U.S. Army Corps of Engineers (USACE)

AUTHORIZATION TO ACT AS AN AGENT

For use of this form, see Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act of 1899, and Section 103 of the Marine Protection, Research, and Sanctuaries Act, the proponent agency is CECW-COR.

Form Approved - OMB No. 0710-0003
Expires 2027-10-31

The Agency Disclosure Notice (ADN)

The Public reporting burden for this collection of information, 0710-003, is estimated to average 5 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

Purpose: This form is used by members of the public to authorize an agent (for example - a private consultant) to act on their behalf in all matters relating to all dealings with the USACE regarding the project. This includes taking all necessary actions for the application, processing, issuance, and/or acceptance of a Clean Water Act and/or Rivers and Harbors Act delineations, determinations, and/or permits.

This form is a component in the Corps Regulatory Request System (RRS), which is an online permitting application portal for the Regulatory Program.

ITEMS 1 THRU 3 - FOR USACE USE ONLY

APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED

ITEMS 4 THRU 14 - COMPLETD BY THE APPLICANT or REQUESTOR

4. PROJECT NAME	5. PROJECT LOCATION
East WilCo Highway Segment 6	Georgetown, TX 78626 Williamson County
6. APPLICANT NAME (*first, middle, last*)	**7. AGENT NAME**
County Judge Steven Snell	Peter Van Zandt
Company (*if applicable*):	Company:
Williamson County	Halff
E-mail Address:	E-mail Address:
ctyjudge@wilco.org	pvanzandt@halff.com
8. APPLICANT ADDRESS (*if applicable*)	**9. AGENT ADDRESS** (*if applicable*)
Address	Address
710 South Main Street, Suite 101	13620 Briarwick Drive
City: Georgetown / State: Texas	City: AUSTIN / State: TX

10. APPLICANT PHONE NUMBERS. w/AREA CODE			11. AGENT PHONE NUMBERS. w/AREA CODE		
a.	b.	c. Fax	a. Mobile	b.	c. Fax
+1 (512) 943-1550			+17372708711		

12. APPLICANT/AGENT CERTIFICATION

By signing below, I hereby authorize the agent listed above, to act on my behalf in all matters relating to all dealings with the USACE regarding the project and properties listed above, including taking all necessary actions for the application, processing, issuance, and/ or acceptance of a Clean Water Act and/or Rivers and Harbors Act delineations, determinations, and/or permits. Any and all acts carried out by my agent on my behalf as it relates to this project and property shall have the same effect as acts of my own.

I agree to review all information submitted to the USACE on my behalf by my agent and certify that any information submitted on my behalf is true and correct.

13. SIGNATURE of APPLICANT or REQUESTOR	14. DATE

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

U.S. Army Corps of Engineers (USACE)

REQUEST FOR JURISDICTIONAL DETERMINATION (JD)

For use of this form, see Sec 404 CWA, Sec 10 RHA, Sec 103 MPRSA; the proponent agency is CECW-COR.

Form Approved - OMB No. 0710-0024
Expires 2027-09-30

DATA REQUIRED BY THE PRIVACY ACT OF 1974

Authority Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332.

Principal Purpose The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the review area that are or that may be subject to federal jurisdiction under the regulatory authorities referenced above.

Routine Uses This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice or FOIA request as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in any approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.

Disclosure Submission of requested information is voluntary, however, if the information is not provided there may be some delay in processing your request. Failure to provide this information will not result in an adverse action.
System of Record Notice (SORN): The information received is entered into our permit tracking database and a SORN has been completed (SORN #A1145b) and may be accessed at the following website: **http://dpcld.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx**

The Agency Disclosure Notice (ADN)

The Public reporting burden for this collection of information, 0710-0024, is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. To (*District Name*): Fort Worth District

2. I am requesting a JD on property located at (*Street Address*): _____

City/Township/Parish: Georgetown County: Williamson County State: TX

Acres of Parcel/Review Area for JD: 91.454598

Section: Township: Range:

Latitude (*decimal degrees*): 30.650617 ° Longitude (*decimal degrees*): -97.5268605 °

(*For linear projects, please include the center point of the proposed alignment.*)

3. Please attach a survey/plat map and vicinity map identifying location and review area for the JD.

4. ☐ I currently own this property. ☐ I plan to purchase this property.

☐ I am an agent/consultant acting on behalf of the requester.

☑ Other (provide explanation):

I am an agent/consultant acting on behalf of the applicant.

DRAFT

5. Reason for request: (*check as many as applicable*)

- ☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all aquatic resources.
- ☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all jurisdictional aquatic resources under USACE authority.
- ☐ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the USACE, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.
- ☐ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the USACE; this request is accompanied by my permit application and the JD is to be used in the permitting process.
- ☐ I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.
- ☐ A USACE JD is required in order to obtain my local/state authorization.
- ☑ I intend to contest jurisdiction over a particular aquatic resource and request the USACE confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.
- ☐ I believe that the site may be comprised entirely of dry land.
- ☐ Other

6. Type of determination being requested:

- ☑ I am requesting an approved JD.
- ☐ I am requesting a preliminary JD.
- ☐ I am requesting a "no permit required" letter as I believe my proposed activity is not regulated.
- ☐ I am unclear as to which JD I would like to request and require additional information to inform my decision.

7. Typed or Printed Name: Peter Van Zandt Email: pvanzandt@halff.com

Business: (737) 270-8711

Company Name: Halff

Address: 13620 Briarwick Dr, Austin, TX 78729

By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the JD. Your signature shall be an affirmation that you possess the requisite property rights to request a JD on the subject property.

Signature: Peter Van Zandt Date: 10/14/2025

Draft

U.S. Army Corps of Engineers (USACE)

DELINEATION REPORT AND JURISDICTIONAL DETERMINATION
PROJECT INFORMATION SHEET

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED
6391		

APPLICANT AND AGENT INFROMATION

4. APPLICANT'S NAME	7. AGENT'S NAME
County Judge Steven Snell	Peter Van Zandt
Company – Williamson County	Company – Halff
E-mail Address – ctyjudge@wilco.org	E-mail Address – pvanzandt@halff.com
5. APPLICANT'S ADDRESS	8. AGENT'S ADDRESS
Address – 710 South Main Street, Suite 101	Address – 13620 Briarwick Drive
City – Georgetown State – TX Zip – 78626 Country – US	City – AUSTIN State – TX Zip – 78729 Country – US
6. APPLICANT'S PHONE NOs. w/AREA CODE	9. AGENTS PHONE NOs. w/AREA CODE
a. Business b. c. Fax	a. Mobile b. c. Fax
(512) 943-1550	(737) 270-8711

NAME, LOCATION, AND DESCRIPTION OF PROJECT SITE

10. PROJECT NAME OR TITLE

East WilCo Highway Segment 6

11. FILE NUMBER(S) OF PREVIOUS DETERMINATIONS ISSUED ON THE SITE

S,W,F,-,2,0,2,4,-,0,0,5,2,1

12. PROJECT COORDINATES (in decimal degrees)	13. PROJECT STREET ADDRESS (if applicable)
Latitude: ◦N 30.650617 Longitude: ◦W -97.5268605	Address –
	City – Georgetown State – TX Zip – 78626

14. OTHER LOCATION DESCRIPTIONS

Tax Parcel ID(s) –

Acreage of Parcel/Review Area – 91.454598

Section – Township – Range –

County – Williamson County

15. DIRECTIONS TO THE PROJECT SITE

16. REASON FOR REQUEST

17. TYPE OF REQUEST:

Draft

- [x] I am requesting an approved Jurisdictional Determination
- [ ] I am requesting a preliminary Jurisdictional Determination
- [ ] I am unclear as to which Jurisdictional Determination and I would like to request and require additional information to inform my decision
- [ ] I am requesting a verification of an aquatic resources delineation but I am not requesting a JD

Draft

REDACTED

Appendix A1. Property Owners

First Name	*Middle Name*	*Last Name*	*Address1*	*Address2*	*City*	*State*	*Zip Code*
[redacted]							

Draft

Appendix B. Aquatic Resource Inventory:

Aquatic Resource Name	*State*	*Cowardin System*	*Cowardin Class*	*HGM Class*	*Local Waterway Name*	*Measurement Type*	*Measurement Amount*	*Measurement Units*	*Waters Type*	*Latitude*	*Longitude*
W-2	TEXAS	PALUSTRINE	POW-PALUSTRINE, OPEN WATER	DEPRESS	Open Water Pond	Area	0.45	ACRE	NON-JD - PREAMBLE - ART.LAKE.POND	30.669898	-97.535858
W-1	TEXAS	PALUSTRINE	PEM-PALUSTRINE, EMERGENT	RIVERINE	Ephemeral Stream	Area	0.18	ACRE	NON-WOTUS-TRIB.NEGATIVE-A5	30.650657	-97.527088
W-5	TEXAS	PALUSTRINE	POW-PALUSTRINE, OPEN WATER	DEPRESS	Open Water Pond	Area	0.08	ACRE	NON-JD - PREAMBLE - ART.LAKE.POND	30.691967	-97.538575
W-4	TEXAS	RIVERINE	R4-RIVERINE, INTERMIT	RIVERINE	Vegetated Swale	Area	0.18	ACRE	NON-WOTUS-TRIB.NEGATIVE-A5	30.676071	-97.536569
W-3	TEXAS	RIVERINE	R4-RIVERINE, INTERMIT	RIVERINE	Intermittent Stream	Area	0.07	ACRE	A5.TRIB-404	30.670377	-97.535735

