

**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): May 28, 2020**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:** Galveston District, SWG-2019-00343, HCFCFCD Project No. P500-02-00-E013, Greens Bayou and HCFCFCD No. P164-00-00

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: Texas County/Parish: Harris City: Houston  
Center coordinates of site (lat/long in degree decimal format, NAD-83): (29.93592, -95.509477) (29.946511, -95.507047)

Name of nearest water body: Greens Bayou

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Buffalo Bayou

Name of watershed or Hydrologic Unit Code (HUC): Buffalo-San Jacinto HUC 12040104

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: May 28, 2020

Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

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

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain:

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

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

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (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: **4,738** linear feet: width (ft) and/or **1.72** acres

Wetlands: 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):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain:

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> 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).

<sup>3</sup> 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<sup>4</sup> 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: N/A

Identify flow route to TNW<sup>5</sup>:

Tributary stream order, if known:

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

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

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

- Tributary is:**  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: =

**Primary tributary substrate composition (check all that apply):**

- |  |  |                                   |
|--|--|-----------------------------------|
| <input type="checkbox"/> Silts           | <input type="checkbox"/> Sands                     | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Cobbles         | <input type="checkbox"/> Gravel                    | <input type="checkbox"/> Muck     |
| <input type="checkbox"/> Bedrock         | <input type="checkbox"/> Vegetation. Type/% cover: |                                   |
| <input type="checkbox"/> 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:

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):

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

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

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

(iii) **Chemical Characteristics:**

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

Explain:

Identify specific pollutants, if known:

(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:

<sup>6</sup>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.

<sup>7</sup>Ibid.

- 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: **According to annual data taken from the USGS National Water Information System gauge in Greens Bayou at Cullen Road in Houston, Texas (USGS 08075780) and Houston-Galveston Area Council 1m LiDAR data, the annual water stage in Greens Bayou at this location was no less than approximately one foot in depth during the years 2005, 2006, 2008, 2009, and 2014.**  
 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: **4,738** linear feet **28** width (ft)
  - Other non-wetland waters: acres
- Identify type(s) of waters:

3. **Non-RPW<sup>8</sup> 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:

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<sup>8</sup>See Footnote # 3.

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

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
  - Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
  - Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

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

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

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

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

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

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

Provide estimates for jurisdictional wetlands in the review area: acres

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

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):<sup>10</sup>**

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

**Identify water body and summarize rationale supporting determination:**

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

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

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

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

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

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

<sup>10</sup> 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.

- 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:

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report
- Data sheets prepared by the Corps:
- Corps navigable waters’ study:
- U.S. Geological Survey Hydrologic Atlas:
  - USGS NHD data
  - USGS 8 and 12 digit HUC maps
- Galveston District’s Approved List of Navigable Waters
- U.S. Geological Survey map(s). Cite scale & quad name:

Historical and Modern USGS Topographic Maps		
Date	Scale	Quadrangle Name
1916	1:24,000	7.5’ Satsuma and Aldine, Texas
1920	1:24,000	7.5’ Satsuma and Aldine, Texas
1970	1:24,000	7.5’ Satsuma and Aldine, Texas
1982	1:24,000	7.5’ Satsuma and Aldine, Texas
1995	1:24,000	7.5’ Satsuma and Aldine, Texas
2016	1:24,000	7.5’ Satsuma and Aldine, Texas

- USDA Natural Resources Conservation Service Soil Survey. Citation: Soil Survey of Harris County, TX (August 1976)
- National wetlands inventory map(s). Cite name: Satsuma, TX and Aldine, TX Quadrangle
- State/Local wetland inventory map(s):
- FEMA/FIRM maps: 48201C043M (Effective October 16, 2013)
- 100-year Floodplain Elevation is: 110-feet AMSL (National Geodectic Vertical Datum of 1929)

- Photographs:  Aerial (Name & Date):  
or  Other (Name & Date):

Historic and Modern Aerial Orthoimagery		
Date	Imagery Type	Source
1943	Black and White	Google Earth
1952	Black and White	Google Earth
1977	Black and White	Google Earth
1988	Black and White	Google Earth
1995	Black and White	Google Earth
2006	True Color	Google Earth
2010	True Color	Google Earth
2017	True Color	Google Earth

