



**U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE**

I. ADMINISTRATIVE INFORMATION

Completion Date of Approved Jurisdictional Determination (AJD): 3/5/2021

ORM Number: SWG-2019-00432

Associated JDs: N/A.

Review Area Location¹: State/Territory: Texas City: Enter. County/Parish/Borough: Montgomery

Center Coordinates of Review Area: Latitude 30.191831 Longitude -95.612219

II. FINDINGS

A. Summary: Check all that apply. At least one box from the following list MUST be selected. Complete the corresponding sections/tables and summarize data sources.

- ☐ The review area is comprised entirely of dry land (i.e., there are no waters or water features, including wetlands, of any kind in the entire review area). Rationale: N/A.
- ☐ There are "navigable waters of the United States" within Rivers and Harbors Act jurisdiction within the review area (complete table in Section II.B).
- ☒ There are "waters of the United States" within Clean Water Act jurisdiction within the review area (complete appropriate tables in Section II.C).
- ☒ There are waters or water features excluded from Clean Water Act jurisdiction within the review area (complete table in Section II.D).

B. Rivers and Harbors Act of 1899 Section 10 (§ 10)²

§ 10 Name	§ 10 Size	§ 10 Criteria	Rationale for § 10 Determination
N/A.	N/A.	N/A.	N/A.

C. Clean Water Act Section 404

Territorial Seas and Traditional Navigable Waters ((a)(1) waters): ³				
(a)(1) Name	(a)(1) Size	(a)(1) Criteria	Rationale for (a)(1) Determination	
N/A.	N/A.	N/A.	N/A.	

Tributaries ((a)(2) waters):				
(a)(2) Name	(a)(2) Size	(a)(2) Criteria	Rationale for (a)(2) Determination	
Dry Creek 01	2,996	linear feet	(a)(2) Perennial tributary contributes surface water flow directly or indirectly to an (a)(1) water in a typical year.	Dry Creek 01 had pools of water in the upper reaches of the project site and had standing/flowing water in the lower reaches before it leaves the eastern side of the project site. All the Google Earth aerial photos with this portion of the creek visible show water in Dry Creek. Dry Creek flows into Spring Creek, which is an (a)(1) water downstream of the confluence.
Dry Creek 02	220	linear feet	(a)(2) Perennial tributary	Dry Creek 02 had standing/flowing water during the site visit. All the Google Earth aerial photos with this

¹ Map(s)/figure(s) are attached to the AJD provided to the requestor.

² If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.

³ A stand-alone TNW determination is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD Form.



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Tributaries ((a)(2) waters):				
(a)(2) Name	(a)(2) Size		(a)(2) Criteria	Rationale for (a)(2) Determination
			contributes surface water flow directly or indirectly to an (a)(1) water in a typical year.	portion of the creek visible show water in the Creek. Dry Creek flows into Spring Creek, which is an (a)(1) water downstream of the confluence.
Magnolia Branch	988	linear feet	(a)(2) Perennial tributary contributes surface water flow directly or indirectly to an (a)(1) water in a typical year.	All the Google Earth aerial photos with this portion of the creek visible show water in Magnolia Branch. Magnolia Branch flows into Dry Creek, which flows into Spring Creek, which is an (a)(1) water downstream of the confluence.

Lakes and ponds, and impoundments of jurisdictional waters ((a)(3) waters):				
(a)(3) Name	(a)(3) Size		(a)(3) Criteria	Rationale for (a)(3) Determination
N/A.	N/A.	N/A.	N/A.	N/A.