Draft

Appendix H. Supporting Information:

Document Type	*Document Created Date (YYYY-MM-DD)*	*Document Label*	*Information Source/Citation*	*Uploaded file name*
Other Information	2025-07-07	E WilCo Hwy Seg 6__WOTUS Delineation Report	Halff_USACE	E WilCo Hwy Seg 6__WOTUS Delineation Report.pdf

Draft

Aquatic Resources Delineation Report

East WilCo Highway Segment 6

Williamson County, Texas

Prepared for

Williamson County

100 Wilco Way, Suite P101
Georgetown, Texas 78626

Prepared by

Halff

13620 Briarwick Drive
Building C Suite 100
Austin, Texas 78729

AVO 56571.001
July 2025

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Executive Summary

Williamson County retained Halff to perform a delineation of aquatic resources (e.g., wetlands, streams, ponds) and jurisdictional assessment pursuant to Section 404 of the Clean Water Act (Section 404) as part of the East WilCo Highway Segment 6 project in Williamson County, Texas. Halff conducted the delineation of aquatic features on October 15 and 18, 2024 and identified a total of five aquatic features within the project area: one ephemeral stream (W-1), one intermittent stream (W-3), two open water ponds (W-2 and W-5), and one vegetated swale (W-4).

Review of aerial imagery, topographic maps, NWI/NHD data, and conditions observed within the project area during the field investigation suggest that W-3 flows intermittently within the project area and at the stream reach scale. This feature exhibits a direct surface water connection to the San Gabriel River and ultimately to the Gulf of Mexico, a traditional navigable water (TNW) according to the United States Army Corps of Engineers (USACE).

W-1 is an ephemeral stream that was observed to be dry at the time of the field investigation and only to flow in direct response to rain events for conveyance of agricultural runoff and roadside drainage from County Road (CR) 127. In addition, a desktop streamflow duration assessment was performed at the reach scale to establish the ephemeral flow regime to the extent possible using available desktop tools and online resources. Based on the results of the streamflow duration assessment, it is Halff's professional opinion that ephemeral flow is present within this feature greater than 50% of the assessment reach. Under current USACE guidance and Section 404 regulations, this feature would not likely be considered to be a relatively permanent water (RPW) or jurisdictional WOTUS.

W-2 and W-5 are open water ponds located near the center of the project area on the south side of W-3 and approximately 0.26-mile north of Farm-to-Market 971, respectively. These features are considered to be artificial ponds constructed in upland pasture for agricultural use and are generally exempt from USACE jurisdiction under Section 404.

W-4 is a vegetated swale located in the northern-central portion of the project area. At the reach scale, the majority (>50%) of the stream reach of this feature appears to be completely vegetated without defined bed and bank material and appears to lack a continuous OHWM. Under general circumstances, this feature would not meet the definition of a stream that carries relatively permanent flow and the USACE would not likely assert jurisdiction under Section 404.

Under current USACE guidance and Section 404 regulations, it is Halff's professional opinion that W-3 meets the regulatory definition of an RPW to a TNW; therefore, this feature would likely be regulated under Section 404 by USACE.

Demonstrations of jurisdiction herein are based on a preliminary jurisdictional assessment conducted by Halff for consideration by the USACE and are provided as an information tool for the permittee. Changes to current effective rules and/or regulatory practices may result in changes to Halff's jurisdictional opinion. The actual designation will rest with the USACE Fort Worth District and the Environmental Protection Agency (EPA), the agencies with regulatory authority for jurisdictional determinations of aquatic features within the project area.

1.0 PROJECT DESCRIPTION

The proposed East WilCo Highway Segment 6 project includes constructing a new 2-lane road with 2-12' lanes and 10' shoulders that will serve as a future frontage road of the East Wilco Highway corridor. The project limits are from 1000 feet north of State Highway (SH) 29 to CR 327, an approximate length of 4.5 miles. **Figure 1** and **Figure 2** depict the general project area location in relation to the Georgetown area and local road network, respectively.

2.0 METHODS

This document meets wetland delineation guidelines published by the USACE and serves as supporting documentation for an analysis of potential permitting requirements under Section 404 of the Clean Water Act. Halff reviewed the following supporting documents prior to conducting field investigations:

- U.S. Department of Agriculture (USDA) Land Resource Region (LRR) and Major Land Resource Area (MLRA) data
- U.S. Geological Survey (USGS) quadrangle maps
- Aerial imagery
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) data
- USGS National Hydrography Dataset (NHD) information
- USDA Natural Resource Conservation Service (NRCS) soil survey data
- Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL) data
- Light Detection and Ranging (LiDAR) digital elevation data.

Halff conducted a field investigation within the project area on October 15 and 18, 2024, to determine the extent of aquatic features with the potential to be regulated as jurisdictional WOTUS. Aquatic feature limits were assessed using the presence of an OHWM for open water features or the presence of USACE-defined wetland indicators, where applicable. Limits of aquatic features were measured during the field investigations using a Bad Elf GNSS Flex Global Positioning System (GPS) receiver capable of sub-meter accuracy, based on the World Geodetic System (WGS) 1984 Web Mercator Projection. Survey data were then converted and analyzed using ArcGIS Geographic Information System (GIS) software. Survey data and figures were projected to State Plane Central Texas Zone 4204 North American Datum (NAD 1983), with latitude and longitude coordinates reported in Global Coordinate System NAD 1983.

Trained Halff wetland scientists collected data points for unique vegetation communities encountered within the project area. Data collection was consistent with the USACE guidelines for wetland delineations prescribed in the "1987 Corps of Engineers Wetlands Delineation Manual" and the "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0)." **Figure 3.0** depicts the location of wetland data points and all mapped aquatic resources found within the project area.

3.0 RESULTS

Supporting information for this report includes a USDA MLRA/LRR map, historical and recent USGS topographic maps, historical and recent aerial imagery, an NWI and NHD map, a USDA soil survey map, a floodplain map, and a LiDAR map, all of which are located in **Appendix A**. A discussion of these maps is provided in **Section 3.1**. Results of the field investigations are provided in **Section 3.2**.

3.1 Supporting Information

3.1.1 Ecological Setting Information

USDA MLRA/LRR data were reviewed to determine which location-dependent soil and hydrology indicators are applicable. MLRAs are geographically associated land resource units that aid in agricultural planning by utilizing physiography, geology, climate, water, soils, biological resources, and land use data unique to each region. LRRs are geographically associated MLRAs which approximate broad agricultural market regions.

As depicted in **Appendix A**, **Figure A-1**, The project area is located within the Southwestern Prairies Cotton and Forage Land Resource Region (LRR J) of the Great Plains and is more specifically located in MLRA 86A (Texas Blackland Prairie, Northern Part). This area is characterized by nearly level to gently sloping, dissected plain. Entrenched river and creek valleys contain dissected areas with steeper slopes. The average annual temperature in this MLRA ranges from 63 to 69 degrees Fahrenheit and the freeze-free period ranges from 250 to 310 days. This MLRA typically receives 30 to 46 inches in annual precipitation. Entisols, Mollisols, and Vertisols are the dominant soil orders in this area.

The Texas Blackland Prairie contains mixed tall and mid prairie grasses, with little false bluestem (*Schizachyrium scoparium*) being the dominant species. Other major herbaceous species include yellow Indian grass (*Sorghastrum nutans*), big bluestem (*Andropogon gerardii*), wand panic grass (*Panicum virgatum*), composite dropseed (*Sporobolus compositus*), silver bluestem (*Bothriochloa laguroides*), sideoats grama (*Bouteloua curtipendula*), eastern gramagrass (*Tripsacum dactyloides*), and vine mesquite (*Panicum obtusum*). Common forbs found in this area include prairie clover (*Dalea* sp.), perennial ragweed (*Ambrosia psilostachya*), Maximilian sunflower (*Helianthus maximiliani*), gayfeather (*Liatris* spp.), button eryngo (*Eryngium yuccifolium*), and groovestem Indian-plantain (*Arnoglossum plantagineum*). Savanna vegetation is common along the major rivers and streams. The canopy is generally dominated by oak (*Quercus* spp.), elm (*Ulmus* spp.), cottonwood (*Populus deltoides*), hackberry (*Celtis* spp.), and pecan (*Carya illinoinensis*) trees.

Currently, the project area consists of rolling plains with areas of native and non-native pastures, upland forests, and rural roadways and residential properties. Maintained herbaceous vegetation and agricultural cropland is present within the areas of existing ROW. The project area is currently used for agricultural crop production, livestock grazing, and hay production within the proposed and existing ROW.

3.1.2 Topographic Map Information

Halff assessed historical and recent USGS topographic quadrangle maps for “Taylor, Texas” and “Weir, Texas” prior to field reconnaissance to identify development, elevation contours, drainage patterns, and hydrography associated with project area and assist in determining the presence and characteristics of associated aquatic resources. See **Table 1** for a description of reviewed topographic maps (**Appendix A**, **Figures A-2** and **A-3**).