- 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:**

<b>Feature Name</b>	<b>Acreage Within Project Site</b>	<b>Type</b>	<b>Jurisdictional Status</b>	<b>Latitude</b>	<b>Longitude</b>	<b>UTM 15 N Northing</b>	<b>UTM 15 N Easting</b>
Greens Bayou	1.70	Perennial	Jurisdictional	29.946114	-95.5038346	3315451.3	258341.7
HCFC D No. P164-00-00	0.02	Perennial	Jurisdictional	29.946618	-95.501961	3315503.2	258523.8
<b>TOTAL</b>	<b>1.72</b>						



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**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 2/18/2020**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:** Galveston District, SWG-2019-00343, HCFCFCD Project No. P500-02-00-E013 – Wetland B ISOLATED

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: Texas County/Parish: Harris City: Houston  
Center coordinates of site (lat/long in degree decimal format, NAD-83): (29.93592, -95.509477) (29.946511, -95.507047)  
Name of nearest water body: Greens Bayou  
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Buffalo Bayou  
Name of watershed or Hydrologic Unit Code (HUC): Buffalo-San Jacinto HUC 12040104

- 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:
- Field Determination. Date(s): 9/24/2019

**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):<sup>1</sup>**

- TNWs, including territorial seas
- Wetlands adjacent to TNWs
- Relatively permanent waters<sup>2</sup> (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: Established by OHWM.**

Elevation of established OHWM (if known):

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

- Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> 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).

<sup>3</sup> Supporting documentation is presented in Section III.F.

Explain:

The nearest relatively permanent water is Greens Bayou. The wetland present on the subject property is detailed in the table below, along with its distances to Greens Bayou.

Area	B
Approximate Size (acre)	0.01
Elevation (feet above mean sea level)	110
Distance to Greens Bayou (feet)	2,943
Center Coordinate of Site (decimal degrees, NAD 83)	29.937967, -95.508960

Areas B is located outside of the 100-year floodplain (base floodplain elevation is 110 feet AMSL), it would not be considered an impoundment of jurisdictional water, and it has no hydrological connection to any jurisdictional waters or wetlands in the area. Therefore, Area B has been determined to be "ISOLATED" as defined in federal regulations (33 CFR 330.2(e)).

Based on the topography and aerial imagery, the majority of the site is level, with gradual sloping north towards Green Bayou north of the project site. This gradual sloping is disrupted by a berm that surrounds an existing flood control detention basin. The wetland was identified using the 1987 Manual Regional Supplement: Atlantic and Gulf Coastal Plain Region, which requires that all three wetland criteria be present under normal circumstances for an area to be determined a wetland. The wetland is a depression area that experiences seasonal hydrology during and after rain events, providing the conditions necessary for a wetland to establish.

Impacts to the above wetland 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. Therefore this area is considered not waters of the US.

"Adjacent" as per Federal regulations 33 CFR 328.3 is defined: "bordering, contiguous, or neighboring. Wetlands separated from other Waters of the U.S. by man-made dikes or barriers, natural river berms, beach dunes, and the like are 'adjacent wetlands.'" The nearest Waters of the U.S. to the wetland listed above is Greens Bayou. This wetland is not expected to share surface hydrology with Greens Bayou, including during high flow (e.g., the 100-year floodplain), as it is isolated from the base floodplain elevation and separated from Greens Bayou by the aforementioned berm and detention basin. This wetland is also separated from other Waters of the U.S. by uplands that do not allow the exchange of waters via a confined surface hydrology connection during normal conditions and this wetland is not inseparably bound with Greens Bayou.

"Isolated" waters as defined in 33 CFR 330.2 (e) is: "those non-tidal Waters of the U.S. that are: (1) not part of a surface tributary system to interstate or navigable Waters of the U.S.; and (2) not adjacent to such tributary waterbodies." Areas B has been identified as an aquatic resource and has been determined to be isolated.