Adjacent wetlands ((a)(4) waters):				
(a)(4) Name	(a)(4) Size		(a)(4) Criteria	Rationale for (a)(4) Determination
WET 01	0.38	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	WET 01 is in the floodway and 10-year floodplain of Dry Creek. Based on the FEMA flood profiles, LiDAR, the scientific study: Hydrogeomorphic Differential Between Floodplains and Terraces, the APT, and aerial photos, WET 01 gets inundated from Dry Creek in a typical year.
WET 02	0.14	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	WET 02 is in the floodway and 10-year floodplain of Dry Creek. Based on the FEMA flood profiles, LiDAR, the scientific study: Hydrogeomorphic Differential Between Floodplains and Terraces, the APT, and aerial photos, WET 02 gets inundated from Dry Creek in a typical year.
WET 03	0.03	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	WET 03 is in the floodway and 10-year floodplain of Dry Creek. Based on the FEMA flood profiles, LiDAR, the scientific study: Hydrogeomorphic Differential Between Floodplains and Terraces, the APT, and aerial photos, WET 03 gets inundated from Dry Creek in a typical year.
WET 04	0.11	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	WET 04 is in the floodway and 10-year floodplain of Dry Creek. Based on the FEMA flood profiles, LiDAR, the scientific study: Hydrogeomorphic Differential Between Floodplains and Terraces, the APT, and aerial photos, WET 04 gets inundated from Dry Creek in a typical year.
WET 05	0.03	acre(s)	(a)(4) Wetland inundated by	WET 05 is in the floodway and 10-year floodplain of Dry Creek. Based on the FEMA flood profiles,



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Adjacent wetlands ((a)(4) waters):				
(a)(4) Name	(a)(4) Size		(a)(4) Criteria	Rationale for (a)(4) Determination
			flooding from an (a)(1)-(a)(3) water in a typical year.	LiDAR, the scientific study: Hydrogeomorphic Differential Between Floodplains and Terraces, the APT, and aerial photos, WET 05 gets inundated from Dry Creek in a typical year.
WET 06	0.09	acre(s)	(a)(4) Wetland separated from an (a)(1)-(a)(3) water only by a natural feature.	WET 06 is separated from Dry Creek, an (a)(2) water, by a natural barrier and, therefore, is adjacent to Dry Creek.
WET 07	0.09	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	WET 07 is in the floodway and 10-year floodplain of Dry Creek. Based on the FEMA flood profiles, LiDAR, the scientific study: Hydrogeomorphic Differential Between Floodplains and Terraces, the APT, and aerial photos, WET 07 gets inundated from Dry Creek in a typical year.
WET 08	0.01	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	WET 08 is in the floodway and 10-year floodplain of Dry Creek. Based on the FEMA flood profiles, LiDAR, the scientific study: Hydrogeomorphic Differential Between Floodplains and Terraces, the APT, and aerial photos, WET 08 gets inundated from Dry Creek in a typical year.
WET 09	0.06	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	WET 09 is in the floodway and 10-year floodplain of Dry Creek. Based on the FEMA flood profiles, LiDAR, the scientific study: Hydrogeomorphic Differential Between Floodplains and Terraces, the APT, and aerial photos, WET 09 gets inundated from Dry Creek in a typical year.
WET 10	0.45	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	WET 10 is in the floodway and 10-year floodplain of Dry Creek. Based on the FEMA flood profiles, LiDAR, the scientific study: Hydrogeomorphic Differential Between Floodplains and Terraces, the APT, and aerial photos, WET 10 gets inundated from Dry Creek in a typical year.
WET 11	0.38	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	WET 11 is in the floodway and 10-year floodplain of Dry Creek. Based on the FEMA flood profiles, LiDAR, the scientific study: Hydrogeomorphic Differential Between Floodplains and Terraces, the APT, and aerial photos, WET 11 gets inundated from Dry Creek in a typical year.
WET 12	0.09	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	WET 12 is in the floodway and 10-year floodplain of Dry Creek. Based on the FEMA flood profiles, LiDAR, the scientific study: Hydrogeomorphic Differential Between Floodplains and Terraces, the APT, and aerial photos, WET 12 gets inundated from Dry Creek in a typical year.
WET 13	0.02	acre(s)	(a)(4) Wetland inundated by	WET 13 is in the floodway and 10-year floodplain of Dry Creek. Based on the FEMA flood profiles,



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Adjacent wetlands ((a)(4) waters):				
(a)(4) Name	(a)(4) Size		(a)(4) Criteria	Rationale for (a)(4) Determination
			flooding from an (a)(1)-(a)(3) water in a typical year.	LiDAR, the scientific study: Hydrogeomorphic Differential Between Floodplains and Terraces, the APT, and aerial photos, WET 13 gets inundated from Dry Creek in a typical year.
WET 14	0.06	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	WET 14 is in the floodway and 10-year floodplain of Dry Creek. Based on the FEMA flood profiles, LiDAR, the scientific study: Hydrogeomorphic Differential Between Floodplains and Terraces, the APT, and aerial photos, WET 14 gets inundated from Dry Creek in a typical year.
WET 15	0.04	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	WET 15 is in the 10-year floodplain of Dry Creek. Based on the FEMA flood profiles, LiDAR, the scientific study: Hydrogeomorphic Differential Between Floodplains and Terraces, the APT, and aerial photos, WET 15 gets inundated from Dry Creek in a typical year.
WET 16	0.01	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	WET 16 is in the floodway and 10-year floodplain of Dry Creek. Based on the FEMA flood profiles, LiDAR, the scientific study: Hydrogeomorphic Differential Between Floodplains and Terraces, the APT, and aerial photos, WET 16 gets inundated from Dry Creek in a typical year.