Table 1: Topographic Map Descriptions

Year	Figure	Map Description
1982	A-2	• Three intermittent streams (unnamed tributary to Pecan Branch, Pecan Branch, and Big House Branch) as indicated by dashed blue lines intersect the project area. • Two ponds are depicted within the project area. • The project area intersects three improved roadways and is bound by a roadway at the northern project limits. • Landcover within and adjacent to the project area is primarily comprised of undeveloped herbaceous land, with two small pockets of undeveloped wooded land dispersed within the project area. • The project area consists of rolling topography with elevations decreasing from 781 feet to 591 feet moving north to south.
2022	A-3	• Aquatic features within the project area appear to be mostly consistent with those depicted in the 1982 topographic map. • Aquatic features and landcover appear to be unchanged compared to the 1982 topographic map.

3.1.3 Aerial Imagery Information

Halff analyzed aerial images to assist in identifying habitat characteristics, signs of inundation and saturation, and color signatures indicative of saturated soils or changes in vegetative communities that may suggest an area supports and/or functions as wetland or stream systems. A description of each aerial imagery map (**Appendix A**, **Figures A-4** through **A-6**) is detailed in **Table 2**.

Table 2: Aerial Imagery Descriptions

Year	Figure	Map Description
1995	A-4	• The project area is depicted as undeveloped agricultural cropland, pastureland, and herbaceous landcover. • One stream is depicted bisecting the central portion of the project area and shows evidence of frequent inundation. • The project area is bound by a roadway to the north with three other rural roadways transecting the project area to the south. • Any development in the surrounding area appears to be primarily rural residential.
2008	A-5	• The project area and surrounding properties appear to be consistent with conditions observed in 1995 aerial imagery.
2024	A-6	• The project area and surrounding properties appear to be consistent with conditions observed in 2008 aerial imagery.

3.1.4 NWI and NHD Information

Features mapped on the USFWS' NWI were identified from stereoscopic analysis of historical aerial imagery and are infrequently updated. Furthermore, USFWS expressly states that there is no attempt to define the limits of jurisdiction of any Federal, State, or local government, or to establish the geographic scope of the regulatory programs of any government agency. However, the NWI can be useful as background information to identify potential wetland areas prior to conducting field investigations. The USGS' NHD represents the most up-to-date and comprehensive hydrography dataset of the U.S. water drainage network. The NWI and NHD databases were reviewed to identify potential wetland areas and other aquatic resources within the project area.

Two riverine/stream features and one emergent wetland feature are depicted within the project area in the NWI and NHD databases (**Appendix A, Figure A-7**).

3.1.5 Soil Survey Information

Halff obtained soil data for the project area from the USDA NRCS Web Soil Survey Geographic Database (SSURGO), which is derived from the USDA Soil Survey for Williamson County. Soil data provide insight on soil profiles, settings, properties, and hydric characteristics.

As detailed in **Table 4**, the project area is composed of 13 soil units, all with no known/mapped hydric components. The soil units derived from the USDA GIS data are shown atop recent aerial imagery in **Appendix A**, **Figure A-8**.

Table 3: Soil Map Unit Descriptions

Soil Unit Symbol	Map Unit Name	Drainage Class	Frequency of Ponding	Hydric Components (yes/no)	Acreage of Project area	Percent of Project area
AsB	Austin silty clay, 1 to 3 percent slopes	Well drained	None	No	65.1	26.4%
AwD3	Austin-Whitewright complex, 2 to 6 percent slopes, eroded	Well drained	None	No	14.1	5.7%
BrA	Branyon clay, 0 to 1 percent slopes	Moderately well drained	None	No	23.6	9.6%
BrkB	Branyon-Krum complex, 1 to 3 percent slopes	Moderately well drained	None	No	9.4	3.8%
CaB	Castephen silty clay, 1 to 3 percent slopes	Well drained	None	No	31.2	12.7%
CaC	Castephen silty clay, 3 to 5 percent slopes	Well drained	None	No	3.5	1.4%
EyB	Eddy very gravelly clay loam, 0 to 3 percent slopes	Well drained	None	No	3.3	1.4%
EyD	Eddy very gravelly clay loam, 3 to 8 percent slopes	Well drained	None	No	5.9	2.4
HoB	Houston Black clay, 1 to 3 percent slopes	Moderately well drained	None	No	71.5	29.0%
HoC2	Houston Black clay, 3 to 5 percent slopes, moderately eroded	Moderately well drained	None	No	7.5	3.0%
KrA	Krum silty clay, 0 to 1 percent slopes	Well drained	None	No	1.8	0.7%
QuF	Queeny-Sunev complex, 5 to 15 percent slopes	Well drained	None	No	0.4	0.1%
WhC	Whitewright silty clay loam, 1 to 5 percent slopes	Well drained	None	No	9.1	3.7%

3.1.6 Floodplain Information

According to the FEMA NFHL dataset, the majority of the project area is located within the area of minimal flood hazard while small areas associated with Pecan Branch and a tributary to Pecan Branch in the central portion of the project area are located in the 1.0% percent annual chance flood hazard (100-year floodplain). The National Flood Hazard Map (**Appendix A**, **Figure A-9**) depicts the floodplain limits within and around the project area.

3.1.7 LiDAR Information

The digital elevation model (**Appendix A**, **Figure A-10**) from the Texas Natural Resources Information System (TNRIS) 2024 5-foot LiDAR depicts the project area located at an elevation between 591 to 781 feet. Discernable depressional areas noted in the project area include Pecan Branch and Big House Branch. Analysis of LiDAR elevation data was consistent with observations made on topographic maps, aerial imagery, NWI, and NHD maps.

3.1.8 Wetland Hydrologic Index

Determining the jurisdictional status of certain waterbodies is informed by an understanding of the hydrologic flows and surface water connections that occur under normal climatic conditions (i.e., precipitation and climatic variables within the normal periodic range of an area based on a rolling 30-year period). The USACE Antecedent Precipitation Tool (APT) is utilized to compare antecedent or recent rainfall conditions for a location to the range of normal rainfall conditions that occurred during the preceding 30 years. Utilization of the APT assists in completing wetland delineations by streamlining the evaluation of precipitation normalcy and other climatic variables and assisting with determining whether observations are representative of normal climatic conditions when evaluating the jurisdictional status of aquatic resources. Furthermore, the APT can be utilized to assess presence of drought conditions, as well as the approximate dates of the wet and dry season for a given location.

According to the APT, the project area was experiencing drier than normal hydrologic conditions during the field investigation. **Table 5** summarizes the APT data derived from the date of the field investigation. The APT model, representative of conditions during the field investigation and for the rolling 30-year period, is included in **Appendix B**.

Table 4: APT Data from Field Investigations

Date	Latitude	Longitude	PDSI[1] Value	PDSI Class	Season	ARC Score[2]	Antecedent Precipitation Condition
10/15/2024	30.643145	-97.522220	-1.61	Mild Drought	Wet Season	7	Drier than Normal
10/18/2024	30.643145	-97.522220	-1.51	Mild Drought	Wet Season	6	Drier than Normal

Notes:
1. Palmer Drought Severity Index – attempts to measure duration and intensity of long-term drought-inducing circulation patterns. Intensity of drought during the current month is dependent on current weather conditions plus the cumulative patterns of previous months.
2. The final precipitation normalcy index score is the summed weighted condition value across the three 30-day periods.

3.2 Field Conditions

3.2.1 Description of Aquatic Features

W-1 (Big House Branch)

Big House Branch (W-1A, W-1B, and W-1C) is an ephemeral stream that intersects the southern portion of the project area in three locations. This feature was dry at the time of the field investigation and only flows in direct response to rain events for conveyance of agricultural runoff and roadside drainage from CR 127. It is depicted as an intermittent stream on topographic maps dating back to 1893, and as a palustrine emergent wetland (PEM1C) on NWI maps. The portions of W-1 within the project area total approximately 1,276 feet in length (0.18 acre) with an average OHWM of approximately 7 feet in width. The reach of W-1 observed during the field investigation has a narrow and shallow channel with a discontinuous OHWM that transitions to portions of stream without discernable bed and bank material, resembling a wash in select locations. Sediments are poorly sorted in general within the channel and substrate material consists of silty clay, gravel, and cobble. Downstream segments of the W-1 stream channel were observed to be dry at the time of the field investigation and appears to have been modified in the past to convey stormwater between agricultural fields toward the San Gabriel River. W-1 flows to its confluence with the San Gabriel River approximately 1.6 miles to the south of the project area, which leads to the Little River and ultimately to the Brazos River. Soils underlying the channel are mapped as Houston Black clay, 1 to 3 percent slopes, which is not listed as a hydric soil in Williamson County. See **Appendix A**, **Figures 3-2 and 3-3** and **Appendix D**, **Photographs 3**-**7** and **9**-**10**.

W-2 (Open Water Pond)

W-2 is an open water pond (0.45 acre) located in the central portion of the project area on the south side of Pecan Branch (W-3). The pond is visible on topographic maps dating back to 1982 and is not depicted on current NWI maps. W-2 is not located within the 100-year or 500-year floodplain of Pecan Branch (W-3). Underlying soils are mapped as Houston Black clay, 1 to 3 percent slopes, which is not listed as a hydric soil in Williamson County. The pond is unvegetated and the surrounding plant community is dominated by bermudagrass (**Appendix A**, **Figure 3-4** and **Appendix D**, **Photograph 11**).

