

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): 27 April 2018

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Galveston District, SWG-2018-00184, FIG Starwood Farms, LLC, Wetland A, Wetland B, and Man-Made Pond

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Texas County/Parish: Harris City: Cypress
Center coordinates of site (lat/long in degree decimal format, NAD-83): See table
Name of nearest water body: Cypress Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: None
Name of watershed or Hydrologic Unit Code (HUC): Spring HUC 12040102
 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: 21 March 2018
 Field Determination. Date(s): 3 April 2018

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

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

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

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are no** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. **[Required]**

1. Waters of the U.S.

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

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

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

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

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

Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):³

- Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
Explain: There are two isolated wetlands (Wetland A and Wetland B) on the project site totaling appx 5.37 acres. The wetlands were identified using the Atlantic and Gulf Coastal Plain Region Supplement to the 1987 Corps of Engineers Wetland Delineation Manual, which requires a dominance of hydrophytic vegetation, wetland hydrology indicators, and hydric soils, under normal conditions. The nearest water of the United States is Cypress Creek located approximately 900 feet

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

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

southwest of Wetland A and 490 feet southwest of Wetland B. The nearest traditional navigable water (TNW) is also Cypress Creek once it becomes a TNW approximately 9 miles northeast of the site. According to the FEMA floodplain map, Wetland A is located outside the 100-year floodplain of any water of the United States. According to the FEMA floodplain map, a portion of Wetland B is shown in the shaded Zone X. However, according to a survey conducted by L Squared Engineering and submitted to the Corps by Terracon on 23 April 2018, Wetland B is outside of the 100-year floodplain. As such both Wetland A and Wetland B are located outside the anticipated high flow of any water of the United States. Based on the 3 April 2018 site visit and off-site review it has been verified that the wetlands do not have a confined hydrological surface connection to any water of the United States, nor are they "inseparably bound" to any waters of the United States under normal hydrologic conditions.

-Based on off-site data and on-site data collected during the site visit conducted 3 April 2018, there are no known hydrological connections between Wetland A or Wetland B and Cypress Creek or any other water of the United States.

-There are no confined surface hydrologic connections between Wetland A or Wetland B and any water of the United States.

-Wetland A and Wetland B are isolated and are not waters of the United States, as defined in 33 CFR 328.3(a). They are not currently used, were not used in the past, nor are they susceptible to use for interstate or foreign commerce. The destruction of the subject wetlands would not affect interstate or foreign travelers for recreational or other purposes, would not affect fish or shellfish that could be taken and sold in interstate or foreign commerce, and would not affect the current use or potential use for industrial purposes by industries in interstate commerce.

-Wetland A and Wetland B are not subject to the ebb and flow of the daily tide.

-Wetland A and Wetland B do not cross interstate or tribal boundaries.

-Wetland A and Wetland B are not impoundments of a water of the United States.

-Wetland A and Wetland B are not part of a surface tributary system of any of the above.

-Wetland A and Wetland B are not part of the territorial seas.

-Wetland A and Wetland B are not adjacent (bordering, contiguous, or neighboring) as defined by 33CFR 328.3(c) to any waters of the U.S.

-Wetland A and Wetland B have been determined not to be "ecologically adjacent," as defined in the Rapanos guidance as being "reasonably close" such that an ecologic interconnectivity is beyond speculation or insubstantial. There are no known species in this georegion that require either of the subject wetlands and the nearest waterbody (a water of the United States other than an adjacent wetland) to fulfill spawning and/or life cycle requirements.

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

-Wetland A and Wetland B have no known nexus to interstate commerce. We determined that Wetland A and Wetland B are not waters of the United States and are not subject to Section 404 of the Clean Water Act (Section 404).

-In conclusion, it is SWG's draft determination that Wetland A and Wetland B totaling appx 5.37 acres are "isolated" and lack a nexus to Interstate commerce. As such, Wetland A and Wetland B are not waters of the United States subject to Section 404.

-Additionally, there is one pond on the project site totaling appx 0.42 acres. The pond was determined to be a man-made feature according to a review of historic topographic maps and aerial photographs. No signs of this feature appear prior to 1988, and there is no indication that there was once an historic surface hydrologic connection between the area the pond was built and any other aquatic features. It appears the pond was created out of uplands. Also, given the size, shape, location, and landscaping associated with the pond, it appears it was created for recreational or aesthetic purposes. According to the preamble to Section 404, artificial ornamental waters created in uplands for primarily aesthetic reasons are excluded from jurisdiction. Therefore, this man-made pond is non-jurisdictional and not subject to Section 404.

-One swale was also observed on the site. The swale did not have a defined bed and bank or ordinary high water mark (OHWM). It is not a reroute of a tributary and it does not extend the OHWM of Cypress Creek. Therefore, this feature is non-jurisdictional and not subject to Section 404.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

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

1. TNW

Identify TNW:

Summarize rationale supporting determination:

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent":

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

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

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, fill out Section III.D.2 and Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the water body⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the water body has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: **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:

Identify flow route to TNW⁵:
Tributary stream order, if known:

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

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

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

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

Primary tributary substrate composition (check all that apply):

- | | | |
|------------------------------------------|----------------------------------------------------|-----------------------------------|
| <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: | | |

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

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

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

(c) Flow:

Tributary provides for: **Pick List**

Estimate average number of flow events in review area/year: **Pick List**

Describe flow regime:

Other information on duration and volume:

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

Subsurface flow: **Pick List**. Explain findings:

Dye (or other) test performed:

Tributary has (check all that apply):

Bed and banks

OHWM⁶ (check all indicators that apply):

clear, natural line impressed on the bank

changes in the character of soil

shelving

vegetation matted down, bent, or absent

leaf litter disturbed or washed away

sediment deposition

water staining

other (list):

Discontinuous OHWM.⁷ Explain:

the presence of litter and debris

destruction of terrestrial vegetation

the presence of wrack line

sediment sorting

scour

multiple observed or predicted flow events

abrupt change in plant community

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

High Tide Line indicated by:

oil or scum line along shore objects

fine shell or debris deposits (foreshore)

physical markings/characteristics

tidal gauges

other (list):

Mean High Water Mark indicated by:

survey to available datum;

physical markings;

vegetation lines/changes in vegetation types.

(iii) **Chemical Characteristics:**

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

Explain:

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:

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:

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:

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the water body's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

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:
Approximately () acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
------------------------------	------------------------	------------------------------	------------------------

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

- Water body that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

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

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

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

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

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

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

- 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.**

⁸See Footnote # 3.

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

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

7. Impoundments of jurisdictional waters.⁹

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

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

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

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

Identify water body and summarize rationale supporting determination:

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

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

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

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

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: **0.42** acres.
 Other non-wetland waters: **0.03** acres. List type of aquatic resource: **Swale**
 Wetlands: **5.37** 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: **Terracon delineation report received 1 March 2018.**
 Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 Office concurs with data sheets/delineation report.

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

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

- Office does not concur with data sheets/delineation report
- Data sheets prepared by the Corps: **3 April 2018**
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas: **Spring -- 12040102**
- 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: **7.5 Minute Cypress Quadrangles**
- USDA Natural Resources Conservation Service Soil Survey. Citation: **USGS Soil Survey GIS Data Layer**
- National wetlands inventory map(s). Cite name: **NWI GIS Data Layer**
- State/Local wetland inventory map(s):
- FEMA/FIRM maps: **48201C0410M (Effective 16 October 2013)**
- 100-year Floodplain Elevation is: **Appx. 135 ft** (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): **Google Earth Imagery: 1943-2017**
or Other (Name & Date):
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify): **2008 Houston-Galveston Area Council (HGAC) LIDAR data**

B. ADDITIONAL COMMENTS TO SUPPORT JD: There are two isolated wetlands (Wetland A and Wetland B) on the project site totaling appx 5.37 acres. The wetlands were identified using the Atlantic and Gulf Coastal Plain Region Supplement to the 1987 Corps of Engineers Wetland Delineation Manual, which requires a dominance of hydrophytic vegetation, wetland hydrology indicators, and hydric soils, under normal conditions. The nearest water of the United States is Cypress Creek located approximately 900 feet southwest of Wetland A and 490 feet southwest of Wetland B. The nearest traditional navigable water (TNW) is also Cypress Creek once it becomes a TNW approximately 9 miles northeast of the site. According to the FEMA floodplain map, Wetland A is located outside the 100-year floodplain of any water of the United States. According to the FEMA floodplain map, a portion of Wetland B is shown in the shaded Zone X. However, according to a survey conducted by L Squared Engineering and submitted to the Corps by Terracon on 23 April 2018, Wetland B is outside of the 100-year floodplain. As such both Wetland A and Wetland B are located outside the anticipated high flow of any water of the United States. Based on the 3 April 2018 site visit and off-site review it has been verified that the wetlands do not have a confined hydrological surface connection to any water of the United States, nor are they "inseparably bound" to any waters of the United States under normal hydrologic conditions.

