach provides more than a speculative or insubstantial effect upon the biological integrity of the downstream TNW, located approximately four 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 (a 370-foot 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 approximately four 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 body[4] 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: **19.35 square miles**
Drainage area: **Pick List**
Average annual rainfall: **49.19** inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☒ Tributary flows through **3** tributaries before entering TNW.

Project waters are **2-5** river miles from TNW.
Project waters are **1 (or less)** river miles from RPW.
Project waters are **2-5** aerial (straight) miles from TNW.
Project waters are **1 (or less)** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: **NA**

[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 TNW[5]: **Unnamed Tributary to Valwood Branch Creek 2 to Unnamed Tributary to Valwood Branch Creek 3 to Valwood Branch Creek to Stewarts Creek to West Fork San Jacinto River**
Tributary stream order, if known: **First**

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☒ Natural
☐ Artificial (man-made). Explain:
☐ Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):
Average width: **10** feet
Average depth: **4** feet
Average side slopes: **3:1**

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: **Stable**
Presence of run/riffle/pool complexes. Explain:
Tributary geometry: **Relatively straight**
Tributary gradient (approximate average slope): **3** %

(c) Flow:
Tributary provides for: **Ephemeral flow**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime:
Other information on duration and volume:
Surface flow is: **Confined**. Characteristics:
Subsurface flow: **Unknown**. Explain findings:
☐ Dye (or other) test performed:

Tributary has (check all that apply):
☒ Bed and banks
☐ OHWM[6] (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;
☐ 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: **Observed ponding water in a few locations. The water appeared to be discolored by suspended sediments. The water quality is unknown.**
Identify specific pollutants, if known: **Unknown**

[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.

(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: acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain:

Surface flow is**: Pick List**

Characteristics:

Subsurface flow: **Pick List**. 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 **Pick List** river miles from TNW.

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

Flow is from: **Pick List.**

Estimate approximate location of wetland as within the **Pick List** 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:

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:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

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: **The relevant reach in this significant nexus examination includes a first order ephemeral tributary which we are calling the Unnamed Tributary to Valwood Branch Creek 2. The Unnamed Tributary to Valwood Branch Creek 2 is very narrow and approximately 370 feet in length before it becomes a second order ephemeral tributary at its confluence with the Unnamed Tributary to Valwood Branch Creek 1 where it becomes the Unnamed Tributary to Valwood Branch Creek 3. The Unnamed Tributary to Valwood Branch Creek 3 then flows approximately 1,500 feet before joining Valwood Branch Creek. Valwood Branch Creek (an RPW at this confluence) then joins Stewarts Creek (an RPW) approximately 720 feet downstream. Stewarts Creek joins the West Fork San Jacinto River, a "traditional navigable water" (TNW), approximately 3.65 miles downstream. The National Wetland Inventory Map does not identify/map any wetlands within this reach nor does the USGS map. Based on this information (site visits and off site information) we have determined that the waters within this reach have a very limited ephemeral flow. Based on our review, it is the Corps opinion that there is not sufficient evidence to support the statement that the aquatic resources within this reach (a 370-foot 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 approximately four 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.**

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-RPWs[8] 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.**
   - ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

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

[8] See Footnote # 3.
[9] To 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: The relevant reach in this significant nexus examination includes a first order ephemeral tributary which we are calling the Unnamed Tributary to Valwood Branch Creek 2. The Unnamed Tributary to Valwood Branch Creek 2 is very narrow and approximately 370 feet in length before it becomes a second order ephemeral tributary at its confluence with the Unnamed Tributary to Valwood Branch Creek 1 where it becomes the Unnamed Tributary to Valwood Branch Creek 3. The Unnamed Tributary to Valwood Branch Creek 3 then flows approximately 1,500 feet before joining Valwood Branch Creek. Valwood Branch Creek (an RPW at this confluence) then joins Stewarts Creek (an RPW) approximately 720 feet downstream. Stewarts Creek joins the West Fork San Jacinto River, a "traditional navigable water" (TNW), approximately 3.65 miles downstream. The National Wetland Inventory Map does not identify/map any wetlands within this reach nor does the USGS map. Based on this information (site visits and off site information) we have determined that the waters within this reach have a very limited ephemeral flow.