W-3 (Pecan Branch)

Pecan Branch (W-3) is an intermittent stream that intersects the central portion of the project area. It is depicted as an intermittent stream on topographic maps dating back to 1893 and a riverine intermittent streambed (R4SBC) on current NWI maps. The portion of W-3 within the project area is approximately 428 feet in length (0.07 acre) with an average OHWM of approximately 8 feet in width. During the site investigation, approximately 3 feet of standing water was observed at multiple locations of W-3 within the project area. W-3 flows to its confluence with the San Gabriel River approximately 6.5 miles to the southeast of the project area, which leads to the Little River and ultimately to the Brazos River. Soils underlying the channel are mapped as Branyon clay, 1 to 3 percent slopes and Houston Black clay, 1 to 3 percent slopes which are not listed as hydric soils in Williamson County. The stream channel is unvegetated and the surrounding plant community is dominated by bermudagrass, yellow bluestem, cottonwood, and sugarberry (**Appendix A**, **Figure 3-4** and **Appendix D**, **Photograph 12**).

W-4 (Unnamed Tributary to Pecan Branch)

Due to a lack of right-of-entry at the time of the field investigation, W-4 was delineated via desktop methods only. Based on observations made from public right-of-way and aerial imagery, this feature was observed to be a vegetated swale that flows in direct response to rain events. W-4 is approximately 635 feet in length (0.18 acre) that intersects the central-northern portion of the project area and receives drainage from adjacent agricultural fields and CR 124. A discontinuous OHWM was observed on aerial imagery within the assessment stream reach. Approximately one-half of the vegetated swale is within the 100-year floodplain.

The other approximate half of the vegetated swale is within the area of minimal chance flood hazard zone. It is depicted as an intermittent stream on topographic maps dating back to 1982 and as a seasonally flooded intermittent riverine streambed (R4SBC) on NWI maps. Soils underlying this feature are mapped as Houston Black clay, 1 to 3 percent slopes, which is not listed as a hydric soil in Williamson County. Field observations were made from CR 124 located approximately 525 feet to the northeast of the project area and the swale was observed to be entirely vegetated with a species of cordgrass which is generally not considered to be hydrophytic. The surrounding plant community is dominated by bermudagrass and yellow bluestem. See **Appendix A**, **Figure 3-5** and **Appendix D**, **Photograph 13** taken from public right-of-way.

W-5 (Open Water Pond)

Due to a lack of right-of-entry at the time of the field investigation, W-5 was delineated via desktop methods only. Based on observations made from aerial imagery, this feature measures approximately 0.08 acre and appears to be a dry stock pond with no direct downstream surface connection to waterbodies or wetlands in the vicinity of the project area. The pond is visible on topographic maps dating back to 1982 and is not depicted on current NWI maps. Underlying soils are mapped as Austin silty clay, 1 to 3 percent slopes and Castephen silty clay, 1 to 3 percent slopes which are not listed as hydric soils in Williamson County. The pond is unvegetated and the surrounding plant community is dominated by bermudagrass (**Appendix A**, **Figure 3-4** and **Appendix D**, **Photograph 11**).

3.2.2 Vegetation

During the field investigation, Halff collected a total of eight wetland data points to characterize the land cover and identify aquatic features within the project area. Three dominant vegetation communities were observed within the project area: upland scrub-shrub, upland woodland, and upland herbaceous. No wetland features were observed within the project area during the investigation. Data point locations and aquatic features located within the project area can be seen overlaid on recent aerial imagery in **Appendix A**, **Figures 3-1** through **3-8**. Refer to **Appendix C - Wetland Data Forms** for the completed wetland determination data forms for the project. Refer to **Appendix D – Representative Photographs** for photographs of vegetation communities and aquatic features observed within the project area.

Table 5: Wetland Determination Data Form Summary

Vegetation Community	Data Points	Dominant Vegetation[1]	Hydric Soil Indicators	Wetland Hydrology Indicators
Upland Scrub-Shrub	DP01, DP02,	*Arundo donax* (FAC) *Celtis laevigata* (FAC) *Ambrosia trifida* (FAC) *Toxicodendron radicans* (FACU) *Vitis mustangensis* (UPL)		
Upland Woodland	DP04,	*Celtis laevigata* (FAC) *Sorghum halepense* (FAC) *Ambrosia trifida* (FAC) *Baccharis halimifolia (FAC)* *Rubus trivialis (FACU)*		
Upland Herbaceous	DP03, DP05, DP06, DP07, DP08	*Sorghum halepense* (FAC) *Ambrosia trifida* (FAC) *Zea mays* (UPL) *Celtis laevigata* (FAC) *Cynodon dactylon* (FACU) *Xanthium orientale* (UPL) *Arundo donax* (FAC) *Bothriochloa ischaemum* (UPL)		Surface Soil Cracks (B6), Drainage Patterns (B10), Geomorphic Position (D2)

Note:
1. FAC: Facultative Plant; FACU: Facultative Upland Plant; OBL: Obligate Wetland Plant; UPL: Upland Plant

3.2.4 Summary of Aquatic Features

A summary of the mapped aquatic features within the project area can be found in **Table 7**.

Table 6: Summary of Aquatic Features

Name	Type	Data Point	Latitude, Longitude	Area within Project Area (acres)	Length (linear feet)	Average OHWM Width (feet)	Jurisdictional WOTUS (yes/no)
W-1A	Ephemeral Stream	N/A	30.650657, -97.527088	0.05	504	5	No
W-1B	Ephemeral Stream	N/A	30.651703, -97.526655	0.04	172	10	No
W-1C	Ephemeral Stream	N/A	30.660485, -97.531469	0.09	600	7	No
W-2	Open Water Pond	N/A	30.669898, -97.535858	0.45	N/A	N/A	No
W-3	Intermittent Stream	N/A	30.670377, -97.535735	0.07	428	8	Yes
W-4	Vegetated Swale	N/A	30.676071, -97.536569	0.18	635	14	No
W-5	Open Water Pond	N/A	30.691967, -97.538575	0.08	N/A	N/A	No

4.0 CONCLUSION

Federal regulations (33 Code of Federal Regulations Section 328.3(a)) note that WOTUS may include intrastate rivers and streams, including impoundments and other waters. In response to a Supreme Court decision (*Rapanos v. U.S.*, 547 S. Ct. 715 [2006]) addressing the limits of federal jurisdiction, the USACE and EPA have issued further guidance and require additional documentation to support jurisdiction. Per joint USACE/EPA guidance documents issued after the *Rapanos* decision, the regulatory agencies continue to assert jurisdiction over the following waters:

- TNWs
- Wetlands adjacent to TNWs
- Non-navigable tributaries of traditionally navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months)
- Wetlands that directly abut such tributaries

Halff conducted the delineation of aquatic features on October 15 and 18, 2024 and identified a total of five aquatic features within the project area: one ephemeral stream (W-1), one intermittent stream (W-3), two open water ponds (W-2 and W-5), and one vegetated swale (W-4).

Review of aerial imagery, topographic maps, NWI/NHD data, and conditions observed within the project area during the field investigation suggest that W-3 flows intermittently within the project area and at the stream reach scale. This feature exhibits a direct surface water connection to the San Gabriel River and ultimately to the Gulf of Mexico, a TNW according to the USACE.

On August 29, 2023, the EPA, and Department of the Army (the agencies) issued a final rule amending the 2023 definition of "waters of the U.S." to conform with the recent Supreme Court decision in *Sackett v. EPA*. As of this report, the agencies are interpreting WOTUS consistently with *Rapanos v. United States* and *Carabell v. United States* (EPA 2008) (i.e., pre-2015 regulatory regime), in addition to key revisions to the definition of WOTUS under the *Sackett* ruling.

W-1 is an ephemeral stream that was observed to be dry at the time of the field investigation and to only flow in direct response to rain events for conveyance of agricultural runoff and roadside drainage from CR 127. In addition, a desktop streamflow duration assessment was performed at the reach scale to establish ephemeral flow regimes to the extent possible using available desktop tools and online resources. Based on the results of the streamflow duration assessment, it is Halff's professional opinion that ephemeral flow is present within this feature greater than 50% of the assessment reach. Under current USACE guidance and Section 404 regulation, this feature would not likely be considered to be an RPW or jurisdictional WOTUS.

W-2 and W-5 are open water ponds located near the center of the project area on the south side of W-3 and approximately 0.26-mile north of Farm-to-Market 971, respectively. These features are considered to be artificial ponds constructed in upland pasture for agricultural use. The ponds are not within 100-year floodplains and have no observable direct downgradient surface water connections to a WOTUS. Therefore, W-2 and W-5 would not likely be subject to regulation under Section 404.

Due to a lack of right-of-entry at the time of the field investigation, W-4 was delineated via desktop methods only. Based on observations made from public right-of-way and aerial imagery, this feature was observed to be a vegetated swale with only small segments that exhibit a discernable OHWM and appeared to flow in direct response to rain events. At the reach scale, the majority (>50%) of the stream reach of this feature appears to be completely vegetated without defined bed and bank material and appears to lack a continuous OHWM. Under general circumstances, this feature would not meet the definition of stream that carries relatively permanent flow and the USACE would not likely assert jurisdiction under Section 404; however, further investigation may be warranted for any proposed impacts to W-4 in the future to evaluate whether wetland (hydrophytic) vegetation or hydric soils are present within the vegetated swale. If hydrophytic vegetation or hydric soils are identified within this feature, USACE may consider it to be a regulated wetland swale.

