



**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): 7/12/2021

ORM Number: SWG 2020-00422

Associated JDs: N/A

Review Area Location¹: State/Territory: Texas City: Houston County/Parish/Borough: Harris

Center Coordinates of Review Area: Latitude 29.762317 Longitude -95.694450

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	
N/A.	N/A.	N/A.	N/A.	

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.	

Adjacent wetlands ((a)(4) waters):				
(a)(4) Name	(a)(4) Size	(a)(4) Criteria	Rationale for (a)(4) Determination	
Wetland 1	0.02	acre(s)	(a)(4) Wetland inundated by flooding from an	Wetland 1 is located in Barker Reservoir, which is a USACE flood control impoundment of Buffalo Bayou, an (a)(1) water downstream of the reservoir. Barker

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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Adjacent wetlands ((a)(4) waters):				
(a)(4) Name	(a)(4) Size		(a)(4) Criteria	Rationale for (a)(4) Determination
			(a)(1)-(a)(3) water in a typical year.	Reservoir is within the 10-year floodplain of Buffalo Bayou. The aerals and topo show that Wetland 1 does not abut nor is separated from Buffalo Bayou by a single natural or artificial barrier. See the typical year discussion below.
Wetland 2	0.08	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	Wetland 2 is located in Barker Reservoir, which is a USACE flood control impoundment of Buffalo Bayou, an (a)(1) water downstream of the reservoir. Barker Reservoir is within the 10-year floodplain of Buffalo Bayou. The aerals and topo show that Wetland 2 does not abut nor is separated from Buffalo Bayou by a single natural or artificial barrier. See the typical year discussion below.
Wetland 3	0.01	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	Wetland 3 is located in Barker Reservoir, which is a USACE flood control impoundment of Buffalo Bayou, an (a)(1) water downstream of the reservoir. Barker Reservoir is within the 10-year floodplain of Buffalo Bayou. The aerals and topo show that Wetland 3 does not abut nor is separated from Buffalo Bayou by a single natural or artificial barrier. See the typical year discussion below.
Wetland 4	0.02	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	Wetland 4 is located in Barker Reservoir, which is a USACE flood control impoundment of Buffalo Bayou, an (a)(1) water downstream of the reservoir. Barker Reservoir is within the 10-year floodplain of Buffalo Bayou. The aerals and topo show that Wetland 4 does not abut nor is separated from Buffalo Bayou by a single natural or artificial barrier. See the typical year discussion below.
Wetland 5	0.04	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	Wetland 5 is located in Barker Reservoir, which is a USACE flood control impoundment of Buffalo Bayou, an (a)(1) water downstream of the reservoir. Barker Reservoir is within the 10-year floodplain of Buffalo Bayou. The aerals and topo show that Wetland 5 does not abut nor is separated from Buffalo Bayou by a single natural or artificial barrier. See the typical year discussion below.
Wetland 6	0.23	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	Wetland 6 is located in Barker Reservoir, which is a USACE flood control impoundment of Buffalo Bayou, an (a)(1) water downstream of the reservoir. Barker Reservoir is within the 10-year floodplain of Buffalo Bayou. The aerals and topo show that Wetland 6 does not abut nor is separated from Buffalo Bayou by a single natural or artificial barrier. See the typical year discussion below.
Wetland 7	0.02	acre(s)	(a)(4) Wetland inundated by flooding from an	Wetland 7 is located in Barker Reservoir, which is a USACE flood control impoundment of Buffalo Bayou, an (a)(1) water downstream of the reservoir. Barker



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Adjacent wetlands ((a)(4) waters):				
(a)(4) Name	(a)(4) Size		(a)(4) Criteria	Rationale for (a)(4) Determination
			(a)(1)-(a)(3) water in a typical year.	Reservoir is within the 10-year floodplain of Buffalo Bayou. The aerals and topo show that Wetland 7 does not abut nor is separated from Buffalo Bayou by a single natural or artificial barrier. See the typical year discussion below.
Wetland 8	0.02	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	Wetland 8 is located in Barker Reservoir, which is a USACE flood control impoundment of Buffalo Bayou, an (a)(1) water downstream of the reservoir. Barker Reservoir is within the 10-year floodplain of Buffalo Bayou. The aerals and topo show that Wetland 8 does not abut nor is separated from Buffalo Bayou by a single natural or artificial barrier. See the typical year discussion below.
Wetland 9	0.02	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	Wetland 9 is located in Barker Reservoir, which is a USACE flood control impoundment of Buffalo Bayou, an (a)(1) water downstream of the reservoir. Barker Reservoir is within the 10-year floodplain of Buffalo Bayou. The aerals and topo show that Wetland 9 does not abut nor is separated from Buffalo Bayou by a single natural or artificial barrier. See the typical year discussion below.
Wetland 10	7.46	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	Wetland 10 is located in Barker Reservoir, which is a USACE flood control impoundment of Buffalo Bayou, an (a)(1) water downstream of the reservoir. Barker Reservoir is within the 10-year floodplain of Buffalo Bayou. The aerals and topo show that Wetland 10 does not abut nor is separated from Buffalo Bayou by a single natural or artificial barrier. See the typical year discussion below.