Based on our review, it is the Corps opinion that there is not sufficient evidence to support the statement that the aquatic resources within this reach (a 370-foot 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 approximately four 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): 370 linear feet, 10 width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource:
☐ Wetlands: acres.

[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.*

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: **Timber Creek Environmental, LLC report dated 20 October 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: **29 November 2017**
- ☐ Corps navigable waters' study:
- ☒ U.S. Geological Survey Hydrologic Atlas: **120401010401 Stewarts Creek-West Fork San Jacinto River**
  - ☒ 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: **1958, 1976, and 2013 Conroe, Texas Quadrangles 1:24,000**
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **Soil Survey of Montgomery County, Texas**
- ☒ National wetlands inventory map(s). Cite name: **Conroe, Texas**
- ☐ State/Local wetland inventory map(s):
- ☒ FEMA/FIRM maps: **Panel Number 48339C0390 G, Effective 8/18/2014**
- ☒ 100-year Floodplain Elevation is: **150 feet** (National Geodectic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): **1940, 1952, 1968, 1979, 1983, 1995, 2004, 2005, 2006, 2010, and 2012 1995 - 2017 Google Earth Aerials**
  or ☒ Other (Name & Date): **Site visit photographs included in report submitted by Timber Creek Photographs taken during the 29 November 2017 site visit**

- ☐ 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 in this significant nexus examination includes a first order ephemeral tributary which we are calling the Unnamed Tributary to Valwood Branch Creek 2. The Unnamed Tributary to Valwood Branch Creek 2 is very narrow and approximately 370 feet in length before it becomes a second order ephemeral tributary at its confluence with the Unnamed Tributary to Valwood Branch Creek 1 where it becomes the Unnamed Tributary to Valwood Branch Creek 3.The Unnamed Tributary to Valwood Branch Creek 3 then flows approximately 1,500 feet before joining Valwood Branch Creek. Valwood Branch Creek (an RPW at this confluence) then joins Stewarts Creek (an RPW) approximately 720 feet downstream. Stewarts Creek joins the West Fork San Jacinto River, a "traditional navigable water" (TNW), approximately 3.65 miles downstream. The National Wetland Inventory Map does not identify/map any wetlands within this reach nor does the USGS map. Based on this information (site visits and off site information) we have determined that the waters within this reach have a very limited ephemeral flow.

There are scientific studies that provide information that tributaries provide for chemical sequestration in aquatic systems. However, the Corps did not find sufficient site specific evidence/data to support the statement that the waters (within this reach – 370 feet) provide more than speculative or insubstantial effect upon the chemical integrity of the downstream TNW located approximately four miles downstream. There are numerous waterways and tributaries that feed into the West Fork San Jacinto River prior to it being a TNW. This 370-foot reach has not been identified as a 303(d) listed water by the Texas Commission on Environmental Quality who is the responsible agency for water quality matters within the state. Therefore, there is not data nor information that would support that these aquatic resources within this reach (a 370-foot ephemeral tributary) provide more than speculative or insubstantial amount of chemical attributes that would affect the chemical integrity of the downstream TNW located approximately four miles downstream.

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. This tributary is beyond the mapped floodplain. While 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 approximately four 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 (approximately four miles downstream) to fulfill their life cycle requirements. Since the hydroperiod for this reach could be described

as seasonal (at best) and the flow regime is ephemeral, there is great speculation associated with stating that aquatic biotic species would require both, the TNW located approximately four 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 founded that supports that this reach provides more than a speculative or insubstantial effect upon the biological integrity of the downstream TNW, located approximately four 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 (a 370-foot 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 approximately four 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.