Under a review of jurisdiction based on the pre-2015 regulatory regime and the *Sackett* decision, it is Halff's professional opinion that only W-3 would meet the regulatory definition of a RPW to a TNW; therefore, this feature would likely be regulated under Section 404 by USACE.

Demonstrations of jurisdiction herein are based on a preliminary jurisdictional assessment conducted by Halff for consideration by the USACE and are provided as an information tool for the permittee. Changes to current effective rules and/or regulatory practices may result in changes to Halff's jurisdictional opinion. The actual designation will rest with the USACE Fort Worth District and the EPA, the agencies with regulatory authority for jurisdictional determinations of aquatic features within the project area.

5.0 REFERENCES

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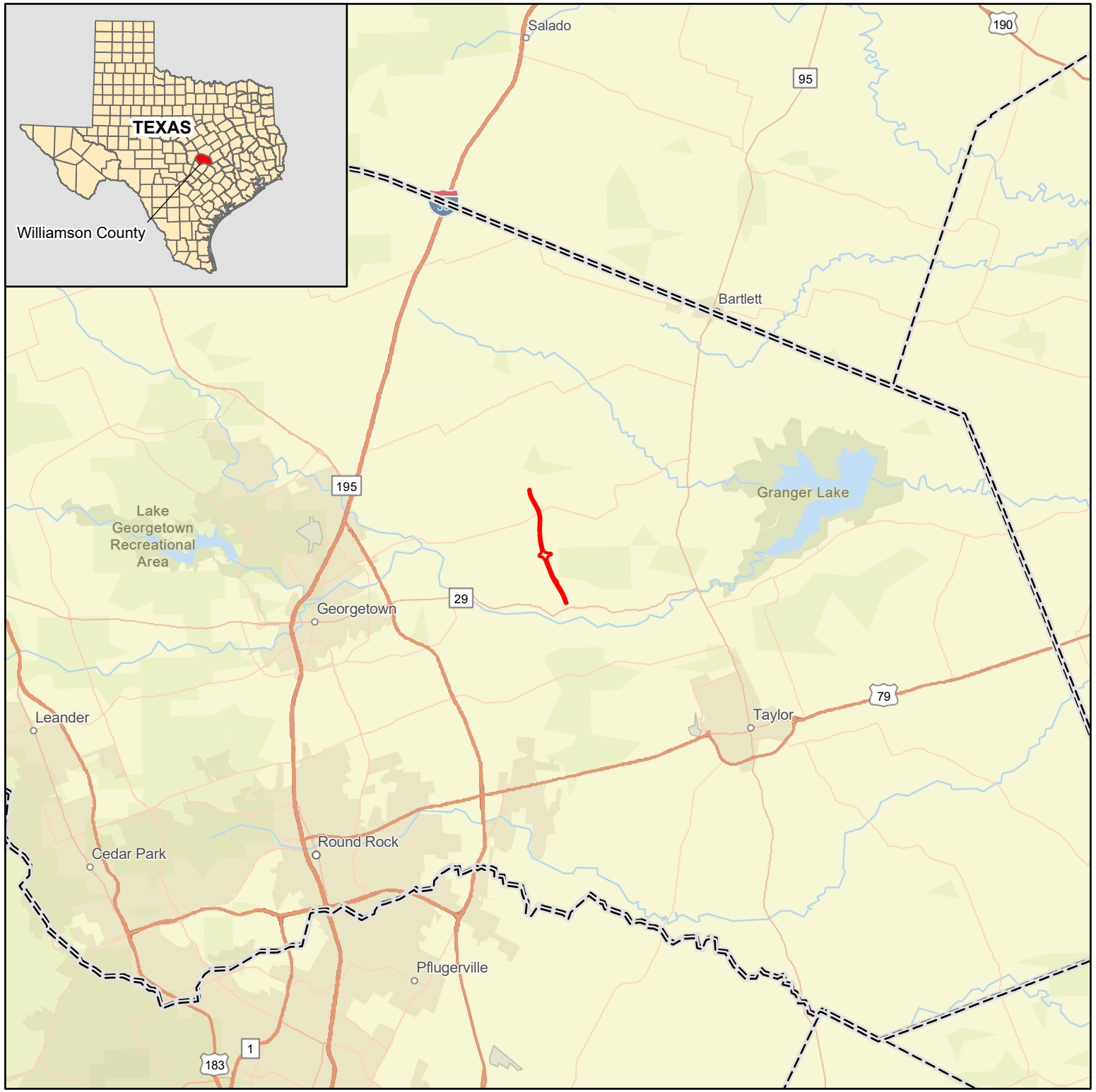
_____. 1987. Corps of Engineers Wetland Delineation Manual. Technical Report Y-87-1, U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS.

_____. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0), ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-10-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

_____. 2022. National Wetland Plant List, version 3.6. U.S. Army Engineer Research and Development Center, Vicksburg, MS. http://wetland-plants.usace.army.mil/

Figures



N

0 2.5 5 10

Miles

Legend

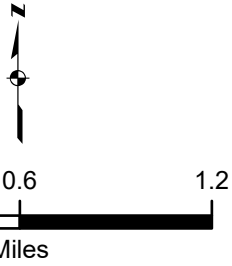
Project Area

Notes:
1. Map Center: 97.53185°W 30.6707°N
2. World Street Map: County of Williamson, Texas Parks & Wildlife, CONANP, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, USFWS

East WilCo Highway Segment 6
Williamson County, Texas
Date: 3/7/2025

Figure 1
Location Map

halff



Legend

Project Area

Notes:
1. Map Center: 97.53185°W 30.6707°N
2. World Topographic Map: Baylor University, County of Williamson, Texas Parks & Wildlife, CONANP, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, USFWS
World Hillshade: Esri, NASA, NGA, USGS