"Waters of the U.S." are defined in 33 CFR 328.3 (a) 1 through 7 which is addressed in the following. Due to the fact that these aquatic resources: (1) are not currently used, or were used in the past, nor susceptible to be used for interstate or foreign commerce nor subject to the ebb and flow of the daily tide; (2) do not cross interstate or tribal boundaries; (3) the destruction of these wetlands are not expected to affect (i) interstate or foreign travelers for recreational purposes or other purposes or (ii) fish or shellfish that could be taken and sold in interstate or foreign commerce or (iii) current use or potential use for industrial purposes by industries in interstate commerce; (4) are not impoundments of Waters of the U.S.; (5) are not part of a surface tributary system of (a) (1) through (4); (6) are not part of the territorial seas; and (7) are not adjacent to Waters of the U.S. identified in (a) (1) through (6). Therefore, it is SWG position that this aquatic resource is not Waters of the U.S. subject to 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<sup>4</sup> 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:  
Average annual snowfall:

(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: **N/A**

Identify flow route to TNW<sup>5</sup>:

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:

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

<sup>5</sup> 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.

Average depth:  
Average side slopes: **Pick List**

Primary tributary substrate composition (check all that apply):

- |  |  |                                   |
|--|--|-----------------------------------|
| <input type="checkbox"/> Silts           | <input type="checkbox"/> Sands                     | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Cobbles         | <input type="checkbox"/> Gravel                    | <input type="checkbox"/> Muck     |
| <input type="checkbox"/> Bedrock         | <input type="checkbox"/> Vegetation. Type/% cover: |                                   |
| <input type="checkbox"/> 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:  
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):

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

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

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

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).  
Explain:  
Identify specific pollutants, if known: Not Known

(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**

<sup>6</sup>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.

<sup>7</sup>Ibid.

(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<sup>8</sup> 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:

---

<sup>8</sup>See Footnote # 3.

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

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

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

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

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

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

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

Provide estimates for jurisdictional wetlands in the review area: acres

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

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):<sup>10</sup>**

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

**Identify water body and summarize rationale supporting determination:**

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

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

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

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

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

- Non-wetland waters (i.e., rivers, streams):          linear feet          width (ft).  
 Lakes/ponds:          acres.  
 Other non-wetland waters: acres. List type of aquatic resource:  
 Wetlands: **Approximately 0.01** acres.

**\*PEM=Palustrine Emergent**

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

<sup>10</sup> 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 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: acre

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report
- Data sheets prepared by the Corps:
- Corps navigable waters’ study:
- U.S. Geological Survey Hydrologic Atlas:
  - USGS NHD data
  - USGS 8 and 12 digit HUC maps
- Galveston District’s Approved List of Navigable Waters
- U.S. Geological Survey map(s). Cite scale & quad name:

Historical and Modern USGS Topographic Maps		
Date	Scale	Quadrangle Name
1916	1:24,000	7.5’ Satsuma and Aldine, Texas
1920	1:24,000	7.5’ Satsuma and Aldine, Texas
1970	1:24,000	7.5’ Satsuma and Aldine, Texas
1982	1:24,000	7.5’ Satsuma and Aldine, Texas
1995	1:24,000	7.5’ Satsuma and Aldine, Texas
2016	1:24,000	7.5’ Satsuma and Aldine, Texas

- USDA Natural Resources Conservation Service Soil Survey. Citation: Soil Survey of Harris County, TX (August 1976)
- National wetlands inventory map(s). Cite name: Satsuma, TX and Aldine, TX Quadrangle
- State/Local wetland inventory map(s):
- FEMA/FIRM maps: 48201C043M (Effective October 16, 2013)
- 100-year Floodplain Elevation is: 110-feet AMSL (National Geodetic Vertical Datum of 1929)

- Photographs:  Aerial (Name & Date):  
or  Other (Name & Date):

Historic and Modern Aerial Orthoimagery		
Date	Imagery Type	Source
1943	Black and White	Google Earth
1952	Black and White	Google Earth
1977	Black and White	Google Earth
1988	Black and White	Google Earth
1995	Black and White	Google Earth
2006	True Color	Google Earth
2010	True Color	Google Earth
2017	True Color	Google Earth

- 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 nearest relatively permanent water is Greens Bayou. The wetland present on the subject property is detailed in the table below, along with its distances to Greens Bayou.

Area	B
Approximate Size (acre)	0.01
Elevation (feet above mean sea level)	110
Distance to Greens Bayou (feet)	2,943
Center Coordinate of Site (decimal degrees, NAD 83)	29.937967, -95.508960

Areas B is located outside of the 100-year floodplain (base floodplain elevation is 110 feet AMSL), it would not be considered an impoundment of jurisdictional water, and it has no hydrological connection to any jurisdictional waters or wetlands in the area. Therefore, Area B has been determined to be "ISOLATED" as defined in federal regulations (33 CFR 330.2(e)).