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): 19 January 2018

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Galveston District, SWG-2017-00724, City of Conroe, Unnamed Tributary to Valwood Branch Creek 3

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: Texas County/Parish: Conroe City: Montgomery
Center coordinates of site (lat/long in degree decimal format, NAD-83): Lat. 30.288215° N, Long. -95.441862° W;
Universal Transverse Mercator: UTM: 15N, 3353247.7 N., 265136.4 E.,NAD: 83
Name of nearest water body: Valwood Branch Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: West Fork San Jacinto River
Name of watershed or Hydrologic Unit Code (HUC): 120401010401 Stewarts Creek-West Fork San Jacinto River
☒ 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: 28 November 2017
☒ Field Determination. Date(s): 29 November 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 waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: 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: The relevant reach in this significant nexus examination includes a second order ephemeral tributary which we are calling the Unnamed Tributary to Valwood Branch Creek 3. The Unnamed Tributary to Valwood Branch Creek 3 is very narrow and approximately 1,500 feet in length (660 feet within project boundary) before it flows into Valwood Branch Creek. Valwood Branch Creek

[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.

(an RPW at this confluence) then joins Stewarts Creek (an RPW) approximately 720 feet downstream. Stewarts Creek joins the West Fork San Jacinto River, a "traditional navigable water" (TNW), approximately 3.65 miles downstream. The National Wetland Inventory Map does not identify/map any wetlands within this reach nor does the USGS map. Based on this information (site visits and off site information) we have determined that the waters within this reach have a very limited ephemeral flow.

There are scientific studies that provide information that tributaries provide for chemical sequestration in aquatic systems. However, the Corps did not find sufficient site specific evidence/data to support the statement that the waters (within this reach – 1,500 feet total; 660 feet within project boundary) provide more than speculative or insubstantial effect upon the chemical integrity of the downstream TNW located approximately four miles downstream. There are numerous waterways and tributaries that feed into the West Fork San Jacinto River prior to it being a TNW. This 1,500-foot reach has not been identified as a 303(d) listed water by the Texas Commission on Environmental Quality who is the responsible agency for water quality matters within the state. Therefore, there is not data nor information that would support that these aquatic resources within this reach (a 1,500-foot ephemeral tributary) provide more than speculative or insubstantial amount of chemical attributes that would affect the chemical integrity of the downstream TNW located approximately four miles downstream.

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. This tributary is beyond the mapped floodplain. While 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 approximately four 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 (approximately four miles downstream) to fulfill their life cycle requirements. Since the hydroperiod for this reach could be described as seasonal (at best) and the flow regime is ephemeral, there is great speculation associated with stating that aquatic biotic species would require both, the TNW located approximately four 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 founded that supports that this reach provides more than a speculative or insubstantial effect upon the biological integrity of the downstream TNW, located approximately four 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 (a 1,500-foot 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 approximately four 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 body[4] 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: **19.35 square miles**
Drainage area: **Pick List**
Average annual rainfall: **49.19** 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 **2-5** river miles from TNW.
Project waters are **1 (or less)** river miles from RPW.
Project waters are **2-5** aerial (straight) miles from TNW.
Project waters are **1 (or less)** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: **NA**

[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 TNW[5]: **Unnamed Tributary to Valwood Branch Creek 3 to Valwood Branch Creek to Stewarts Creek to West Fork San Jacinto River**
Tributary stream order, if known: **Second**

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☒ Natural
☐ Artificial (man-made). Explain:
☒ Manipulated (man-altered). Explain: **Some culverts have been placed in the channel.**

Tributary properties with respect to top of bank (estimate):
Average width: **12** feet
Average depth: **4** feet
Average side slopes: **3:1**

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: **Stable**
Presence of run/riffle/pool complexes. Explain:
Tributary geometry: **Relatively straight**
Tributary gradient (approximate average slope): **3** %

(c) Flow:
Tributary provides for: **Ephemeral flow**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime:
Other information on duration and volume:
Surface flow is: **Confined**. Characteristics:
Subsurface flow: **Unknown**. Explain findings:
☐ Dye (or other) test performed:

Tributary has (check all that apply):
☒ Bed and banks
☐ OHWM[6] (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;
☐ 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: **The water appeared to be discolored by suspended sediments. The water quality is unknown.**
Identify specific pollutants, if known: **Unknown**

[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.