D. Excluded Waters or Features

Excluded waters ((b)(1) – (b)(12)): ⁴				
Exclusion Name	Exclusion Size		Exclusion ⁵	Rationale for Exclusion Determination
OW 1	0.54	acre(s)	(b)(8) Artificial lake/pond constructed or excavated in upland or a non-jurisdictional water, so long as the artificial lake or pond is not an impoundment of a jurisdictional water that meets (c)(6).	OW 1 is an artificial pond excavated out of upland or a non-jurisdictional water. The feature is not depicted on the Earth Point Topo Map and is present on the 1989 Google Earth Aerial Photo.
Unnamed Trib 1	221	linear feet	(b)(3) Ephemeral feature, including an ephemeral	The feature did not have any water present during the 21 August 2020 site visit. The APT for the site visit had a score of 17 on a scale of 6-18 with a score of 15-18 being wetter than

⁴ Some excluded waters, such as (b)(2) and (b)(4), may not be specifically identified on the AJD form unless a requestor specifically asks a Corps district to do so. Corps districts may, in case-by-case instances, choose to identify some or all of these waters within the review area.

⁵ Because of the broad nature of the (b)(1) exclusion and in an effort to collect data on specific types of waters that would be covered by the (b)(1) exclusion, four sub-categories of (b)(1) exclusions were administratively created for the purposes of the AJD Form. These four sub-categories are not new exclusions, but are simply administrative distinctions and remain (b)(1) exclusions as defined by the NWPR.



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Excluded waters ((b)(1) – (b)(12)): ⁴				
Exclusion Name	Exclusion Size	Exclusion ⁵	Rationale for Exclusion Determination	
		stream, swale, gully, rill, or pool.	normal. This feature is not visible in the aerial photos.	
Unnamed Trib 2	269	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	The feature did not have any water present during the 21 August 2020 site visit. The APT for the site visit had a score of 17 on a scale of 6-18 with a score of 15-18 being wetter than normal. This feature is not visible in the aerial photos.
Unnamed Trib 3	157	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	The feature did not have any water present during the 21 August 2020 site visit. The APT for the site visit had a score of 17 on a scale of 6-18 with a score of 15-18 being wetter than normal. This feature is not visible in the aerial photos.

III. SUPPORTING INFORMATION

A. Select/enter all resources that were used to aid in this determination and attach data/maps to this document and/or references/citations in the administrative record, as appropriate.

- ☒ Information submitted by, or on behalf of, the applicant/consultant: [R.G. Miller Engineers. Inc.](#)

This information [is and is not](#) sufficient for purposes of this AJD.

Rationale: [WET 05 and WET 10 boundaries were changed and WET 16 was added.](#)

- ☒ Data sheets prepared by the Corps: [21 August 2020 by John Davidson](#)
- ☒ Photographs: [Aerial: Google Earth 2010-2019](#)
- ☒ Corps site visit(s) conducted on: [21 August 2020](#)
- ☐ Previous Jurisdictional Determinations (AJDs or PJDs): [ORM Number\(s\) and date\(s\).](#)
- ☒ Antecedent Precipitation Tool: [provide detailed discussion in Section III.B.](#)
- ☒ USDA NRCS Soil Survey: [Web Soil Survey](#)
- ☒ USFWS NWI maps: [Google Earth layer](#)
- ☒ USGS topographic maps: [Earth Point Topo](#)

Other data sources used to aid in this determination:

Data Source (select)	Name and/or date and other relevant information
USGS Sources	N/A.
USDA Sources	N/A.
NOAA Sources	N/A.
USACE Sources	N/A.
State/Local/Tribal Sources	N/A.
Other Sources	FEMA Flood Profiles map 48339C0505G effective 08/18/2014