East WilCo Highway Segment 6
Williamson County, Texas
Date: 3/7/2025

Figure 2
Vicinity Map

halff

N

0 200 400 800

Feet

Legend

- Project Area
- Reference Photo Point
- Data Point

Notes:
1. Map Center: 97.52224°W 30.64003°N
2. Nearmap WMS Server: 2024

East WilCo Highway Segment 6
Williamson County, Texas
Date: 6/27/2025

Figure 3-1
Aquatic Features Map

halff

N

0 200 400 800

Feet

Legend

- Project Area
- Reference Photo Point
- Data Point

Aquatic Features

- Ephemeral Stream

Notes:
1. Map Center: 97.5258°W 30.64891°N
2. Nearmap WMS Server: 2024

East WilCo Highway Segment 6
Williamson County, Texas
Date: 6/27/2025

Figure 3-2
Aquatic Features Map

halff

N

0 200 400 800

Feet

Legend

- Project Area
- Reference Photo Point
- Data Point

Aquatic Features

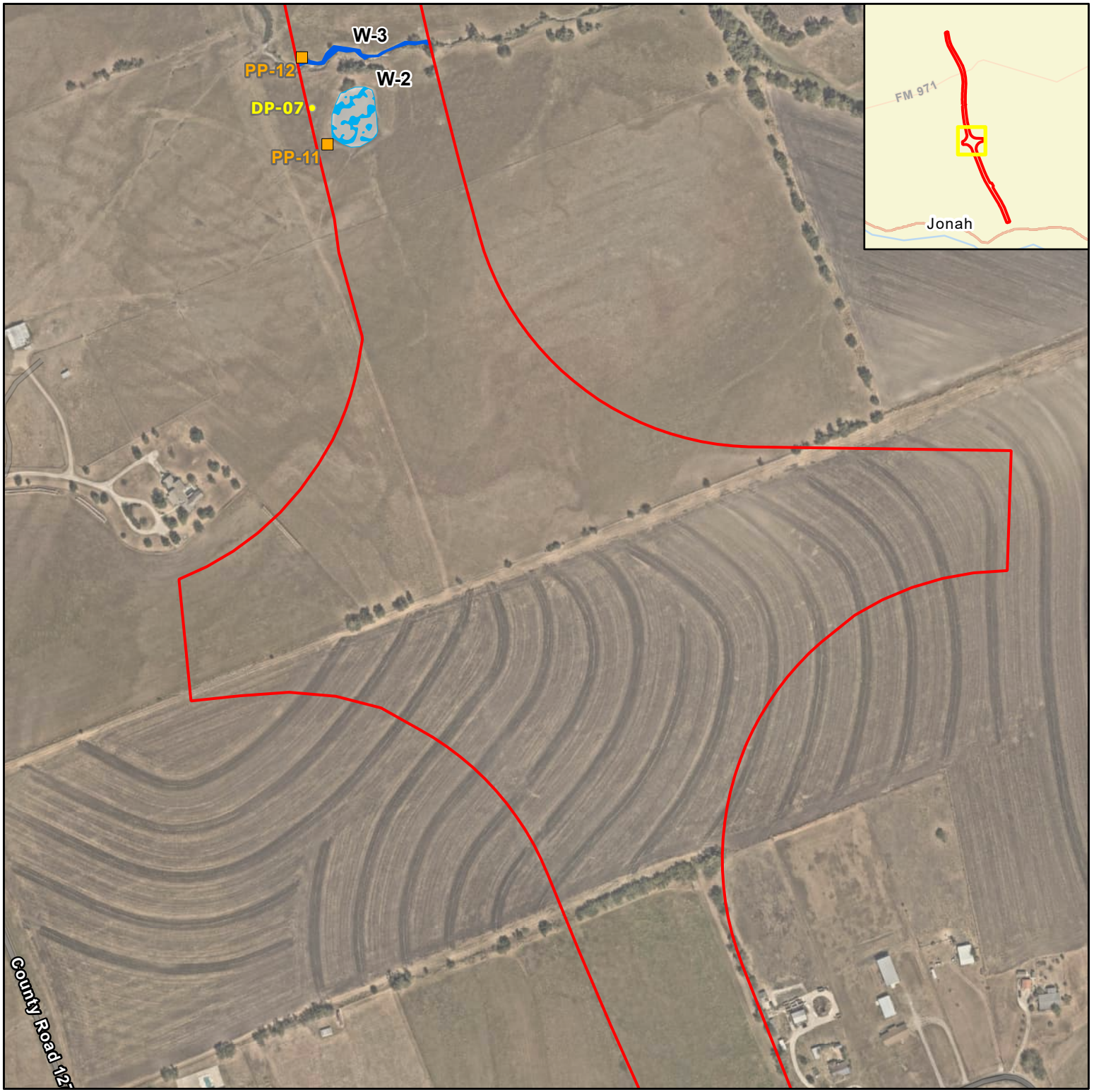
- Ephemeral Stream

Notes:
1. Map Center: 97.53032°W 30.65751°N
2. Nearmap WMS Server: 2024

East WilCo Highway Segment 6
Williamson County, Texas
Date: 6/27/2025

Figure 3-3
Aquatic Features Map

halff



N

0 200 400 800

Feet

Legend

- Project Area
- Reference Photo Point
- Data Point

Aquatic Features

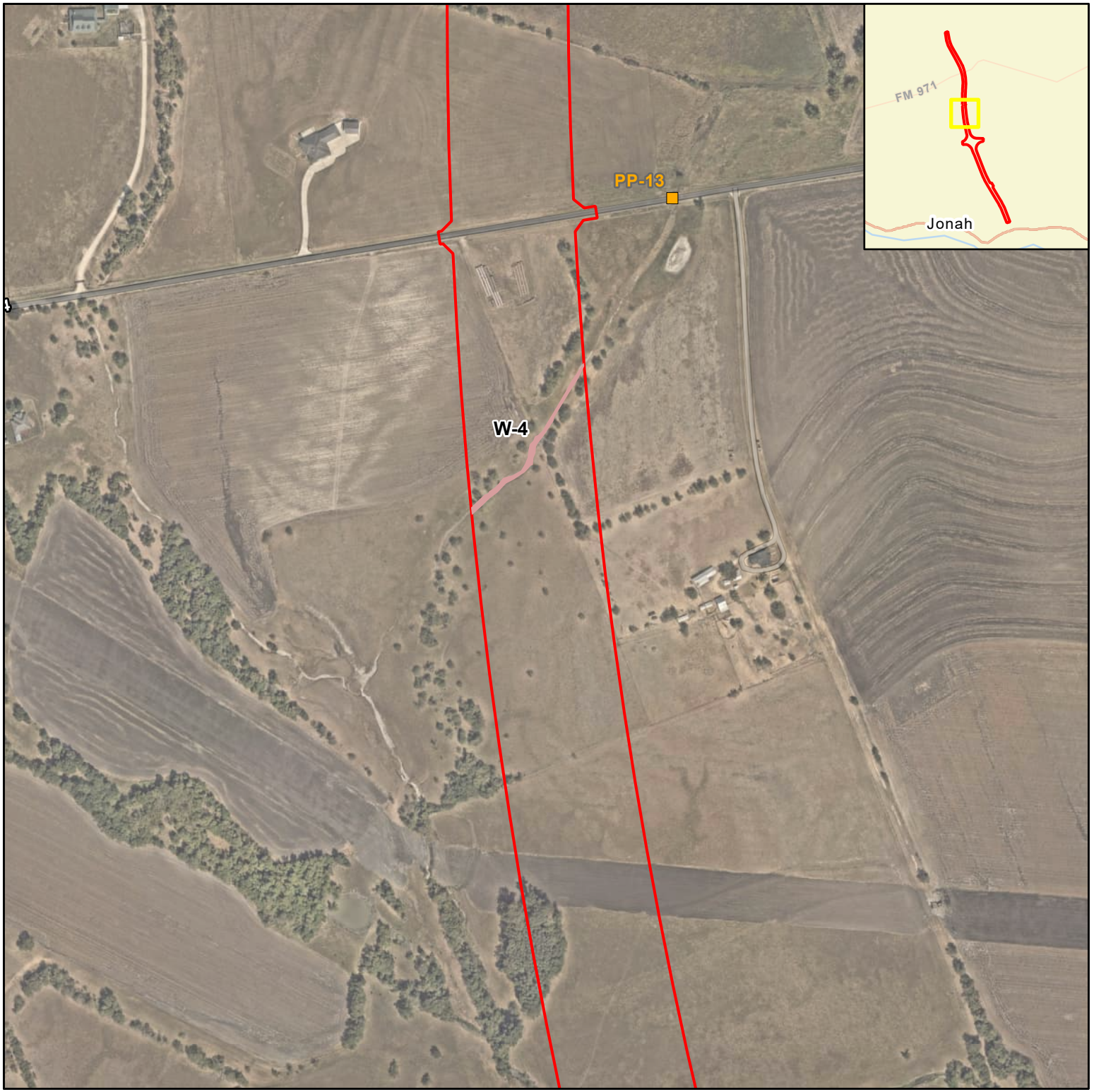
- Intermittent Stream
- Open Water Pond

Notes:
1. Map Center: 97.53416°W 30.66637°N
2. Nearmap WMS Server: 2024

East WilCo Highway Segment 6
Williamson County, Texas
Date: 6/27/2025

Figure 3-4
Aquatic Features Map

halff



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Feet

Legend

- Project Area
- Reference Photo Point
- Data Point

Aquatic Features

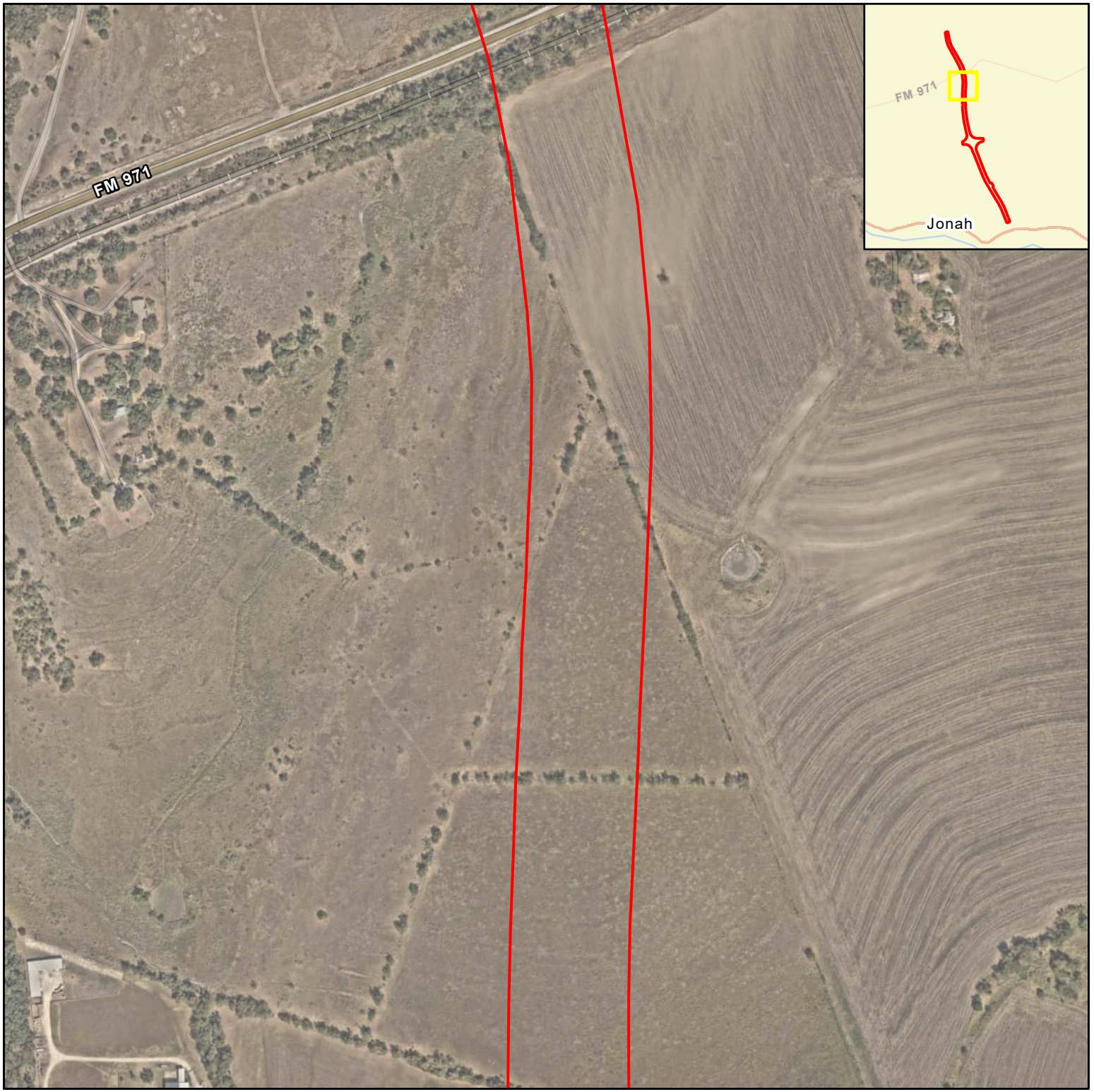
- Vegetated Swale

Notes:
1. Map Center: 97.53648°W 30.67522°N
2. Nearmap WMS Server: 2024
3. W-4 delineated via desktop methods only due to lack of authorized access at the time of the field investigation.