-Based on off-site data and on-site data collected during the site visit conducted 3 April 2018, there are no known hydrological connections between Wetland A or Wetland B and Cypress Creek or any other water of the United States.

-There are no confined surface hydrologic connections between Wetland A or Wetland B and any water of the United States.

-Wetland A and Wetland B are isolated and are not waters of the United States, as defined in 33 CFR 328.3(a). They are not currently used, were not used in the past, nor are they susceptible to use for interstate or foreign commerce. The destruction of the subject wetlands would not affect interstate or foreign travelers for recreational or other purposes, would not affect fish or shellfish that could be taken and sold in interstate or foreign commerce, and would not affect the current use or potential use for industrial purposes by industries in interstate commerce.

-Wetland A and Wetland B are not subject to the ebb and flow of the daily tide.

-Wetland A and Wetland B do not cross interstate or tribal boundaries.

-Wetland A and Wetland B are not impoundments of a water of the United States.

-Wetland A and Wetland B are not part of a surface tributary system of any of the above.

-Wetland A and Wetland B are not part of the territorial seas.

-Wetland A and Wetland B are not adjacent (bordering, contiguous, or neighboring) as defined by 33CFR 328.3(c) to any waters of the U.S.

-Wetland A and Wetland B have been determined not to be "ecologically adjacent," as defined in the Rapanos guidance as being "reasonably close" such that an ecologic interconnectivity is beyond speculation or insubstantial. There are no known species in this georegion that require either of the subject wetlands and the nearest waterbody (a water of the United States other than an adjacent wetland) to fulfill spawning and/or life cycle requirements.

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

-Wetland A and Wetland B have no known nexus to interstate commerce. We determined that Wetland A and Wetland B are not waters of the United States and are not subject to Section 404 of the Clean Water Act (Section 404).

-In conclusion, it is SWG's draft determination that Wetland A and Wetland B totaling appx 5.37 acres are "isolated" and lack a nexus to interstate commerce. As such, Wetland A and Wetland B are not waters of the United States subject to Section 404.

-Additionally, there is one pond on the project site totaling appx 0.42 acres. The pond was determined to be a man-made feature according to a review of historic topographic maps and aerial photographs. No signs of this feature appear prior to 1988, and there is no indication that there was once an historic surface hydrologic connection between the area the pond was built and any other aquatic features. It appears the

pond was created out of uplands. Also, given the size, shape, location, and landscaping associated with the pond, it appears it was created for recreational or aesthetic purposes. According to the preamble to Section 404, artificial ornamental waters created in uplands for primarily aesthetic reasons are excluded from jurisdiction. Therefore, this man-made pond is non-jurisdictional and not subject to Section 404.

-One swale was also observed on the site. The swale did not have a defined bed and bank or ordinary high water mark (OHWM). It is not a reroute of a tributary and it does not extend the OHWM of Cypress Creek. Therefore, this feature is non-jurisdictional and not subject to Section 404.

Table:

Feature Name	Acreage Within Project Site	Appx. Distance to Cypress Creek (feet)	Latitude	Longitude	UTM 15 N Northing	UTM 15 N Easting
Wetland A	2.75	900	29.958291	-95.65116	3317120.93	244148.80
Wetland B	2.62	490	29.956706	-95.651909	3316946.9	244072.4
Man-Made Pond	0.42	200	29.956985	-95.653695	3316981.8	243900.7

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): 27 April 2018

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Galveston District, SWG-2018-00184, FIG Starwood Farms, LLC, Wetland C, Wetland D, Wetland F, Wetland G, and Cypress Creek

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Texas County/Parish: Harris City: Cypress

Center coordinates of site (lat/long in degree decimal format, NAD-83): See table

Name of nearest water body: Cypress Creek

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

Name of watershed or Hydrologic Unit Code (HUC): Spring HUC 12040102

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: 21 March 2018

Field Determination. Date(s): 3 April 2018

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

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

Waters subject to the ebb and flow of the tide.

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

Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

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

1. Waters of the U.S.

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

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

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

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

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

Non-wetland waters: **424.5** linear feet: width (ft) and/or **0.18** acres

Wetlands: **1.12** acres

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual.

Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):³

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

Explain:

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

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

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

1. TNW

Identify TNW:

Summarize rationale supporting determination:

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”:

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

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

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, fill out Section III.D.2 and Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the water body⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the water body has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: **150.34 square miles**

Drainage area: **4.56 square miles**

Average annual rainfall: **48.10 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 **10-15** river miles from TNW.

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

Project waters are **5-10** aerial (straight) miles from TNW.

Project waters are **1 (or less)** aerial (straight) miles from RPW.

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

Identify flow route to TNW⁵: **Cypress Creek flows directly into the traditional navigable portion of Cypress Creek, the nearest TNW.**

Tributary stream order, if known: **3**

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

Tributary is: Natural

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

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

- Artificial (man-made). Explain:
 Manipulated (man-altered). Explain: **Appears to have been deepened to increase capacity.**

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

Average width: **50** feet
 Average depth: **5** feet
 Average side slopes: **Vertical (1:1 or less)**

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: **Relatively stable with areas of erosion along steep banks.**

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: **Meandering**

Tributary gradient (approximate average slope): **1** %

(c) Flow:

Tributary provides for: **Perennial Flow**

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

Describe flow regime: **Continuous flow with moderate increases during prolonged precipitation**

Other information on duration and volume: **Tributary is perennial**

Surface flow is: **Confined**. Characteristics: **Flow is normally channelized to within the banks of the tributary**

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

- Dye (or other) test performed:

Tributary has (check all that apply):

- Bed and banks
 OHWM⁶ (check all indicators that apply):
 clear, natural line impressed on the bank the presence of litter and debris
 changes in the character of soil destruction of terrestrial vegetation
 shelving the presence of wrack line
 vegetation matted down, bent, or absent sediment sorting
 leaf litter disturbed or washed away scour
 sediment deposition multiple observed or predicted flow events
 water staining abrupt change in plant community
 other (list):
 Discontinuous OHWM.⁷ Explain:

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

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

(iii) **Chemical Characteristics:**

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

Explain: **The tributary is clouded with suspended sediments.**

Identify specific pollutants, if known: **Cypress Creek is on the 303(d) list of impaired waters. It is listed as impaired due to bacteria.**

(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:

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the water body's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

Aquatic/wildlife diversity. Explain findings: **Habitat for small fish, amphibians, and reptiles.**

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: **Wetland C – 0.02 acres; Wetland D – 1.01 acres; Wetland F – 0.025 acre; Wetland G – 0.069 acre**

Wetland type. Explain: **Wetland C, F, & G – PEM; Wetland D – PFO**

Wetland quality. Explain:

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

(b) General Flow Relationship with Non-TNW:

Flow is: **Ephemeral flow**. Explain: **There is a discreet flow relationship between the wetlands and the adjacent TNW based on the FEMA 100-year floodplain.**

Surface flow is: **Discrete**

Characteristics: **The wetlands are located within the 100-year floodplain of Cypress Creek.**

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

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: **The wetlands are discretely connected to Cypress Creek via the 100-year floodplain.**

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **10-15** river miles from TNW.

Project waters are **5-10** aerial (straight) miles from TNW.

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

Estimate approximate location of wetland as within the **100 - 500-year** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: **Water color is relatively dark brown. No assessment was made as to water quality. The wetlands appear to be localized depressions with poor drainage.**

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: **Wetland C – Herbaceous, 100% coverage; Wetland D – Forested, 80% coverage; Wetland F – Herbaceous, 50% coverage; Wetland G – Herbaceous, 50% coverage**

Habitat for:

Federally Listed species. Explain findings:

Fish/spawn areas. Explain findings:

Other environmentally-sensitive species. Explain findings:

Aquatic/wildlife diversity. Explain findings: **Crayfish burrows, amphibians, reptiles**

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

All wetland(s) being considered in the cumulative analysis: **30 (or more)**

Approximately **(12,042)** acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

See attached table

Summarize overall biological, chemical and physical functions being performed:

There are 631 offsite wetlands within the relevant reach of Cypress Creek. These wetlands are located to the west and east of the review area, and they total approximately 12,042 acres. Of these offsite wetlands, 61 are directly abutting the relevant reach of Cypress Creek and total approximately 3,115 acres. The other 570 wetlands are adjacent to but not abutting the relevant reach of Cypress Creek and total approximately 8,927 acres. Data for these wetlands are based on the NWI and FEMA FIRMs, and they can be seen in *Exhibit 9.2* attached.