(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: acres
Wetland type. Explain:
Wetland quality. Explain:
Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:
Flow is: **Pick List**. Explain:

Surface flow is**: Pick List**
Characteristics:

Subsurface flow: **Pick List**. 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 **Pick List** river miles from TNW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Flow is from: **Pick List.**
Estimate approximate location of wetland as within the **Pick List** 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:
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:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

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: **The relevant reach in this significant nexus examination includes a second order ephemeral tributary which we are calling the Unnamed Tributary to Valwood Branch Creek 3. The Unnamed Tributary to Valwood Branch Creek 3 is very narrow and approximately 1,500 feet in length (660 feet within project boundary) before it flows into Valwood Branch Creek. Valwood Branch Creek (an RPW at this confluence) then joins Stewarts Creek (an RPW) approximately 720 feet downstream. Stewarts Creek joins the West Fork San Jacinto River, a "traditional navigable water" (TNW), approximately 3.65 miles downstream. The National Wetland Inventory Map does not identify/map any wetlands within this reach nor does the USGS map. Based on this information (site visits and off site information) we have determined that the waters within this reach have a very limited ephemeral flow. Based on our review, it is the Corps opinion that there is not sufficient evidence to support the statement that the aquatic resources within this reach (a 1,500-foot 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 approximately four 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.**

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-RPWs[8] 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.

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

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

[8]See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

☐ 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 second order ephemeral tributary which we are calling the Unnamed Tributary to Valwood Branch Creek 3. The Unnamed Tributary to Valwood Branch Creek 3 is very narrow and approximately 1,500 feet in length (660 feet within project boundary) before it joins Valwood Branch Creek. Valwood Branch Creek (an RPW at this confluence) then joins Stewarts Creek (an RPW) approximately 720 feet downstream. Stewarts Creek joins the West Fork San Jacinto River, a "traditional navigable water" (TNW), approximately 3.65 miles downstream. The National Wetland Inventory Map does not identify/map any wetlands within this reach nor does the USGS map. Based on this information (site visits and off site information) we have determined that the waters within this reach have a very limited ephemeral flow.

Based on our review, it is the Corps opinion that there is not sufficient evidence to support the statement that the aquatic resources within this reach (a 1,500-foot 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 approximately four 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): 1,500 linear feet, 12 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):

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[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.*

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: **Timber Creek Environmental, LLC report dated 20 October 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: **29 November 2017**
☐ Corps navigable waters' study:
☒ U.S. Geological Survey Hydrologic Atlas: **120401010401 Stewarts Creek-West Fork San Jacinto River**
☒ 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: **1958, 1976, and 2013 Conroe, Texas Quadrangles 1:24,000**
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **Soil Survey of Montgomery County, Texas**
☒ National wetlands inventory map(s). Cite name: **Conroe, Texas**
☐ State/Local wetland inventory map(s):
☒ FEMA/FIRM maps: **Panel Number 48339C0390 G, Effective 8/18/2014**
☒ 100-year Floodplain Elevation is: **150 feet** (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): **1940, 1952, 1968, 1979, 1983, 1995, 2004, 2005, 2006, 2010, and 2012 1995 - 2017 Google Earth Aerials**
or ☒ Other (Name & Date): **Site visit photographs included in report submitted by Timber Creek Photographs taken during the 29 November 2017 site visit**

☐ 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 in this significant nexus examination includes a second order ephemeral tributary which we are calling the Unnamed Tributary to Valwood Branch Creek 3. The Unnamed Tributary to Valwood Branch Creek 3 is very narrow and approximately 1,500 feet in length (660 feet within project boundary) before it flows into Valwood Branch Creek. Valwood Branch Creek (an RPW at this confluence) then joins Stewarts Creek (an RPW) approximately 720 feet downstream. Stewarts Creek joins the West Fork San Jacinto River, a "traditional navigable water" (TNW), approximately 3.65 miles downstream. The National Wetland Inventory Map does not identify/map any wetlands within this reach nor does the USGS map. Based on this information (site visits and off site information) we have determined that the waters within this reach have a very limited ephemeral flow.