Based on the topography and aerial imagery, the majority of the site is level, with gradual sloping north towards Green Bayou north of the project site. This gradual sloping is disrupted by a berm that surrounds an existing flood control detention basin. The wetland was identified using the 1987 Manual Regional Supplement: Atlantic and Gulf Coastal Plain Region, which requires that all three wetland criteria be present under normal circumstances for an area to be determined a wetland. The wetland is a depression area that experiences seasonal hydrology during and after rain events, providing the conditions necessary for a wetland to establish.

Impacts to the above wetland 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. Therefore this area is considered not waters of the US.

"Adjacent" as per Federal regulations 33 CFR 328.3 is defined: "bordering, contiguous, or neighboring. Wetlands separated from other Waters of the U.S. by man-made dikes or barriers, natural river berms, beach dunes, and the like are 'adjacent wetlands.'" The nearest Waters of the U.S. to the wetland listed above is Greens Bayou. This wetland is not expected to share surface hydrology with Greens Bayou, including during high flow (e.g., the 100-year floodplain), as it is isolated from the base floodplain elevation and separated from Greens Bayou by the aforementioned berm and detention basin. This wetland is also separated from other Waters of the U.S. by uplands that do not allow the exchange of waters via a confined surface hydrology connection during normal conditions and this wetland is not inseparably bound with Greens Bayou.

"Isolated" waters as defined in 33 CFR 330.2 (e) is: "those non-tidal Waters of the U.S. that are: (1) not part of a surface tributary system to interstate or navigable Waters of the U.S.; and (2) not adjacent to such tributary waterbodies." Areas B has been identified as an aquatic resource and has been determined to be isolated.

"Waters of the U.S." are defined in 33 CFR 328.3 (a) 1 through 7 which is addressed in the following. Due to the fact that these aquatic resources: (1) are not currently used, or were used in the past, nor susceptible to be used for interstate or foreign commerce nor subject to the ebb and flow of the daily tide; (2) do not cross interstate or tribal boundaries; (3) the destruction of these wetlands are not expected to affect (i) interstate or foreign travelers for recreational purposes or other purposes or (ii) fish or shellfish that could be taken and sold in interstate or foreign commerce or (iii) current use or potential use for industrial purposes by industries in interstate commerce; (4) are not impoundments of Waters of the U.S.; (5) are not part of a surface tributary system of (a) (1) through (4); (6) are not part of the territorial seas; and (7) are not adjacent to Waters of the U.S. identified in (a) (1) through (6). Therefore, it is SWG position that this aquatic resource is not Waters of the U.S. subject to 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): 6/2/2020**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:** Galveston District, SWG-2019-00343, HCFCF Project No. P500-02-00-E013 – Wetland C and Wetland G - exempt

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: Texas County/Parish: Harris City: Houston  
Center coordinates of site (lat/long in degree decimal format, NAD-83): (29.93592, -95.509477) (29.946511, -95.507047) – See Table 1.  
Name of nearest water body: Greens Bayou  
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: None  
Name of watershed or Hydrologic Unit Code (HUC): Buffalo-San Jacinto HUC 12040104  
 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: 6/2/2020 – Corps reviewed revised information  
 Field Determination. Date(s): 5/28/2020 – site visit via FaceTime by HCFCF and Terracon Consultants, Inc.

**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):<sup>1</sup>**

- TNWs, including territorial seas  
 Wetlands adjacent to TNWs  
 Relatively permanent waters<sup>2</sup> (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: Established by OHWM.**

Elevation of established OHWM (if known):

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

- Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> 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).

<sup>3</sup> Supporting documentation is presented in Section III.F.