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: **This relevant reach of Cypress Creek is a RPW and includes a portion that is a TNW. There are approximately 3,115 acres of abutting wetlands and 8,927 acres of neighboring wetlands along this relevant reach. This relevant reach and its adjacent wetlands provide important filtration to aid in the elimination and treatment of bacteria as well as thermal and chemical pollutants. They also retain flood waters and reduce overbank flooding downstream, thereby decreasing the velocity and amount of water flowing downstream. Retaining flood waters also reduces scouring and the loss of property as well as preserving the physical attributes of the downstream TNW. Based on this information, we determined that this relevant reach of Cypress Creek and its adjacent wetlands provide more than a speculative or insubstantial effect on the chemical, physical, and/or biological integrity of the downstream TNW (Cypress Creek).**

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 near Westfield, Texas (USGS 08069000), the water stage in Cypress Creek at this location was no less than 3 feet in depth from the years 1996 to 2011. Additionally, Cypress Creek is mapped as perennial on the Cypress, Texas quadrangles.**
 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: **424.5** linear feet **25** width (ft)
 - Other non-wetland waters: acres
- Identify type(s) of waters:

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

- Water body that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

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

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

Identify type(s) of waters:

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

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

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

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

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

- 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: **1.12** acres

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

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

Provide estimates for jurisdictional wetlands in the review area: acres

7. Impoundments of jurisdictional waters.⁹

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

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

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

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

Identify water body and summarize rationale supporting determination:

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

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

Identify type(s) of waters:

- Wetlands: acres

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

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
 Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.

⁸See Footnote # 3.

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

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

- Prior to the Jan 2001 Supreme Court decision in “SWANCC,” the review area would have been regulated based solely on the “Migratory Bird Rule” (MBR).
- Waters do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction. Explain:
- Other: (explain, if not covered above):

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

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

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

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

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 delineation report received 1 March 2018.**
- 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: **3 April 2018**
- Corps navigable waters’ study:
- U.S. Geological Survey Hydrologic Atlas: **Spring -- 12040102**
- 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: **7.5 Minute Cypress Quadrangles**
- USDA Natural Resources Conservation Service Soil Survey. Citation: **USGS Soil Survey GIS Data Layer**
- National wetlands inventory map(s). Cite name: **NWI GIS Data Layer**
- State/Local wetland inventory map(s):
- FEMA/FIRM maps: **48201C0410M (Effective 16 October 2013)**
- 100-year Floodplain Elevation is: **Appx. 135 ft** (National Geodectic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): **Google Earth Imagery: 1943-2017**
or Other (Name & Date):
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify): **2008 Houston-Galveston Area Council (HGAC) LiDAR data**

B. ADDITIONAL COMMENTS TO SUPPORT JD: Cypress Creek is a relatively permanent water and a third order tributary within this relevant reach, which is approximately 50 river-miles long and includes the traditional navigable water portion seen in Exhibit 9.1 attached. The relevant reach starts at the confluence of Mound Creek and Snake Creek, located in Waller County approximately 20 river-miles west of the review area, and ends at the confluence of Cypress Creek and Spring Creek located in Harris County approximately 30 river-miles east of the review area. The TNW portion of Cypress Creek begins approximately 12 river-miles east of the project site and extends approximately 17 river-miles east to Lake Houston. The relevant reach of Cypress Creek is located within a rapidly developing area that was historically undeveloped grassland, woodland, and agricultural land. The land has gradually been developed into residential subdivisions and commercial properties. The upstream portion of the relevant reach is located primarily in wooded and agricultural lands.

There are 631 offsite wetlands within the relevant reach of Cypress Creek. These wetlands are located to the west and east of the review area, and they total approximately 12,042 acres. Of these offsite wetlands, 61 are directly abutting the relevant reach of Cypress Creek and total approximately 3,115 acres. The other 570 wetlands are adjacent to but not abutting the relevant reach of Cypress Creek and total approximately 8,927 acres. Data for these wetlands are based on the NWI and FEMA FIRMs, and they can be seen in Exhibit 9.2 attached.

The Corps has found evidence/data to support the statement that the waters within the relevant reach of Cypress Creek and all similarly situated adjacent and abutting wetlands provide more than a speculative or insubstantial effect upon the chemical integrity of the downstream TNW. The approximate 12,042 acres of adjacent and abutting wetlands provide important filtration to aid in the elimination and treatment of bacteria to the downstream TNW. They also serve to aid in the reduction of thermal and chemical pollutants flowing into Cypress Creek. Cypress Creek is identified by the TCEQ as a 303(d) impaired water for bacteria contamination; therefore, the wetlands within its relevant reach provide important removal properties associated with the filtration of bacteria. The wetlands are situated in a rapidly developing area that is converting wooded and agricultural land to residential and commercial properties. The aquatic resources within the relevant reach provide more than speculative or insubstantial effects that are inseparably bound to the chemical integrity of the downstream TNW.

Further, the retention of water and retardation of overbank flooding associated with adjacent and abutting wetlands is vital to maintaining and protecting the physical integrity of the downstream TNW. The effects of removing wetlands within the relevant reach would increase the velocity and flow into Cypress Creek and the West Fork San Jacinto River resulting in more than a speculative or insubstantial effect upon the physical attributes of the downstream TNW. This could also potentially impact the dam at Lake Houston. Increased flow will increase "out of bank" flooding and scouring, resulting in loss of property and the physical attributes of the TNW. Therefore, the aquatic resources within the relevant reach of Cypress Creek provide more than a speculative or insubstantial effect that are inseparably bound to maintaining the physical integrity of the downstream TNW.

There are no known species found in the review area that require the aquatic resources of the non-TNW portion of Cypress Creek and its adjacent or abutting wetlands to fulfill their life cycle requirements. However, Cypress Creek is a RPW and has a direct hydrologic connection with the TNW. As such, it is more likely to have aquatic organisms that require both features (TNW and waters in the relevant reach). It is highly feasible that species of fishes and/or invertebrates utilize Cypress Creek for portions of their life cycles, but there is insufficient evidence to identify specific species that require both the aquatic resources within the relevant reach of Cypress Creek and the waters of the TNW to fulfill their life cycle requirements. The adjacent and abutting wetlands within the relevant reach aid in providing species habitat, shelter from predators, and detritus and nutrients as a food source. However, we cannot say that the aquatic resources within the relevant reach of Cypress Creek provide more than a speculative or insubstantial effect that are inseparably bound to maintaining the biological integrity of the downstream TNW.

In conclusion, it is our draft opinion that there is sufficient evidence to support the statement that the aquatic resources within this approximate 50-mile relevant reach of Cypress Creek and its 12,042 acres of adjacent and abutting wetlands have a significant nexus (more than speculative or insubstantial effect) on the chemical, physical, and/or biological integrity of the downstream TNW (Cypress Creek). Therefore, it is the Corps' opinion that this relevant reach of Cypress Creek and its adjacent wetlands are waters of the United States subject to Section 404 of the Clean Water Act.

Table of wetlands within the project site:

Feature Name	Acreege	Wetland Type	Latitude	Longitude	UTM 15 N Northing	UTM 15 N Easting
Wetland C	0.02	Herbaceous	29.9563	-95.65277	3316903.78	243988.26
Wetland D	1.01	Forested	29.956989	-95.65434	3316983.68	243838.46
Wetland F	0.025	Herbaceous	29.956849	-95.653807	3316967	243889.6
Wetland G	0.069	Herbaceous	29.956640	-95.653397	3316942.9	243928.6

See the additional tables attached documenting the adjacent/abutting wetlands located outside of the project site.