There are scientific studies that provide information that tributaries provide for chemical sequestration in aquatic systems. However, the Corps did not find sufficient site specific evidence/data to support the statement that the waters (within this reach – 1,500 feet total; 660 feet within project boundary) provide more than speculative or insubstantial effect upon the chemical integrity of the downstream TNW located approximately four miles downstream. There are numerous waterways and tributaries that feed into the West Fork San Jacinto River prior to it being a TNW. This 1,500-foot reach has not been identified as a 303(d) listed water by the Texas Commission on Environmental Quality who is the responsible agency for water quality matters within the state. Therefore, there is not data nor information that would support that these aquatic resources within this reach (a 1,500-foot ephemeral tributary) provide more than speculative or insubstantial amount of chemical attributes that would affect the chemical integrity of the downstream TNW located approximately four miles downstream.

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. This tributary is beyond the mapped floodplain. While 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 approximately four 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 (approximately four miles downstream) to fulfill their life cycle requirements. Since the hydroperiod for this reach could be described as seasonal (at best) and the flow regime is ephemeral, there is great speculation associated with stating that aquatic biotic species would require both, the TNW located approximately four 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 founded that supports that this reach provides more than a speculative or insubstantial effect upon the biological integrity of the downstream TNW, located approximately four 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

(a 1,500-foot 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 approximately four 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.

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): 19 January 2018

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Galveston District, SWG-2017-00724, City of Conroe, Unnamed Tributary to Valwood Branch Creek 4, Wetlands A

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: Texas County/Parish: Conroe City: Montgomery
Center coordinates of site (lat/long in degree decimal format, NAD-83): Lat. 30.291779° N, Long. -95.441687° W;
Universal Transverse Mercator: UTM: 15N, 3353642.5 N., 265161.7 E.,NAD: 83
Name of nearest water body: Valwood Branch Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: West Fork San Jacinto River
Name of watershed or Hydrologic Unit Code (HUC): 120401010401 Stewarts Creek-West Fork San Jacinto River
☒ 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: 28 November 2017
☒ Field Determination. Date(s): 29 November 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 waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: 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: The relevant reach in this significant nexus examination includes a first order ephemeral tributary which we are calling the Unnamed Tributary to Valwood Branch Creek 4. The Unnamed Tributary to Valwood Branch Creek 4 is approximately 830 feet in length (525 feet within project boundary) before it flows into Valwood Branch Creek. Valwood Branch Creek (an RPW at this confluence)

[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.