D. Excluded Waters or Features

Excluded waters ((b)(1) – (b)(12)): ⁴				
Exclusion Name	Exclusion Size		Exclusion ⁵	Rationale for Exclusion Determination
N/A	N/A	N/A.	N/A.	N/A

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: [\(Harris County Engineering Department\) 11 June 2020](#)

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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This information **is** sufficient for purposes of this AJD.

Rationale: **N/A**

- ☐ Data sheets prepared by the Corps: **N/A**
- ☒ Photographs: **Aerial: Google Earth 1943-2019**
- ☐ Corps site visit(s) conducted on: **N/A**
- ☐ Previous Jurisdictional Determinations (AJDs or PJDs): **N/A**
- ☒ Antecedent Precipitation Tool: **provide detailed discussion in Section III.B.**
- ☒ USDA NRCS Soil Survey: **Harris County WebSoil Survey**
- ☒ USFWS NWI maps: **Harris County USFWS NWI Mapper**
- ☐ USGS topographic maps: **N/A**

Other data sources used to aid in this determination:

Data Source (select)	Name and/or date and other relevant information
USGS Sources	Addicks, (1915, 1970, 1995, 2013; and 2019) Texas Quadrangle Map
USDA Sources	N/A.
NOAA Sources	N/A.
USACE Sources	ORM for Historical review
State/Local/Tribal Sources	N/A.
FEMA/FIRM maps	FEMA NFHL Panel 48201C0615M Eff 11/15/2019 and Panel 48201C0620M Eff 11/15/2019

- B. Typical year assessment(s):** The subject wetlands are located in a contiguous landscape position that would be anticipated to be inundated by flooding by the nearest waters of the U.S. (Buffalo Bayou) in a typical year. The determination regarding potential inundation due to flooding by the nearest waterway is based largely upon 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 (including precipitation data) and aerial photos of the site. The study referenced revealed that the 10-year floodplain elevation is located in 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 jurisdictional.

DCH Environmental Consultants, LLC., conducted a wetland delineation between the dates of 16 February 2020 and 2 April 2020. According to the Antecedent Precipitation Tool (APT), the hydrologic conditions on the days of DCH Environmental Consultant's site visit ranged from normal to below normal on the WETS score (ranged from 8-11). In addition, the APT calculated the hydrologic conditions which correlate with the aerials included in the document review. The results are listed in Table 1 and Table 2.

Table 1 (Agent Site Visits)

Date	WETS	APT	Season	PDSI	Preceding 72 hr Rainfall
16 February 2020	9	Normal	Wet	Mild Drought	0.03"
17 February 2020	9	Normal	Wet	Mild Drought	0
28 February 2020	11	Normal	Wet	Mild Drought	0.68"
8 March 2020	11	Normal	Wet	Mild Drought	0.05"
15 March 2020	8	Below	Wet	Mild Drought	0
2 April 2020	9	Below	Wet	Mild Drought	0



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Table 2 (USACE Aerial Analysis)

Date					
31 December 1943	13	Normal	Wet	Mild Wetness	<1"
31 December 1977	12	Normal	Wet	Incipient Drought	<1"
13 January 1995	16	Above	Wet	Moderate Wetness	~2.5"
31 July 2015	10	Below	Dry	Severe Wetness	0"
30 August 2017					
(Hurricane Harvey)	15	Above	Dry	Extreme Wetness	27.11"
1 December 2019	9	Normal	Wet	Incipient Drought	0

In review of the aerials, we did find photographs indicating flood waters from the closest (a)1-(a)3 waters would flood the subject site. This included those photos that were taken during Wetter than Normal precipitation events. Therefore, using the APT tool in conjunction with review of the historic aerials and data provided, we determined that Wetlands 1 – 10 would be inundated by flooding from an (a)(1) – (a)(3) water in a typical year (Buffalo Bayou).

- C. Additional comments to support AJD:** The project area is contained within Barker Reservoir. 10 year flood data from FEMA was not available. Harris County Flood Control District data indicates that all of Barker Reservoir is within the 10-year floodplain.