Adjacent Wetland Number	Adjacent Wetland Identifier Code	Adjacent Wetland Type	Acres
1	L1UBH	Lake	31.54
2	L1UBHx	Lake	22.29
3	L1UBHx	Lake	103.74
4	L1UBHx	Lake	113.79
5	L1UBHx	Lake	101.07
6	L2AB4H	Lake	19.45
7	PAB4Fk	Freshwater Pond	1.98
8	PAB4Fx	Freshwater Pond	1.25
9	PAB4Fx	Freshwater Pond	0.78
10	PEM1A	Freshwater Emergent Wetland	1.61
11	PEM1A	Freshwater Emergent Wetland	3.46
12	PEM1A	Freshwater Emergent Wetland	2.12
13	PEM1A	Freshwater Emergent Wetland	2.25
14	PEM1A	Freshwater Emergent Wetland	1.15
15	PEM1A	Freshwater Emergent Wetland	0.38
16	PEM1A	Freshwater Emergent Wetland	84.27
17	PEM1A	Freshwater Emergent Wetland	0.70
18	PEM1A	Freshwater Emergent Wetland	0.33
19	PEM1A	Freshwater Emergent Wetland	11.65
20	PEM1A	Freshwater Emergent Wetland	9.48
21	PEM1A	Freshwater Emergent Wetland	0.87
22	PEM1A	Freshwater Emergent Wetland	0.37
23	PEM1A	Freshwater Emergent Wetland	0.98
24	PEM1A	Freshwater Emergent Wetland	4.55
25	PEM1A	Freshwater Emergent Wetland	1.21
26	PEM1A	Freshwater Emergent Wetland	2.72
27	PEM1A	Freshwater Emergent Wetland	1.88
28	PEM1A	Freshwater Emergent Wetland	1.82
29	PEM1A	Freshwater Emergent Wetland	3.71
30	PEM1A	Freshwater Emergent Wetland	2.16
31	PEM1A	Freshwater Emergent Wetland	18.40
32	PEM1A	Freshwater Emergent Wetland	3.36
33	PEM1A	Freshwater Emergent Wetland	0.68
34	PEM1A	Freshwater Emergent Wetland	0.20
35	PEM1A	Freshwater Emergent Wetland	0.69
36	PEM1Ad	Freshwater Emergent Wetland	13.61
37	PEM1C	Freshwater Emergent Wetland	0.12
38	PEM1C	Freshwater Emergent Wetland	2.11
39	PEM1C	Freshwater Emergent Wetland	0.44
40	PEM1C	Freshwater Emergent Wetland	0.07
41	PEM1C	Freshwater Emergent Wetland	2.62
42	PEM1C	Freshwater Emergent Wetland	24.03
43	PEM1C	Freshwater Emergent Wetland	0.42
44	PEM1C	Freshwater Emergent Wetland	0.60
45	PEM1C	Freshwater Emergent Wetland	1.75
46	PEM1C	Freshwater Emergent Wetland	0.85
47	PEM1C	Freshwater Emergent Wetland	0.25
48	PEM1C	Freshwater Emergent Wetland	0.50
49	PEM1C	Freshwater Emergent Wetland	0.67
50	PEM1C	Freshwater Emergent Wetland	6.00
51	PEM1C	Freshwater Emergent Wetland	1.73
52	PEM1C	Freshwater Emergent Wetland	3.25
53	PEM1C	Freshwater Emergent Wetland	0.04
54	PEM1C	Freshwater Emergent Wetland	0.39
55	PEM1C	Freshwater Emergent Wetland	3.03
56	PEM1C	Freshwater Emergent Wetland	0.24
57	PEM1C	Freshwater Emergent Wetland	1.13
58	PEM1C	Freshwater Emergent Wetland	13.55
59	PEM1C	Freshwater Emergent Wetland	11.03
60	PEM1C	Freshwater Emergent Wetland	0.46
61	PEM1C	Freshwater Emergent Wetland	0.10
62	PEM1C	Freshwater Emergent Wetland	0.26
63	PEM1C	Freshwater Emergent Wetland	0.28
64	PEM1C	Freshwater Emergent Wetland	1.21
65	PEM1C	Freshwater Emergent Wetland	0.14
66	PEM1C	Freshwater Emergent Wetland	0.82
67	PEM1C	Freshwater Emergent Wetland	0.74
68	PEM1C	Freshwater Emergent Wetland	0.51
69	PEM1C	Freshwater Emergent Wetland	1.08
70	PEM1C	Freshwater Emergent Wetland	0.12
71	PEM1C	Freshwater Emergent Wetland	0.80
72	PEM1Cd	Freshwater Emergent Wetland	4.43
73	PEM1Cx	Freshwater Emergent Wetland	8.42
74	PEM1Cx	Freshwater Emergent Wetland	2.55
75	PEM1Cx	Freshwater Emergent Wetland	1.62
76	PEM1Cx	Freshwater Emergent Wetland	1.75
77	PEM1Cx	Freshwater Emergent Wetland	3.88
78	PEM1Cx	Freshwater Emergent Wetland	1.44
79	PEM1Cx	Freshwater Emergent Wetland	0.19
80	PEM1Cx	Freshwater Emergent Wetland	16.78
81	PEM1Cx	Freshwater Emergent Wetland	6.98
82	PEM1Cx	Freshwater Emergent Wetland	0.74
83	PEM1Cx	Freshwater Emergent Wetland	0.30
84	PEM1Cx	Freshwater Emergent Wetland	0.68
85	PEM1Cx	Freshwater Emergent Wetland	1.18
86	PEM1Cx	Freshwater Emergent Wetland	3.33
87	PEM1F	Freshwater Emergent Wetland	1.21
88	PEM1F	Freshwater Emergent Wetland	1.93
89	PEM1F	Freshwater Emergent Wetland	0.88
90	PEM1Fh	Freshwater Emergent Wetland	0.61
91	PEM1Fh	Freshwater Emergent Wetland	0.93
92	PEM1Fh	Freshwater Emergent Wetland	0.28
93	PEM1Fx	Freshwater Emergent Wetland	0.14
94	PEM1Fx	Freshwater Emergent Wetland	0.10
95	PEM1Fx	Freshwater Emergent Wetland	0.10
96	PEM1Fx	Freshwater Emergent Wetland	0.10
97	PEM1Fx	Freshwater Emergent Wetland	0.19
98	PEM1Fx	Freshwater Emergent Wetland	57.11
99	PEM1Fx	Freshwater Emergent Wetland	0.86
100	PEM1Fx	Freshwater Emergent Wetland	0.34
101	Pf	Other	23.62
102	Pf	Other	10.60
103	Pf	Other	7.88
104	Pf	Other	5.01
105	Pf	Other	3.52
106	Pf	Other	3.53

Adjacent Wetland Number	Adjacent Wetland Identifier Code	Adjacent Wetland Type	Acres
107	Pf	Other	562.40
108	Pf	Other	21.46
109	Pf	Other	19.23
110	Pf	Other	7.29
111	Pf	Other	16.23
112	Pf	Other	23.00
113	Pf	Other	536.50
114	Pf	Other	34.38
115	Pf	Other	57.35
116	Pf	Other	12.34
117	Pf	Other	27.79
118	Pf	Other	3.95
119	Pf	Other	12.87
120	Pf	Other	6.98
121	Pf	Other	56.67
122	Pf	Other	269.23
123	Pf	Other	105.11
124	Pf	Other	11.45
125	Pf	Other	3.54
126	Pf	Other	37.72
127	Pf	Other	0.60
128	Pf	Other	5.23
129	Pf	Other	4.20
130	Pf	Other	13.53
131	Pf	Other	13.52
132	Pf	Other	13.90
133	Pf	Other	7.21
134	Pf	Other	16.28
135	Pf	Other	1.18
136	Pf	Other	23.89
137	Pf	Other	170.29
138	Pf	Other	15.31
139	Pf	Other	148.06
140	Pf	Other	1292.74
141	Pf	Other	532.16
142	Pf	Other	1955.53
143	Pf	Other	784.31
144	Pf	Other	48.92
145	Pf	Other	386.61
146	Pf	Other	121.58
147	Pf	Other	33.58
148	Pf	Other	222.59
149	Pf	Other	324.15
150	Pf	Other	1222.15
151	PFO1/4A	Freshwater Forested/Shrub Wetland	5.55
152	PFO1/4A	Freshwater Forested/Shrub Wetland	2.87
153	PFO1/4A	Freshwater Forested/Shrub Wetland	2.23
154	PFO1/4A	Freshwater Forested/Shrub Wetland	1.21
155	PFO1/4A	Freshwater Forested/Shrub Wetland	1.40
156	PFO1A	Freshwater Forested/Shrub Wetland	4.14
157	PFO1A	Freshwater Forested/Shrub Wetland	5.22
158	PFO1A	Freshwater Forested/Shrub Wetland	6.18
159	PFO1A	Freshwater Forested/Shrub Wetland	0.71
160	PFO1A	Freshwater Forested/Shrub Wetland	0.97
161	PFO1A	Freshwater Forested/Shrub Wetland	1.79
162	PFO1A	Freshwater Forested/Shrub Wetland	2.43
163	PFO1A	Freshwater Forested/Shrub Wetland	13.79
164	PFO1A	Freshwater Forested/Shrub Wetland	0.88
165	PFO1A	Freshwater Forested/Shrub Wetland	5.39
166	PFO1A	Freshwater Forested/Shrub Wetland	0.63
167	PFO1A	Freshwater Forested/Shrub Wetland	7.33
168	PFO1A	Freshwater Forested/Shrub Wetland	9.82
169	PFO1A	Freshwater Forested/Shrub Wetland	21.44
170	PFO1A	Freshwater Forested/Shrub Wetland	6.99
171	PFO1A	Freshwater Forested/Shrub Wetland	2.44
172	PFO1A	Freshwater Forested/Shrub Wetland	0.67
173	PFO1A	Freshwater Forested/Shrub Wetland	0.54
174	PFO1A	Freshwater Forested/Shrub Wetland	0.56
175	PFO1A	Freshwater Forested/Shrub Wetland	1.53
176	PFO1A	Freshwater Forested/Shrub Wetland	4.82
177	PFO1A	Freshwater Forested/Shrub Wetland	0.61
178	PFO1A	Freshwater Forested/Shrub Wetland	25.76
179	PFO1A	Freshwater Forested/Shrub Wetland	4.80
180	PFO1A	Freshwater Forested/Shrub Wetland	6.16
181	PFO1A	Freshwater Forested/Shrub Wetland	2.41
182	PFO1A	Freshwater Forested/Shrub Wetland	0.78
183	PFO1A	Freshwater Forested/Shrub Wetland	6.63
184	PFO1A	Freshwater Forested/Shrub Wetland	2.54
185	PFO1A	Freshwater Forested/Shrub Wetland	10.99
186	PFO1A	Freshwater Forested/Shrub Wetland	4.30
187	PFO1A	Freshwater Forested/Shrub Wetland	0.72
188	PFO1A	Freshwater Forested/Shrub Wetland	1.67
189	PFO1A	Freshwater Forested/Shrub Wetland	2.92
190	PFO1A	Freshwater Forested/Shrub Wetland	4.59
191	PFO1A	Freshwater Forested/Shrub Wetland	0.32
192	PFO1A	Freshwater Forested/Shrub Wetland	0.70
193	PFO1A	Freshwater Forested/Shrub Wetland	0.40
194	PFO1A	Freshwater Forested/Shrub Wetland	35.49
195	PFO1A	Freshwater Forested/Shrub Wetland	9.59
196	PFO1A	Freshwater Forested/Shrub Wetland	7.66
197	PFO1A	Freshwater Forested/Shrub Wetland	0.64
198	PFO1A	Freshwater Forested/Shrub Wetland	3.00
199	PFO1A	Freshwater Forested/Shrub Wetland	1.28
200	PFO1A	Freshwater Forested/Shrub Wetland	11.26
201	PFO1A	Freshwater Forested/Shrub Wetland	3.69
202	PFO1A	Freshwater Forested/Shrub Wetland	3.22
203	PFO1A	Freshwater Forested/Shrub Wetland	1.62
204	PFO1A	Freshwater Forested/Shrub Wetland	2.16
205	PFO1A	Freshwater Forested/Shrub Wetland	1.38
206	PFO1A	Freshwater Forested/Shrub Wetland	41.33
207	PFO1A	Freshwater Forested/Shrub Wetland	0.74
208	PFO1A	Freshwater Forested/Shrub Wetland	0.87
209	PFO1A	Freshwater Forested/Shrub Wetland	2.91
210	PFO1A	Freshwater Forested/Shrub Wetland	5.87
211	PFO1A	Freshwater Forested/Shrub Wetland	0.89
212	PFO1A	Freshwater Forested/Shrub Wetland	75.83