East WilCo Highway Segment 6
Williamson County, Texas
Date: 6/27/2025

Figure 3-5
Aquatic Features Map

halff



N

0 200 400 800

Feet

Legend

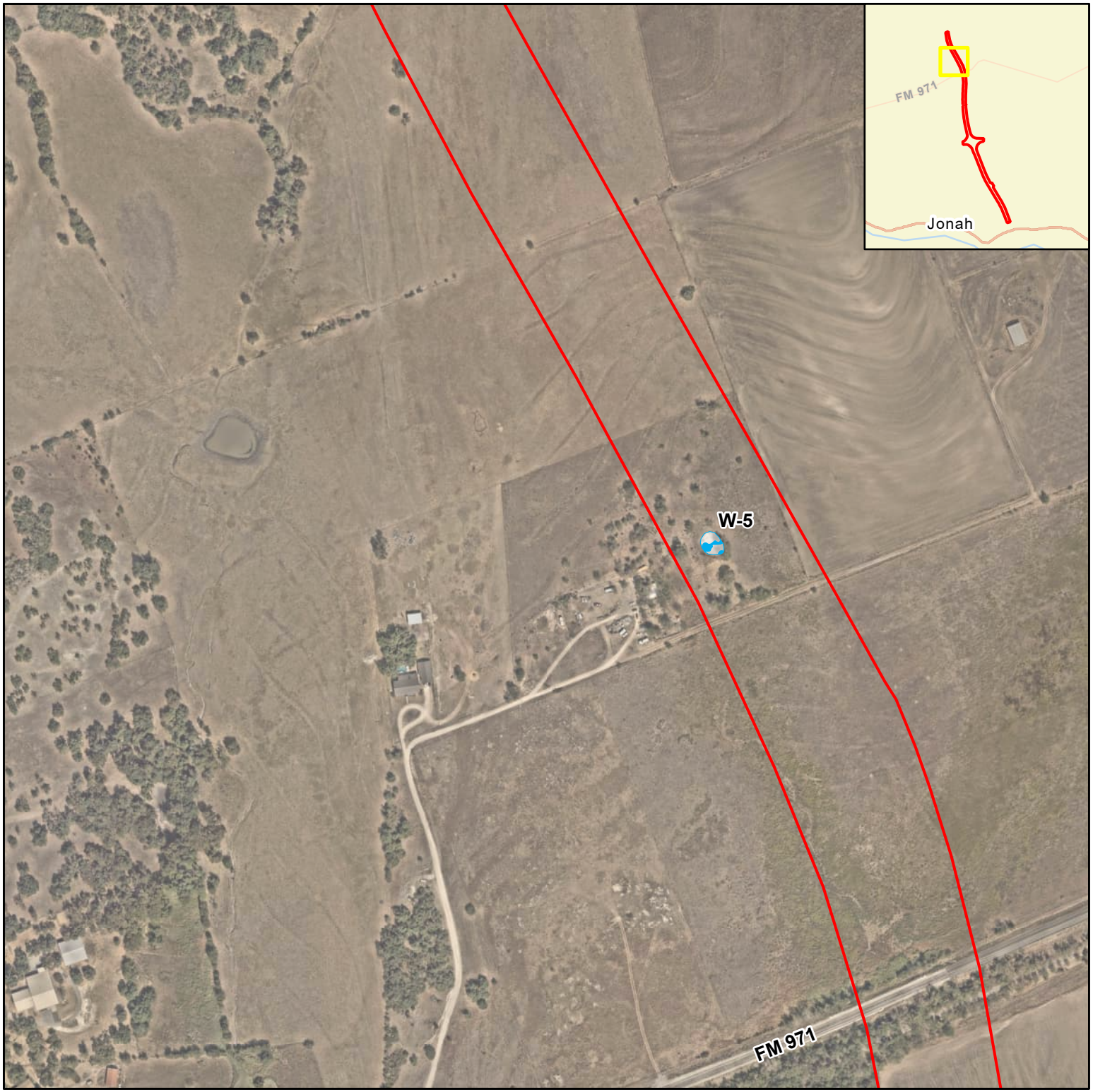
Project Area

Notes:
1. Map Center: 97.5368°W 30.68403°N
2. Nearmap WMS Server: 2024

East WilCo Highway Segment 6
Williamson County, Texas
Date: 6/27/2025

Figure 3-6
Aquatic Features Map

halff



N

0 200 400 800

Feet

Legend

Project Area

Aquatic Features

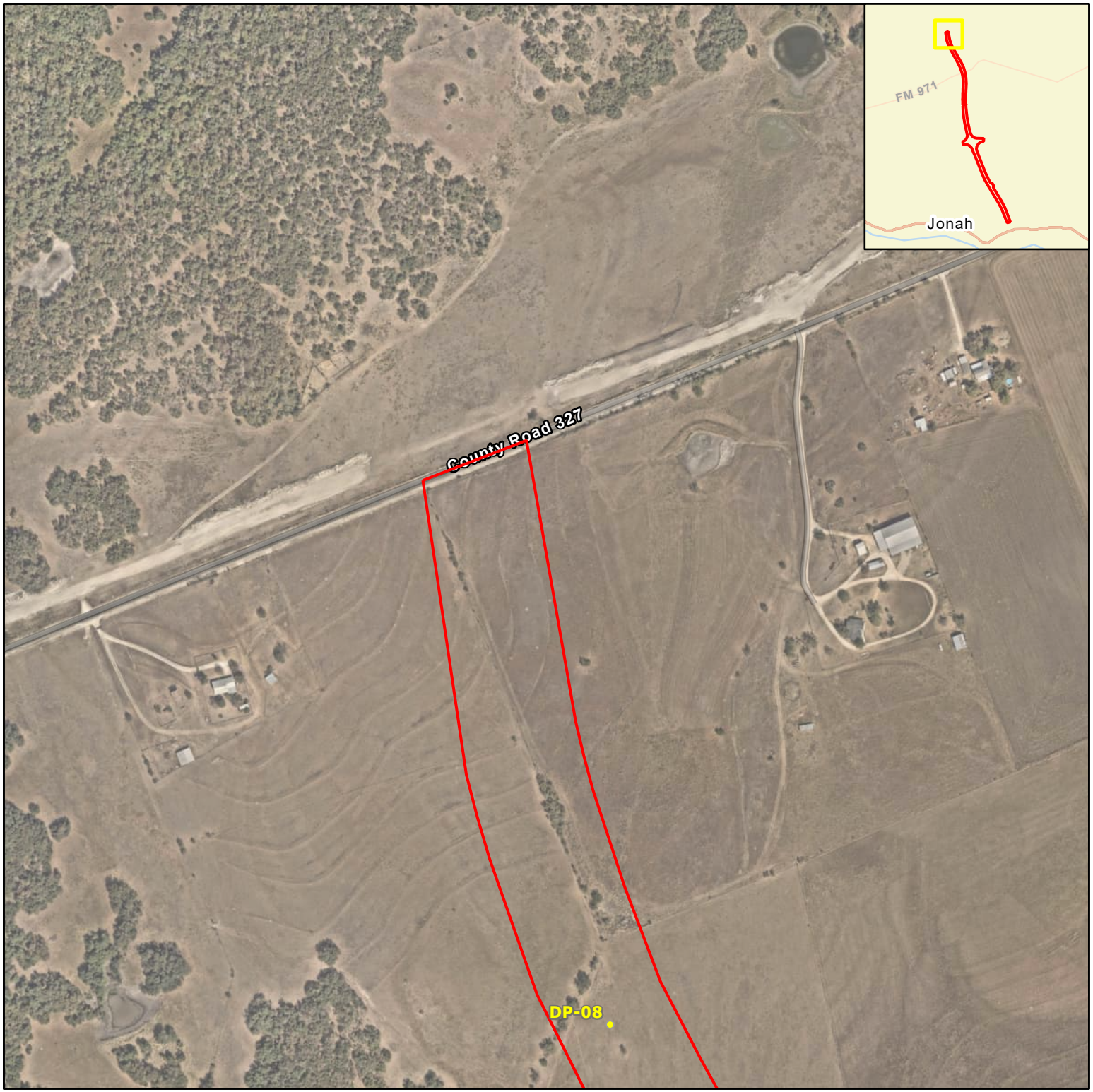
Open Water Pond

Notes:
1. Map Center: 97.54011°W 30.69196°N
2. Nearmap WMS Server: 2024
3. W-5 delineated via desktop methods only due to lack of authorized access at the time of the field investigation.