then joins Stewarts Creek (an RPW) approximately 0.57 mile downstream. Stewarts Creek joins the West Fork San Jacinto River, a "traditional navigable water" (TNW), approximately 3.65 miles downstream. The National Wetland Inventory Map does not identify/map any wetlands within this reach nor does the USGS map. However, one abutting wetland totaling approximately 0.085 acre was found during the site visit. This wetland was 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. Based on this information (site visits and off site information) we have determined that the waters within this reach have a very 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 the waters (within this reach – 830 feet) provide more than speculative or insubstantial effect upon the chemical integrity of the downstream TNW located approximately 4.2 miles downstream. There are numerous waterways and tributaries that feed into the West Fork San Jacinto River prior to it being a TNW. This 830-foot reach has not been identified as a 303(d) listed water by the Texas Commission on Environmental Quality who is the responsible agency for water quality matters within the state. Therefore, there is not data nor information that would support that these aquatic resources within this reach (an 830-foot ephemeral tributary and appx. 0.085-acre abutting wetland) provide more than speculative or insubstantial amount of chemical attributes that would affect the chemical integrity of the downstream TNW located approximately 4.2 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. The 0.085-acre wetland is beyond the mapped floodplain. Only 210 linear feet of the tributary is within the mapped 500-year floodplain. While there is evidence that a minimal amount of floodplain storage capacity is being provided by the portion of the tributary mapped within the floodplain 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 approximately 4.2 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 (approximately 4.2 miles downstream) to fulfill their life cycle requirements. Since the hydroperiod for this reach could be described as seasonal (at best) and the flow regime is ephemeral, there is great speculation associated with stating that aquatic biotic species would require both, the TNW located approximately 4.2 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 founded that supports that this reach provides more than a speculative or insubstantial effect upon the biological integrity of the downstream TNW, located approximately 4.2 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 (an 830-foot ephemeral stream and appx. 0.085-acre abutting wetland) provide a significant nexus (more than speculative or insubstantial) effect upon the chemical, physical and/or biological integrity of the downstream TNW located approximately 4.2 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 body[4] 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: **19.35 square miles**
Drainage area: **Pick List**
Average annual rainfall: **49.19** 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 **2-5** river miles from TNW.
Project waters are **1 (or less)** river miles from RPW.
Project waters are **2-5** aerial (straight) miles from TNW.
Project waters are **1 (or less)** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: **NA**

[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 TNW[5]: **Unnamed Tributary to Valwood Branch Creek 4 to Valwood Branch Creek to Stewarts Creek to West Fork San Jacinto River**
Tributary stream order, if known: **First**

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☒ Natural
☐ Artificial (man-made). Explain:
☒ Manipulated (man-altered). Explain: **Some culverts have been placed in the channel.**

Tributary properties with respect to top of bank (estimate):
Average width: **12** feet
Average depth: **5** feet
Average side slopes: **3:1**

Primary tributary substrate composition (check all that apply):
☒ Silts ☒ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☒ Vegetation. Type/% cover: **60**
☐ Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: **Stable**
Presence of run/riffle/pool complexes. Explain:
Tributary geometry: **Relatively straight**
Tributary gradient (approximate average slope): **3** %

(c) Flow:
Tributary provides for: **Ephemeral flow**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime:
Other information on duration and volume:
Surface flow is: **Confined**. Characteristics:
Subsurface flow: **Unknown**. Explain findings:
☐ Dye (or other) test performed:

Tributary has (check all that apply):
☒ Bed and banks
☒ OHWM[6] (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;
☐ 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: **The water appeared to be discolored by suspended sediments. The water quality is unknown.**
Identify specific pollutants, if known: **Unknown**

[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.

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

☐ Riparian corridor. Characteristics (type, average width):
☒ Wetland fringe. Characteristics: **Wetlands present within the channel itself.**
☐ 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: **appx. 0.085** acres
Wetland type. Explain: **Palustrine - Emergent - Forested**
Wetland quality. Explain: **The wetland is within the channel of the Unnamed Tributary to Valwood Branch Creek 4. The wetland was dominanted by FAC vegetation.**
Project wetlands cross or serve as state boundaries. Explain: **No**

(b) General Flow Relationship with Non-TNW:
Flow is: **Ephemeral flow**. Explain: **The wetland is located within the channel of an ephemeral tributary.**

Surface flow is**: Discrete and confined**
Characteristics: **The flow is confined within the channel of the tributary.**

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 **2-5** river miles from TNW.
Project waters are **2-5** aerial (straight) miles from TNW.
Flow is from: **Wetland to navigable waters.**
Estimate approximate location of wetland as within the **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: **No inundation was observed during the 29 November 2017 site visit.**
Identify specific pollutants, if known: **None known.**