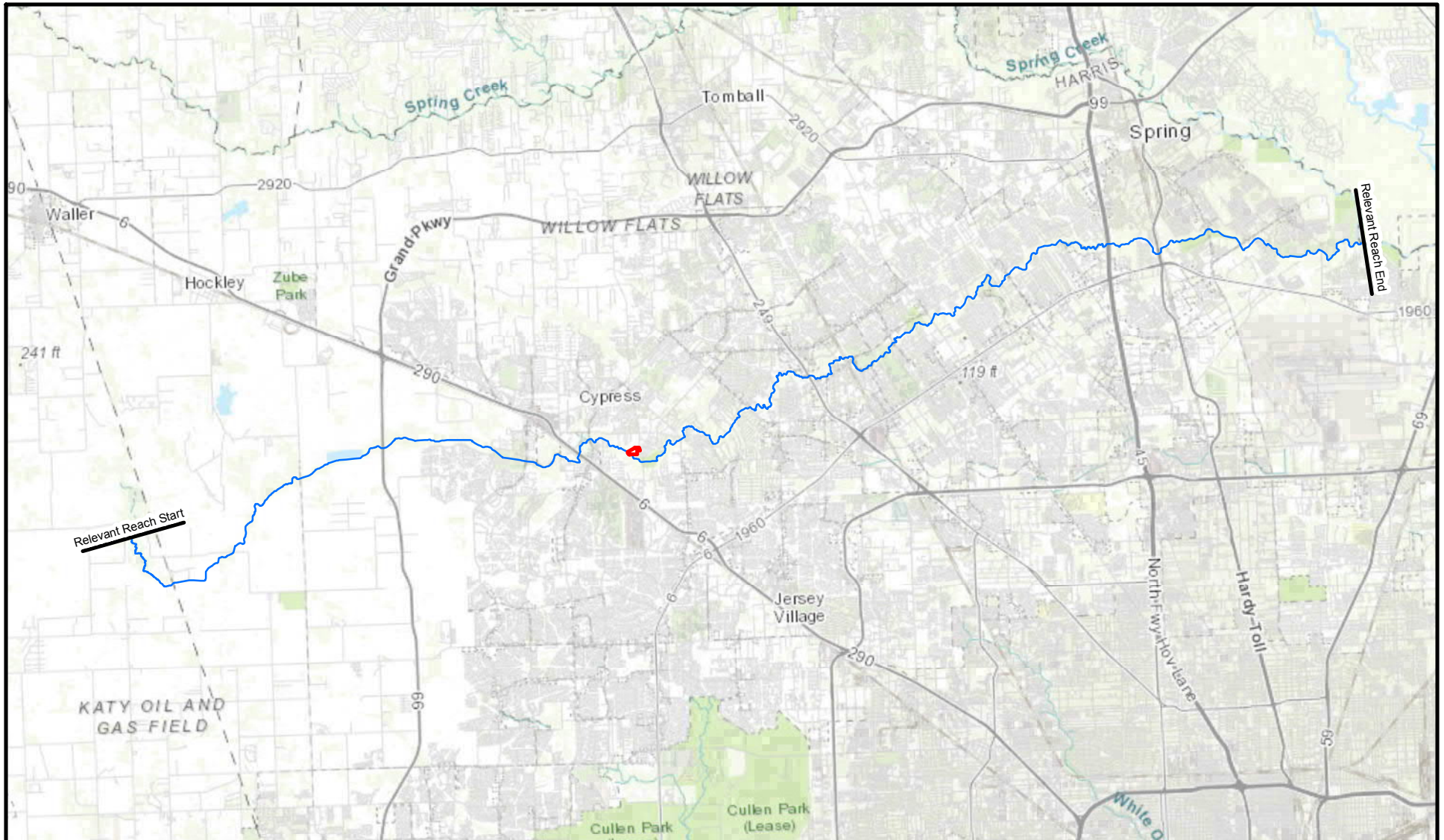
Adjacent Wetland Number	Adjacent Wetland Identifier Code	Adjacent Wetland Type	Acres	Adjacent Wetland Number	Adjacent Wetland Identifier Code	Adjacent Wetland Type	Acres
425	PSS1A	Freshwater Forested/Shrub Wetland	7.39	530	PUBF	Freshwater Pond	0.62
426	PSS1A	Freshwater Forested/Shrub Wetland	2.30	531	PUBF	Freshwater Pond	2.10
427	PSS1A	Freshwater Forested/Shrub Wetland	0.40	532	PUBF	Freshwater Pond	1.86
428	PSS1A	Freshwater Forested/Shrub Wetland	3.72	533	PUBF	Freshwater Pond	0.86
429	PSS1A	Freshwater Forested/Shrub Wetland	3.98	534	PUBF	Freshwater Pond	0.21
430	PSS1A	Freshwater Forested/Shrub Wetland	1.23	535	PUBF	Freshwater Pond	3.14
431	PSS1A	Freshwater Forested/Shrub Wetland	1.55	536	PUBF	Freshwater Pond	0.90
432	PSS1A	Freshwater Forested/Shrub Wetland	0.65	537	PUBF	Freshwater Pond	0.34
433	PSS1A	Freshwater Forested/Shrub Wetland	2.00	538	PUBF	Freshwater Pond	1.34
434	PSS1A	Freshwater Forested/Shrub Wetland	1.69	539	PUBF	Freshwater Pond	2.27
435	PSS1A	Freshwater Forested/Shrub Wetland	1.52	540	PUBF	Freshwater Pond	2.72
436	PSS1A	Freshwater Forested/Shrub Wetland	40.89	541	PUBF	Freshwater Pond	0.56
437	PSS1A	Freshwater Forested/Shrub Wetland	0.62	542	PUBF	Freshwater Pond	0.71
438	PSS1A	Freshwater Forested/Shrub Wetland	0.45	543	PUBF	Freshwater Pond	0.36
439	PSS1A	Freshwater Forested/Shrub Wetland	0.92	544	PUBF	Freshwater Pond	1.45
440	PSS1A	Freshwater Forested/Shrub Wetland	0.69	545	PUBF	Freshwater Pond	3.48
441	PSS1A	Freshwater Forested/Shrub Wetland	5.84	546	PUBF	Freshwater Pond	0.17
442	PSS1A	Freshwater Forested/Shrub Wetland	1.44	547	PUBF	Freshwater Pond	0.12
443	PSS1A	Freshwater Forested/Shrub Wetland	0.60	548	PUBF	Freshwater Pond	0.12
444	PSS1A	Freshwater Forested/Shrub Wetland	0.27	549	PUBF	Freshwater Pond	0.30
445	PSS1A	Freshwater Forested/Shrub Wetland	0.16	550	PUBF	Freshwater Pond	0.23
446	PSS1A	Freshwater Forested/Shrub Wetland	0.62	551	PUBF	Freshwater Pond	0.91
447	PSS1A	Freshwater Forested/Shrub Wetland	0.24	552	PUBF	Freshwater Pond	0.13
448	PSS1A	Freshwater Forested/Shrub Wetland	0.33	553	PUBF	Freshwater Pond	1.22
449	PSS1A	Freshwater Forested/Shrub Wetland	0.19	554	PUBH	Freshwater Pond	1.21
450	PSS1C	Freshwater Forested/Shrub Wetland	0.11	555	PUBHh	Freshwater Pond	6.23
451	PSS1C	Freshwater Forested/Shrub Wetland	1.55	556	PUBH	Freshwater Pond	1.29
452	PSS1C	Freshwater Forested/Shrub Wetland	0.12	557	PUBHh	Freshwater Pond	6.92
453	PSS1C	Freshwater Forested/Shrub Wetland	0.14	558	PUBHh	Freshwater Pond	0.28
454	PSS1C	Freshwater Forested/Shrub Wetland	4.85	559	PUBHh	Freshwater Pond	0.42
455	PSS1C	Freshwater Forested/Shrub Wetland	3.35	560	PUBHx	Freshwater Pond	0.95
456	PSS1C	Freshwater Forested/Shrub Wetland	1.96	561	PUBHx	Freshwater Pond	1.84
457	PSS1C	Freshwater Forested/Shrub Wetland	1.85	562	PUBHx	Freshwater Pond	1.92
458	PSS1C	Freshwater Forested/Shrub Wetland	2.02	563	PUBHx	Freshwater Pond	4.28
459	PSS1C	Freshwater Forested/Shrub Wetland	2.08	564	PUBHx	Freshwater Pond	3.33
460	PSS1C	Freshwater Forested/Shrub Wetland	0.74	565	PUBHx	Freshwater Pond	1.02
461	PSS1C	Freshwater Forested/Shrub Wetland	3.25	566	PUBHx	Freshwater Pond	5.25
462	PSS1C	Freshwater Forested/Shrub Wetland	0.13	567	PUBHx	Freshwater Pond	3.58
463	PSS1C	Freshwater Forested/Shrub Wetland	7.12	568	PUBHx	Freshwater Pond	5.93
464	PSS1C	Freshwater Forested/Shrub Wetland	0.26	569	PUBHx	Freshwater Pond	8.74
465	PSS1C	Freshwater Forested/Shrub Wetland	2.99	570	PUBHx	Freshwater Pond	4.65
466	PSS1Cx	Freshwater Forested/Shrub Wetland	5.44	571	PUBHx	Freshwater Pond	0.35
467	PSS1Cx	Freshwater Forested/Shrub Wetland	2.82	572	PUBHx	Freshwater Pond	0.91
468	PSS1Fx	Freshwater Forested/Shrub Wetland	5.75	573	PUBHx	Freshwater Pond	1.89
469	PSS1Fx	Freshwater Forested/Shrub Wetland	0.16	574	PUBHx	Freshwater Pond	0.13