B. Typical year assessment(s): The APT for the site visit date, 21 August 2020 (dry season), is 17 on a scale of 6-18, with a score between 15 and 18 indicating wetter than normal precipitation during the preceding 90 days. The rainfall for the prior 3 days 0.00". I observed ponding and flowing water in Dry Creek 01 and Dry Creek 02 during the site visit. Also, water was observed in Dry Creek and Magnolia Branch in every aerial photo where the creek is visible. The consultant ran a 30-year average elevation [the average of days in the last 30 years at Bush



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Intercontinental Airport (approximately 20 miles southeast of the project site) that had rain, which equaled 0.48-inch and plugged into HEC-HMS model (Version 4.4.1) and the HEC-RAS program (Version 5.0.7)] and the 10-year, 5-minute storm elevation. Their conclusion was that OW1 and WET 10 are above both elevations and they are not inundated in a typical year from Dry Creek. They also concluded that the remainder of the wetlands were inundated in a typical year by Dry Creek. Based on the FEMA flood maps, the 10% annual chance flood zone (10-year floodplain) elevation in the area is 162 feet NAVD88 on Dry Creek, just downstream of the confluence with Unnamed Tributary 02, and 167.3 feet NAVD88 on Dry Creek approximately 1,600 feet upstream from the northern project boundary. The 30-year average elevation in that area ranged from 157.56 feet NAVD88 to 159.17 feet NAVD88. As noted in the rationale for Wetland 10, it is located in the floodway of Dry Creek. We also conducted the APT for the aerial photos, consultant site visits and Corps site visit. During the Corps and consultants site visits as well as the photos, none of the site was observed flooded by out-of-bank flooding from either of the two named tributaries, Dry Creek and Magnolia Branch, which are waters of the U.S. The APT values for reviewed imagery are summarized in Table 1 below.

TABLE 1

Date	APT	APT Condition	Season	PDSI	Preceding 72 hr Rainfall
Site Visit					
8/21/2020	17	Wetter than Normal	Dry	Mild wetness	0.00"
Google Earth					
10/31/2013	14	Normal	Wet	Mild Wetness	0.24"
2/14/2014	9	Drier than Normal	Wet	Incipient Drought	0.34"
7/31/2015	12	Normal	Dry	Severe Wetness	0.01"
3/3/2016	8	Drier than Normal	Wet	Severe Wetness	0.00"
1/23/2017	17	Wetter than Normal	Wet	Mild Drought	0.74"
2/23/2019	12	Normal	Wet	Severe Wetness	0.63"
Delineation by consultant					
6/20/2017	11	Normal	Dry	Incipient Wetness	0.00"
6/21/2017	11	Normal	Dry	Incipient Wetness	0.00"
6/22/2017	11	Normal	Dry	Incipient Wetness	0.00"

Although R.G. Miller determined that Wet 10 was above the typical year inundation elevation, the wetland being in the floodway and below the 10-year floodplain elevation is sufficient to conclude that it would be inundated in a typical year. Therefore, we determined that Wet 1-16 are in a contiguous landscape position that would be anticipated to be inundated by flooding by the nearest water of the U.S., specifically Dry Creek, in a typical year. The determination regarding potential inundation due to flooding by Dry Creek is based on site specific information and scientific studies regarding floodplain correlation and elevation information for bankfull and floodplains, (Yan, Q., Iwasaki, T., Stumpf, A., Belmont, P., Parker, G., & Kumar, P. (2018). Hydrogeomorphological differentiation between floodplains and terraces. Earth Surface Processes and Landforms, 43(1), 218-228.), as well as review of historic site information and aerial photos of the site. The study referenced states that the 10-year floodplain elevation is located at a slightly higher elevation than bank-full elevation in riverine systems. Noting per NWPR regulation, that bank-full is anticipated to be located within the area that floods in a typical year and as such a wetland within would be jurisdictional. Regulation also states that it does not extend to the boundary of the 100-year floodplain. The wetlands on this site are located above bank-full but below the projected 10-year floodplain elevation



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for this area. Therefore, WET 1-16 are anticipated to be flooded by Dry Creek, an (a)(2) water, in a typical year and are subject to Section 404 of the Clean Water Act

C. Additional comments to support AJD: N/A or provide additional discussion as appropriate.