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

☐ Riparian buffer. Characteristics (type, average width):
☒ Vegetation type/percent cover. Explain: **60**
☐ 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 (**0.085**) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)
Wetlands A (Yes) (30.291942°, -95.441444°)	**0.085**		

Summarize overall biological, chemical and physical functions being performed: **The Corps did not find sufficient site specific evidence/data to support the statement that the waters (within this reach – 830 feet) provide more than speculative or insubstantial effect upon the chemical integrity of the downstream TNW located approximately 4.2 miles downstream. There are numerous waterways and tributaries that feed into the West Fork San Jacinto River prior to it being a TNW. This 830-foot reach has not been identified as a 303(d) listed water by the Texas Commission on Environmental Quality who is the responsible agency for water quality matters within the state. Therefore, there is not data nor information that would support that these aquatic resources within this reach (an 830-foot ephemeral tributary and appx. 0.085-acre abutting wetland) provide more than speculative or insubstantial amount of chemical attributes that would affect the chemical integrity of the downstream TNW located approximately 4.2 miles downstream.**

The 0.085-acre wetland is beyond the mapped floodplain. Only 210 linear feet of the tributary is within the mapped 500-year floodplain. While there is evidence that a minimal amount of floodplain storage capacity is being provided by the portion of the tributary mapped within the floodplain 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 approximately 4.2 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 (approximately 4.2 miles downstream) to fulfill their life cycle requirements. Since the hydroperiod for this reach could be described as seasonal (at best) and the flow regime is ephemeral, there is great speculation associated with stating that aquatic biotic species would require both, the TNW located approximately 4.2 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 founded that supports that this reach provides more than a speculative or insubstantial effect upon the biological integrity of the downstream TNW, located approximately 4.2 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 (an 830-foot ephemeral stream and appx. 0.085-acre abutting wetland) provide a significant nexus (more than speculative or insubstantial) effect upon the chemical, physical and/or biological integrity of the downstream TNW located approximately 4.2 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: **The relevant reach in this significant nexus examination includes a first order ephemeral tributary which we are calling the Unnamed Tributary to Valwood Branch Creek 4. The Unnamed Tributary to Valwood Branch Creek 4 is approximately 830 feet in length (525 feet within project boundary) before it flows into Valwood Branch Creek. Valwood Branch Creek (an RPW at this confluence) then joins Stewarts Creek (an RPW) approximately 0.57 mile downstream. Stewarts Creek joins the West Fork San Jacinto River, a "traditional navigable water" (TNW), approximately 3.65 miles downstream. The National Wetland Inventory Map does not identify/map any wetlands within this reach nor does the USGS map. However, one abutting wetland totaling approximately 0.085 acre was found during the site visit. This wetland was 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. Based on this information (site visits and off site information) we have determined that the waters within this reach have a very limited ephemeral flow. Based on our review, it is the Corps opinion that there is not sufficient evidence to support the statement that the aquatic resources within this reach (an 830-foot ephemeral stream and appx. 0.085-acre abutting wetland) provide a significant nexus (more than speculative or insubstantial) effect upon the chemical, physical and/or biological integrity of the downstream TNW located approximately 4.2 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.**

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-RPWs[8] 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

[8]See Footnote # 3.

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 jurisidictional. 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):

☐ 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 which we are calling the Unnamed Tributary to Valwood Branch Creek 4. The Unnamed Tributary to Valwood Branch Creek 4 is approximately 830 feet in length (525 feet within project boundary)

[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.*

before it flows into Valwood Branch Creek. Valwood Branch Creek (an RPW at this confluence) then joins Stewarts Creek (an RPW) approximately 0.57 mile downstream. Stewarts Creek joins the West Fork San Jacinto River, a "traditional navigable water" (TNW), approximately 3.65 miles downstream. The National Wetland Inventory Map does not identify/map any wetlands within this reach nor does the USGS map. However, one abutting wetland totaling approximately 0.085 acre was found during the site visit. This wetland was 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. Based on this information (site visits and off site information) we have determined that the waters within this reach have a very limited ephemeral flow.