470	PSS1Fx	Freshwater Forested/Shrub Wetland	0.34	575	PUBHx	Freshwater Pond	1.66
471	PSS1Fx	Freshwater Forested/Shrub Wetland	1.06	576	PUBHx	Freshwater Pond	0.87
472	PSS1Fx	Freshwater Forested/Shrub Wetland	0.87	577	PUBHx	Freshwater Pond	1.05
473	PSS1Fx	Freshwater Forested/Shrub Wetland	1.58	578	PUBHx	Freshwater Pond	0.25
474	PSSA	Freshwater Forested/Shrub Wetland	9.48	579	PUBHx	Freshwater Pond	2.87
475	PSSA	Freshwater Forested/Shrub Wetland	147.01	580	PUBHx	Freshwater Pond	0.51
476	PSSA	Freshwater Forested/Shrub Wetland	144.90	581	PUBHx	Freshwater Pond	1.60
477	PUBF	Freshwater Pond	0.38	582	PUBHx	Freshwater Pond	0.76
478	PUBF	Freshwater Pond	0.45	583	PUBHx	Freshwater Pond	1.55
479	PUBF	Freshwater Pond	0.25	584	PUBHx	Freshwater Pond	1.43
480	PUBF	Freshwater Pond	1.54	585	PUBHx	Freshwater Pond	0.23
481	PUBF	Freshwater Pond	0.90	586	PUBHx	Freshwater Pond	0.52
482	PUBF	Freshwater Pond	0.19	587	PUBHx	Freshwater Pond	0.20
483	PUBF	Freshwater Pond	0.48	588	PUBHx	Freshwater Pond	2.54
484	PUBF	Freshwater Pond	0.22	589	PUBHx	Freshwater Pond	0.26
485	PUBF	Freshwater Pond	3.71	590	PUBHx	Freshwater Pond	0.85
486	PUBF	Freshwater Pond	0.16	591	PUBHx	Freshwater Pond	0.70
487	PUBF	Freshwater Pond	3.56	592	PUBHx	Freshwater Pond	2.40
488	PUBF	Freshwater Pond	0.88	593	PUBHx	Freshwater Pond	0.63
489	PUBF	Freshwater Pond	0.21	594	PUBHx	Freshwater Pond	0.58
490	PUBF	Freshwater Pond	3.05	595	PUBHx	Freshwater Pond	0.42
491	PUBF	Freshwater Pond	0.28	596	PUBHx	Freshwater Pond	0.80
492	PUBF	Freshwater Pond	0.06	597	PUBHx	Freshwater Pond	0.91
493	PUBF	Freshwater Pond	0.78	598	PUBHx	Freshwater Pond	0.41
494	PUBF	Freshwater Pond	1.19	599	PUBHx	Freshwater Pond	0.48
495	PUBFh	Freshwater Pond	0.14	600	PUBHx	Freshwater Pond	0.40
496	PUBFh	Freshwater Pond	1.43	601	PUBHx	Freshwater Pond	1.38
497	PUBFh	Freshwater Pond	1.55	602	PUBHx	Freshwater Pond	0.95
498	PUBFh	Freshwater Pond	1.17	603	PUBHx	Freshwater Pond	0.76
499	PUBFx	Freshwater Pond	0.51	604	PUBHx	Freshwater Pond	0.51
500	PUBFx	Freshwater Pond	6.30	605	PUBHx	Freshwater Pond	2.45
501	PUBFx	Freshwater Pond	0.56	606	PUBHx	Freshwater Pond	5.53
502	PUBFx	Freshwater Pond	0.21	607	PUBHx	Freshwater Pond	0.61
503	PUBFx	Freshwater Pond	0.15	608	PUBHx	Freshwater Pond	3.05
504	PUBFx	Freshwater Pond	0.22	609	PUBHx	Freshwater Pond	2.14
505	PUBFx	Freshwater Pond	0.06	610	PUBHx	Freshwater Pond	2.24
506	PUBFx	Freshwater Pond	1.17	611	PUBHx	Freshwater Pond	0.77
507	PUBFx	Freshwater Pond	0.50	612	PUBHx	Freshwater Pond	12.94
508	PUBFx	Freshwater Pond	0.38	613	PUBKx	Freshwater Pond	0.22
509	PUBFx	Freshwater Pond	0.33	614	PUSA	Freshwater Pond	5.50
510	PUBFx	Freshwater Pond	0.90	615	PUSC	Freshwater Pond	0.05
511	PUBFx	Freshwater Pond	5.68	616	PUSC	Freshwater Pond	0.08
512	PUBFx	Freshwater Pond	0.60	617	PUSC	Freshwater Pond	4.22
513	PUBFx	Freshwater Pond	5.17	618	PUSC	Freshwater Pond	0.23
514	PUBFx	Freshwater Pond	0.09	619	PUSC	Freshwater Pond	0.10
515	PUBFx	Freshwater Pond	0.32	620	PUSC	Freshwater Pond	0.10
516	PUBFx	Freshwater Pond	2.72	621	PUSC	Freshwater Pond	0.20
517	PUBFx	Freshwater Pond	0.10	622	PUSCh	Freshwater Pond	0.09
518	PUBFx	Freshwater Pond	0.23	623	PUSC	Freshwater Pond	0.10
519	PUBFx	Freshwater Pond	3.01	624	PUSC	Freshwater Pond	0.32
520	PUBFx	Freshwater Pond	0.38	625	PUSC	Freshwater Pond	0.05
521	PUBFx	Freshwater Pond	2.68	626	PUSC	Freshwater Pond	2.34
522	PUBFx	Freshwater Pond	3.40	627	PUSC	Freshwater Pond	0.07
523	PUBFx	Freshwater Pond	2.20	628	PUSC	Freshwater Pond	0.07
524	PUBFx	Freshwater Pond	2.49	629	PUSC	Freshwater Pond	2.01
525	PUBFx	Freshwater Pond	1.74	630	PUSC	Freshwater Pond	0.44
526	PUBFx	Freshwater Pond	1.11	631	PUSC	Freshwater Pond	0.14
527	PUBFx	Freshwater Pond	3.48				
528	PUBFx	Freshwater Pond	0.27				
529	PUBFx	Freshwater Pond	1.79				