Explain:  
**Table 1.**

Area	C	G
Approximate Size (acre)	0.05	0.02
Distance to Greens Bayou (feet)	~2,513	~2,537
Center Coordinate of Site (decimal degrees, NAD 83)	29.939372, -95.509859	29.939347, -95.509859

WET C and G are either partially located within the 100-year floodplain. However, WET C and G are located within an existing detention basin that is isolated from normal hydrologic connections with the floodplain by an elevated berm around the detention basin's perimeter. The top of this berm is as high as 112 to 113 feet above-mean-sea level (AMSL). The base floodplain elevation (BFE) is 110 feet AMSL. Considering this berm is two to three feet higher than the BFE, and considering WET C and G are located inside the berm and away from the floodplain, WET C and G would not be considered impoundments of jurisdictional waters and they have no hydrological connection to any jurisdictional waters or wetlands in the area. Therefore, WET C and G have been determined to not be waters of the US, as defined in federal regulations (33 CFR 330.2(e)).

Based on the topography and aerial imagery, the majority of the site is level, with gradual sloping north towards Green Bayou north of the project site. This gradual sloping is disrupted by the aforementioned berm that surrounds WET C and G. The wetlands/waters were identified using the 1987 Manual Regional Supplement: Atlantic and Gulf Coastal Plain Region, which requires that all three wetland criteria be present under normal circumstances for an area to be determined a wetland. The two wetlands are depression areas that experience seasonal hydrology during and after rain events, providing the conditions necessary for wetlands to establish. WET C and G are considered man-made since they likely formed as a result of the detention basin excavation in uplands.

Wet C and G are not "waters of the United States" as stated in 33 CFR 328.3 (b) 1 through 8 which is described below:

(b) The following are not "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(4) through (8) of this section.

(1) Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act.  
(2) Prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

(3) The following ditches:

(i) Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.

(ii) Ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands.

(iii) Ditches that do not flow, either directly or through another water, into a water identified in paragraphs (a)(1) through (3) of this section.

(4) The following features:

(i) Artificially irrigated areas that would revert to dry land should application of water to that area cease;

(ii) Artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, log cleaning ponds, or cooling ponds;

(iii) Artificial reflecting pools or swimming pools created in dry land;

(iv) Small ornamental waters created in dry land;

(v) Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water;

(vi) Erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of tributary, non-wetland swales, and lawfully constructed grassed waterways; and

(vii) Puddles.

(5) Groundwater, including groundwater drained through subsurface drainage systems.

(6) Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.

(7) Wastewater recycling structures constructed in dry land; detention and retention basins built for wastewater recycling; groundwater recharge basins; percolation ponds built for wastewater recycling; and water distributary structures built for wastewater recycling.

Therefore, it is SWG draft determination that this wetland is not Waters of the U.S. subject to 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<sup>4</sup> 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:  
Average annual snowfall:

(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: **N/A**

Identify flow route to TNW<sup>5</sup>:  
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:  
Average depth:

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

<sup>5</sup> 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.

Average side slopes: **Pick List**

Primary tributary substrate composition (check all that apply):

- |  |  |                                   |
|--|--|-----------------------------------|
| <input type="checkbox"/> Silts           | <input type="checkbox"/> Sands                     | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Cobbles         | <input type="checkbox"/> Gravel                    | <input type="checkbox"/> Muck     |
| <input type="checkbox"/> Bedrock         | <input type="checkbox"/> Vegetation. Type/% cover: |                                   |
| <input type="checkbox"/> 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:

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):

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

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

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

(iii) **Chemical Characteristics:**

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

Explain:

Identify specific pollutants, if known: Not Known

(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**

<sup>6</sup>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.

<sup>7</sup>Ibid.

(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<sup>8</sup> 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:

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<sup>8</sup>See Footnote # 3.

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

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

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

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

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

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

Provide estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

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):<sup>10</sup>**

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

**Identify water body and summarize rationale supporting determination:**

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

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

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

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

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

- Non-wetland waters (i.e., rivers, streams): \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).  
 Lakes/ponds: \_\_\_\_\_ acres.  
 Other non-wetland waters: \_\_\_\_\_ acres. List type of aquatic resource:  
 Wetlands: **Approximately 0.09** acres. See Table 1.

**\*PEM=Palustrine Emergent**

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).