Based on our review, it is the Corps opinion that there is not sufficient evidence to support the statement that the aquatic resources within this reach (an 830-foot ephemeral stream and appx. 0.085-acre abutting wetland) provide a significant nexus (more than speculative or insubstantial) effect upon the chemical, physical and/or biological integrity of the downstream TNW located approximately 4.2 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): 830 linear feet, 12 width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource:
☒ Wetlands: **0.085** 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: **Timber Creek Environmental, LLC report dated 20 October 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: **29 November 2017**
☐ Corps navigable waters' study:
☒ U.S. Geological Survey Hydrologic Atlas: **120401010401 Stewarts Creek-West Fork San Jacinto River**
  ☒ 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: **1958, 1976, and 2013 Conroe, Texas Quadrangles 1:24,000**
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **Soil Survey of Montgomery County, Texas**
☒ National wetlands inventory map(s). Cite name: **Conroe, Texas**
☐ State/Local wetland inventory map(s):
☒ FEMA/FIRM maps: **Panel Number 48339C0390 G, Effective 8/18/2014**
☒ 100-year Floodplain Elevation is: **150 feet** (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): **1940, 1952, 1968, 1979, 1983, 1995, 2004, 2005, 2006, 2010, and 2012 1995 - 2017 Google Earth Aerials**
  or ☒ Other (Name & Date): **Site visit photographs included in report submitted by Timber Creek Photographs taken during the 29 November 2017 site visit**

☐ 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 in this significant nexus examination includes a first order ephemeral tributary which we are calling the Unnamed Tributary to Valwood Branch Creek 4. The Unnamed Tributary to Valwood Branch Creek 4 is approximately 830 feet in length (525 feet within project boundary) before it flows into Valwood Branch Creek. Valwood Branch

Creek (an RPW at this confluence) then joins Stewarts Creek (an RPW) approximately 0.57 mile downstream. Stewarts Creek joins the West Fork San Jacinto River, a "traditional navigable water" (TNW), approximately 3.65 miles downstream. The National Wetland Inventory Map does not identify/map any wetlands within this reach nor does the USGS map. However, one abutting wetland totaling approximately 0.085 acre was found during the site visit. This wetland was 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. Based on this information (site visits and off site information) we have determined that the waters within this reach have a very 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 the waters (within this reach – 830 feet) provide more than speculative or insubstantial effect upon the chemical integrity of the downstream TNW located approximately 4.2 miles downstream. There are numerous waterways and tributaries that feed into the West Fork San Jacinto River prior to it being a TNW. This 830-foot reach has not been identified as a 303(d) listed water by the Texas Commission on Environmental Quality who is the responsible agency for water quality matters within the state. Therefore, there is not data nor information that would support that these aquatic resources within this reach (an 830-foot ephemeral tributary and appx. 0.085-acre abutting wetland) provide more than speculative or insubstantial amount of chemical attributes that would affect the chemical integrity of the downstream TNW located approximately 4.2 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. The 0.085-acre wetland is beyond the mapped floodplain. Only 210 linear feet of the tributary is within the mapped 500-year floodplain. While there is evidence that a minimal amount of floodplain storage capacity is being provided by the portion of the tributary mapped within the floodplain 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 approximately 4.2 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 (approximately 4.2 miles downstream) to fulfill their life cycle requirements. Since the hydroperiod for this reach could be described as seasonal (at best) and the flow regime is ephemeral, there is great speculation associated with stating that aquatic biotic species would require both, the TNW located approximately 4.2 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 founded that supports that this reach provides more than a speculative or insubstantial effect upon the biological integrity of the downstream TNW, located approximately 4.2 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 (an 830-foot ephemeral stream and appx. 0.085-acre abutting wetland) provide a significant nexus (more than speculative or insubstantial) effect upon the chemical, physical and/or biological integrity of the downstream TNW located approximately 4.2 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.