12042.19

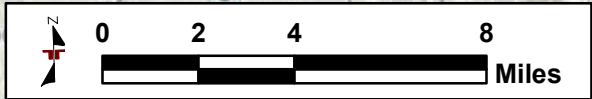
Abutting Wetland Number	Abutting Wetland Identifier Code	Abutting Wetland Type	Acres
1	LIUBH	Lake	31.54
2	Pf	Other	7.29
3	Pf	Other	16.23
4	Pf	Other	536.50
5	Pf	Other	57.35
6	Pf	Other	12.87
7	Pf	Other	56.67
8	Pf	Other	269.23
9	Pf	Other	1292.74
10	PFO1A	Freshwater Forested/Shrub Wetland	6.18
11	PFO1A	Freshwater Forested/Shrub Wetland	1.79
12	PFO1A	Freshwater Forested/Shrub Wetland	13.79
13	PFO1A	Freshwater Forested/Shrub Wetland	5.39
14	PFO1A	Freshwater Forested/Shrub Wetland	0.63
15	PFO1A	Freshwater Forested/Shrub Wetland	9.82
16	PFO1A	Freshwater Forested/Shrub Wetland	21.44
17	PFO1A	Freshwater Forested/Shrub Wetland	25.76
18	PFO1A	Freshwater Forested/Shrub Wetland	35.49
19	PFO1A	Freshwater Forested/Shrub Wetland	3.22
20	PFO1A	Freshwater Forested/Shrub Wetland	41.33
21	PFO1A	Freshwater Forested/Shrub Wetland	75.83
22	PFO1A	Freshwater Forested/Shrub Wetland	12.18
23	PFO1A	Freshwater Forested/Shrub Wetland	1.48
24	PFO1A	Freshwater Forested/Shrub Wetland	1.11
25	PFO1A	Freshwater Forested/Shrub Wetland	0.45
26	PFO1A	Freshwater Forested/Shrub Wetland	3.30
27	PFO1A	Freshwater Forested/Shrub Wetland	2.67
28	PFO1A	Freshwater Forested/Shrub Wetland	15.20
29	PFO1A	Freshwater Forested/Shrub Wetland	1.84
30	PFO1A	Freshwater Forested/Shrub Wetland	4.50
31	PFO1A	Freshwater Forested/Shrub Wetland	16.71
32	PFO1A	Freshwater Forested/Shrub Wetland	2.68
33	PFO1A	Freshwater Forested/Shrub Wetland	15.42
34	PFO1A	Freshwater Forested/Shrub Wetland	32.20
35	PFO1A	Freshwater Forested/Shrub Wetland	42.59
36	PFO1A	Freshwater Forested/Shrub Wetland	59.73
37	PFO1A	Freshwater Forested/Shrub Wetland	112.28
38	PFO1A	Freshwater Forested/Shrub Wetland	1.71
39	PFO1A	Freshwater Forested/Shrub Wetland	8.24
40	PFO1A	Freshwater Forested/Shrub Wetland	3.47
41	PFO1A	Freshwater Forested/Shrub Wetland	9.74
42	PFO1Ax	Freshwater Forested/Shrub Wetland	0.18
43	PFO1C	Freshwater Forested/Shrub Wetland	6.03
44	PFO1C	Freshwater Forested/Shrub Wetland	13.63
45	PFO1C	Freshwater Forested/Shrub Wetland	0.97
46	PFO1C	Freshwater Forested/Shrub Wetland	0.24
47	PSS1A	Freshwater Forested/Shrub Wetland	3.36
48	PSS1A	Freshwater Forested/Shrub Wetland	2.08
49	PSS1A	Freshwater Forested/Shrub Wetland	6.25
50	PSS1A	Freshwater Forested/Shrub Wetland	1.52
51	PSS1A	Freshwater Forested/Shrub Wetland	40.89
52	PSS1A	Freshwater Forested/Shrub Wetland	0.92
53	PSSA	Freshwater Forested/Shrub Wetland	9.48
54	PSSA	Freshwater Forested/Shrub Wetland	147.01
55	PUBF	Freshwater Pond	1.19
56	PUBPh	Freshwater Pond	1.55
57	PUBPh	Freshwater Pond	1.17
58	PUBFx	Freshwater Pond	0.06
59	PUBFx	Freshwater Pond	0.32
60	PUBFx	Freshwater Pond	3.48
61	PUBHh	Freshwater Pond	6.23
			3115.19

SWG 2018-00184 ~ FIG Starwoods Farms, LLC ~ Jurisdictional Determination

N:\GIS_Data\Natural Resources\Projects\2018\92187037\Project Mxds\92187037 Exhibit 9.0 Relavent Reach Map.mxd, Revised: 02-13-2018, 2:29:37 PM



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community, October 28, 2017 Aerial Photograph Courtesy of Google Earth
Map Presented In: GCS North American 1983, NAD 1983 StatePlane Texas South Central FIPS 4204 Feet



Legend

- Project Limits ±27.08 Acres
- Cypress Creek (50 River Miles)

DRAWN BY:	CG
CHECKED BY:	PRK
GIS SCALE:	1" = 21,118.7'
DATE:	02-13-2018

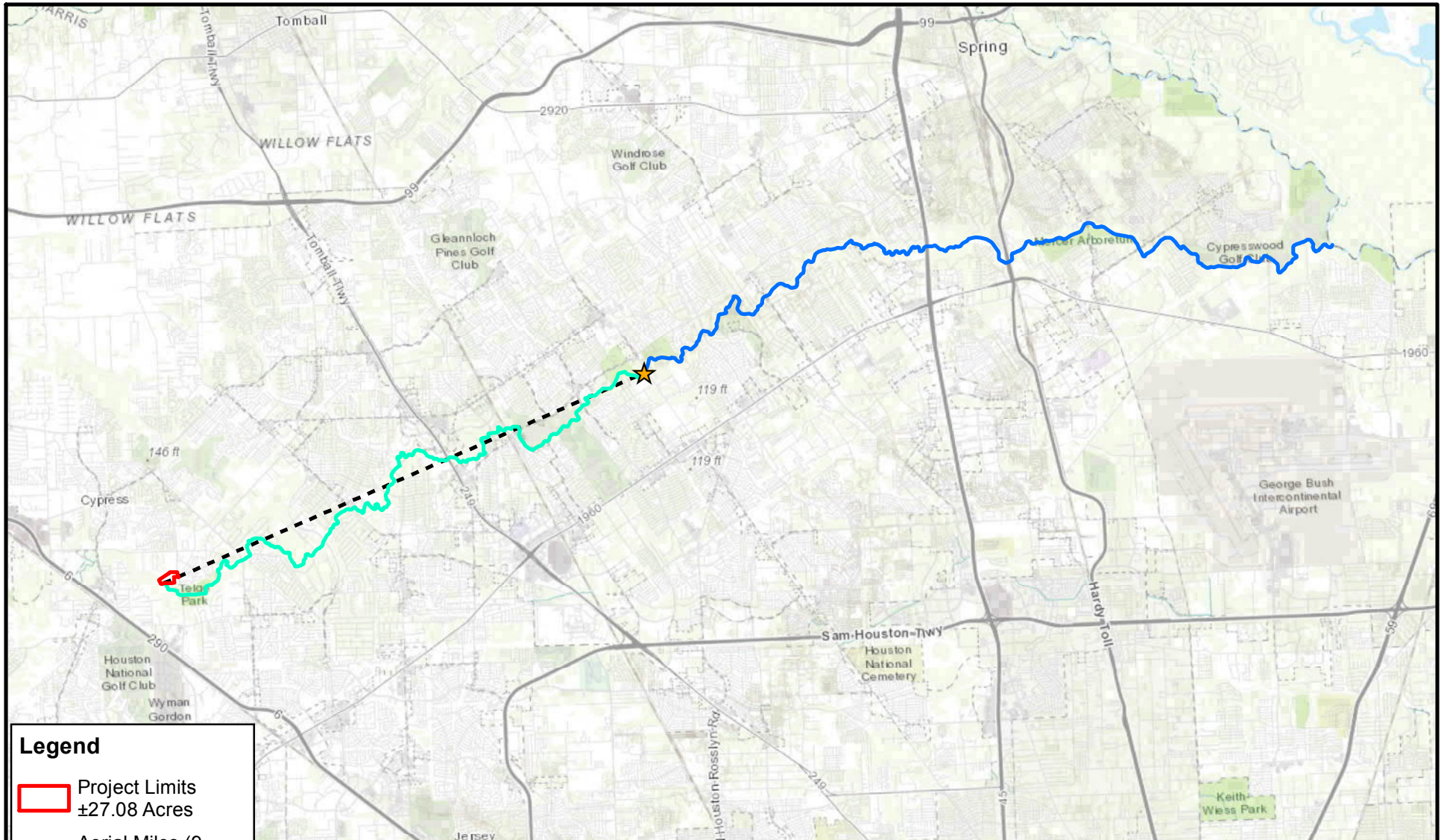
Terracon
Consulting Engineers and Scientists
Terracon Project No. 92187037