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

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



- Lakes/ponds: acres.
- Other non-wetland waters: -acres. List type of aquatic resource:
- Wetlands: acre

**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: **Terracon Consultants, Inc.**
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report
- Data sheets prepared by the Corps:
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas:
  - USGS NHD data
  - USGS 8 and 12 digit HUC maps
- Galveston District's Approved List of Navigable Waters
- U.S. Geological Survey map(s). Cite scale & quad name:

Historical and Modern USGS Topographic Maps		
Date	Scale	Quadrangle Name
1916	1:24,000	7.5' Satsuma and Aldine, Texas
1920	1:24,000	7.5' Satsuma and Aldine, Texas
1970	1:24,000	7.5' Satsuma and Aldine, Texas
1982	1:24,000	7.5' Satsuma and Aldine, Texas
1995	1:24,000	7.5' Satsuma and Aldine, Texas
2016	1:24,000	7.5' Satsuma and Aldine, Texas

- USDA Natural Resources Conservation Service Soil Survey. Citation: Soil Survey of Harris County, TX (August 1976)
- National wetlands inventory map(s). Cite name: Satsuma, TX and Aldine, TX Quadrangle
- State/Local wetland inventory map(s):
- FEMA/FIRM maps: 48201C043M (Effective October 16, 2013)
- 100-year Floodplain Elevation is: 110-feet AMSL (National Geodectic Vertical Datum of 1929)

- Photographs:  Aerial (Name & Date):  
or  Other (Name & Date):

Historic and Modern Aerial Orthoimagery		
Date	Imagery Type	Source
1943	Black and White	Google Earth
1952	Black and White	Google Earth
1977	Black and White	Google Earth
1988	Black and White	Google Earth
1995	Black and White	Google Earth
2006	True Color	Google Earth
2010	True Color	Google Earth
2017	True Color	Google Earth

- 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:**

**Table 1.**

Area	C	G
Approximate Size (acre)	0.05	0.02
Distance to Greens Bayou (feet)	~2,513	~2,537
Center Coordinate of Site (decimal degrees, NAD 83)	29.939372, -95.509859	29.939347, -95.509859

WET C and G are either partially located within the 100-year floodplain. However, WET C and G are located within an existing detention basin that is isolated from normal hydrologic connections with the floodplain by an elevated berm around the detention basin's perimeter. The top of this berm is as high as 112 to 113 feet above-mean-sea level (AMSL). The base floodplain elevation (BFE) is 110 feet AMSL. Considering this berm is two to three feet higher than the BFE, and considering WET C and G are located inside the berm and away from the floodplain, WET C and G would not be considered impoundments of jurisdictional waters and they have no hydrological connection to any jurisdictional waters or wetlands in the area. Therefore, WET C and G have been determined to not be waters of the US, as defined in federal regulations (33 CFR 330.2(e)).

Based on the topography and aerial imagery, the majority of the site is level, with gradual sloping north towards Green Bayou north of the project site. This gradual sloping is disrupted by the aforementioned berm that surrounds WET C and G. The wetlands/waters were identified using the 1987 Manual Regional Supplement: Atlantic and Gulf Coastal Plain Region, which requires that all three wetland criteria be present under normal circumstances for an area to be determined a wetland. The two wetlands are depression areas that experience seasonal hydrology during and after rain events, providing the conditions necessary for wetlands to establish. WET C and G are considered man-made since they likely formed as a result of the detention basin excavation in uplands.

Wet C and G are not "waters of the United States" as stated in 33 CFR 328.3 (b) 1 through 8 which is described below:

(b) The following are not "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(4) through (8) of this section.

(1) Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act.

(2) Prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

(3) The following ditches:

(i) Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.

(ii) Ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands.

(iii) Ditches that do not flow, either directly or through another water, into a water identified in paragraphs (a)(1) through (3) of this section.

(4) The following features:

(i) Artificially irrigated areas that would revert to dry land should application of water to that area cease;

(ii) Artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, log cleaning ponds, or cooling ponds;

(iii) Artificial reflecting pools or swimming pools created in dry land;

(iv) Small ornamental waters created in dry land;

(v) Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water;

(vi) Erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of tributary, non-wetland swales, and lawfully constructed grassed waterways; and

(vii) Puddles.

(5) Groundwater, including groundwater drained through subsurface drainage systems.

(6) Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.

(7) Wastewater recycling structures constructed in dry land; detention and retention basins built for wastewater recycling; groundwater recharge basins; percolation ponds built for wastewater recycling; and water distributary structures built for wastewater recycling.

Therefore, it is SWG draft determination that this wetland is not Waters of the U.S. subject to Section 404 of the Clean Water Act.