Relevant Reach Map
Starwood Farms
Telge Road
Cypress, Harris County, Texas

Exhibit	9.0
---------	-----

SWG 2018-00184 ~ FIG Starwood Farms, LLC ~ Jurisdictional Determination

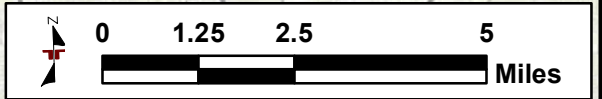
N:\GIS_Data\Natural Resources\Projects\2018\92187037\Project Mxd\92187037 Exhibit 9.1 Distance To TNW Map.mxd, Revised: 02-13-2018, 2:19:12 PM



Legend

- Project Limits ±27.08 Acres
- Aerial Miles (9 Miles)
- River Miles To TNW (14 Miles)
- TNW River Miles (17 Miles)
- ★ TNW Start Point

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community, October 28, 2017 Aerial Photograph Courtesy of Google Earth
Map Presented In: GCS North American 1983, NAD 1983 StatePlane Texas South Central FIPS 4204 Feet



DRAWN BY:	CG
CHECKED BY:	PRK
GIS SCALE:	1" = 13,200'
DATE:	02-13-2018

Terracon

Consulting Engineers and Scientists

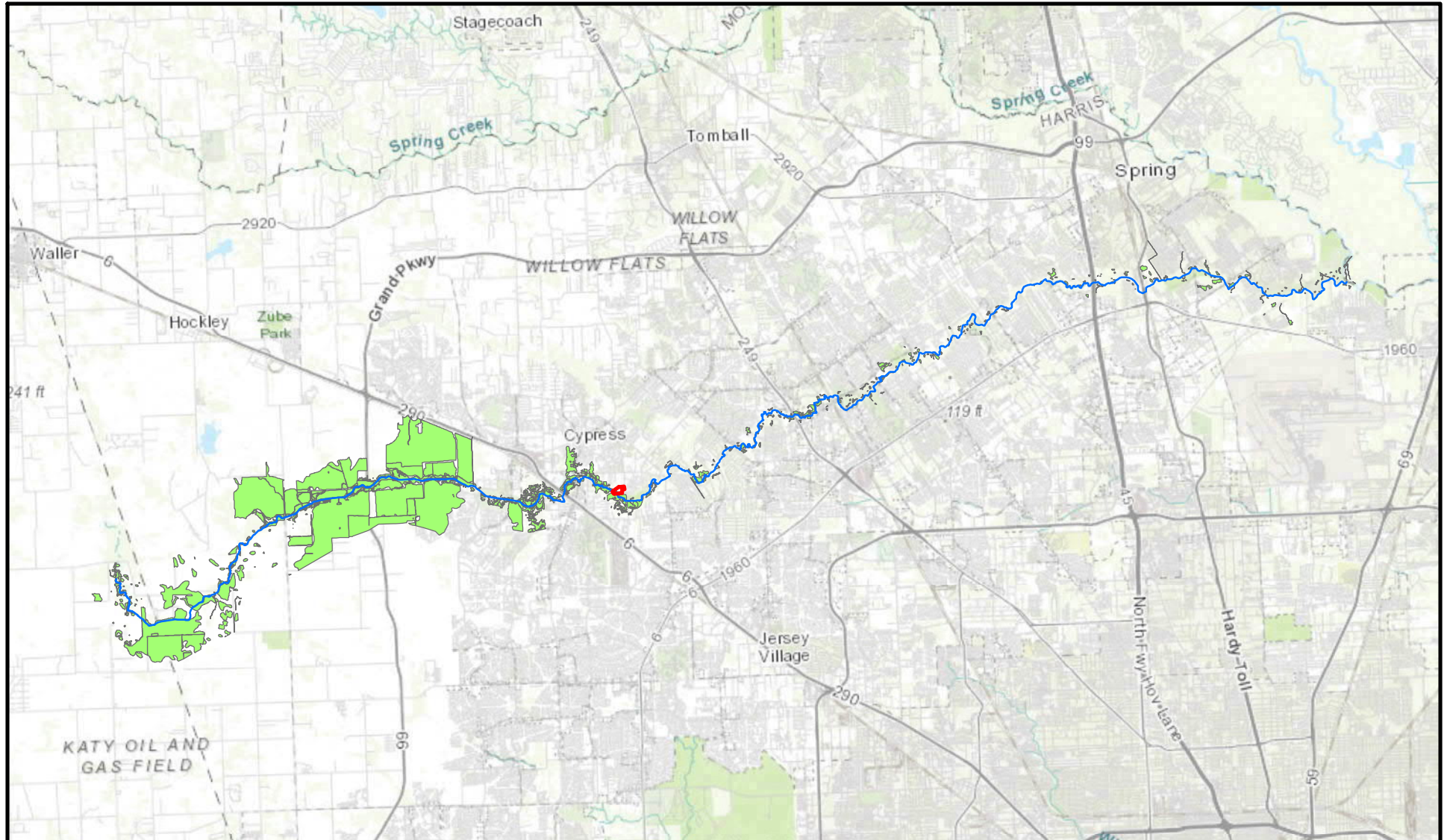
Terracon Project No. 92187037

Distance To TNW Map
Starwood Farms Telge Road Cypress, Harris County, Texas

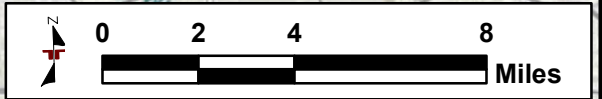
Exhibit
9.1

SWG 2018-00184 ~ FIG Starwood Farms, LLC ~ Jurisdictional Determination

N:\GIS_Data\Natural Resources\Projects\2018\92187037\Project Mxd\92187037 Exhibit 9.2 Adjacent Wetlands Map.mxd, Revised: 02-15-2018, 12:52:07 PM



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community, October 28, 2017 Aerial Photograph Courtesy of Google Earth
Map Presented In: GCS North American 1983, NAD 1983 StatePlane Texas South Central FIPS 4204 Feet



Legend

- Project Limits (27.08 Acres)
- Adjacent Wetlands
- Cypress Creek (50 River Miles)

DRAWN BY:	CG
CHECKED BY:	PRK
GIS SCALE:	1" = 21,120'
DATE:	02-15-2018

Terracon
Consulting Engineers and Scientists

Terracon Project No. 92187037

Adjacent Wetlands Map
Starwood Farms
Telge Road
Cypress, Harris County, Texas

Exhibit
9.2

SWG 2018-00184

FIG Starwood Farms, LLC
Jurisdictional Determination

EPA Coordination
Significant Nexus Analysis for Cypress Creek and Adjacent
Wetlands (Wetland C, Wetland D, Wetland F, and Wetland G)

28 October 2017 Google Earth Aerial Image

Legend
Cypress Creek

Wetland D

Wetland F

Wetland G

Wetland C

Google Earth



1000 ft

SWG 2018-00184

FIG Starwood Farms, LLC
Jurisdictional Determination

EPA Coordination
Significant Nexus Analysis for Cypress Creek and Adjacent
Wetlands (Wetland C, Wetland D, Wetland F, and Wetland G)

1980 USGS Cypress, Texas Quadrangle

Legend
Cypress Creek