East WilCo Highway Segment 6
Williamson County, Texas
Date: 7/6/2025

Figure 3-7
Aquatic Features Map

halff



N

0 200 400 800

Feet

Legend

- Project Area
- Data Point

Notes:
1. Map Center: 97.54184°W 30.70078°N
2. Nearmap WMS Server: 2024

East WilCo Highway Segment 6
Williamson County, Texas
Date: 6/27/2025

Figure 3-8
Aquatic Features Map

halff

Appendix A: Supporting Documentation

N

0 1.5 3 6

Miles

Legend

Project Area

MLRA Unit

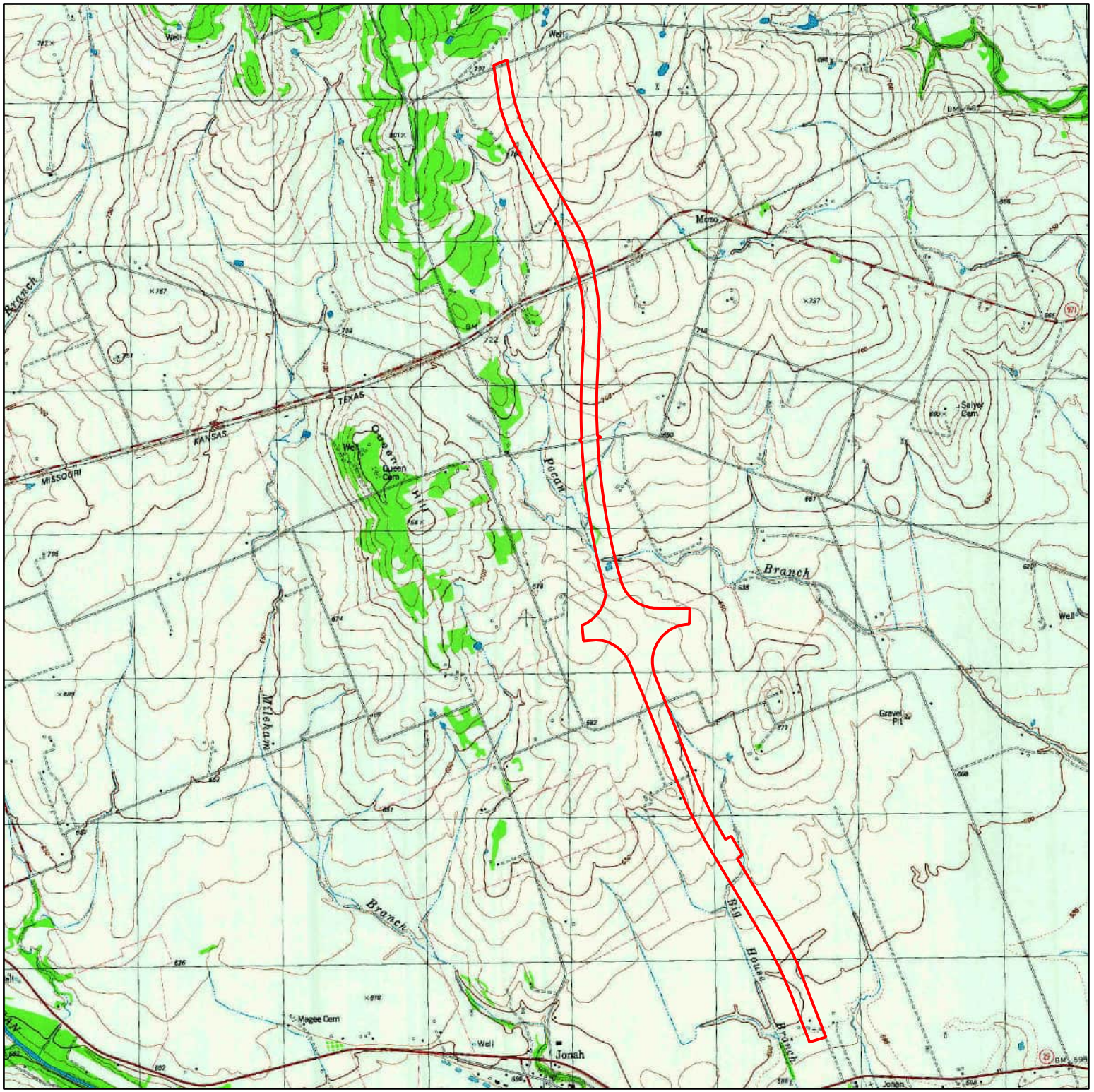
Texas Blackland Prairie, Northern Part (86A)

Notes:
1. Map Center: 97.52954°W 30.67124°N
2. World Imagery: Earthstar Geographics 2024
3. USDA Land Resource Regions and Major Land Resource Areas Geographic Database

East Wilco Highway Segment 6
Williamson County, Texas
Date: 6/30/2025

Figure A-1
MLRA and LRR Map

halff



N

0 0.3 0.6 1.2

Miles

Legend

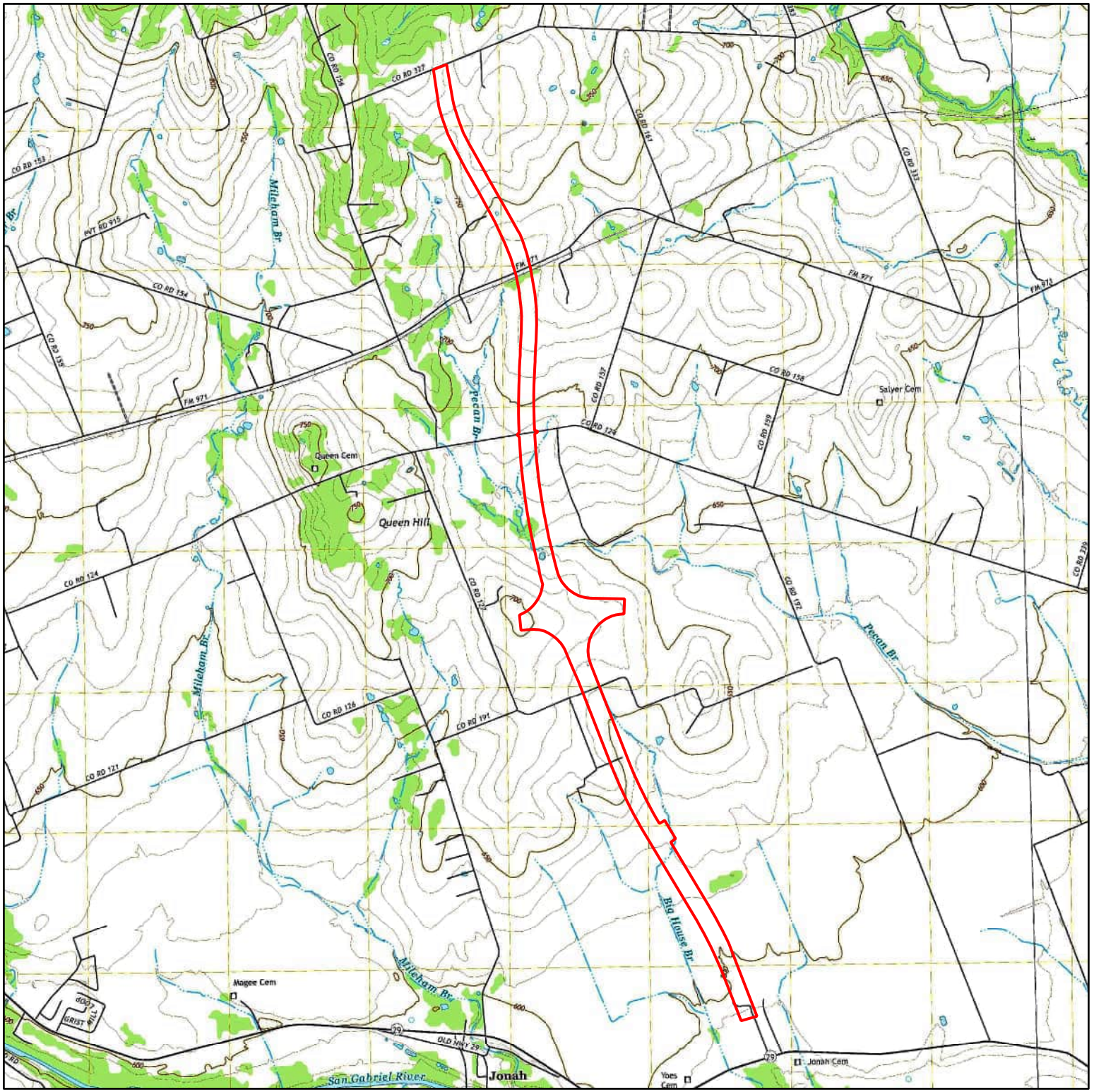
Project Area

Notes:
1. Map Center: 97.54005°W 30.67117°N
2. USGS topoView: "Taylor, Texas" 7.5 minute quadrangle, 1982, "Weir, Texas" 7.5 minute quadrangle, 1982

East WilCo Highway Segment 6
Williamson County, Texas
Date: 11/1/2024

Figure A-2
1982 USGS Topographic Map

halff



Legend

Project Area

Notes:
1. Map Center: 97.53549°W 30.67055°N
2. USGS topoView: "Taylor, Texas" 7.5 minute quadrangle, 2022, "Weir, Texas" 7.5 minute quadrangle. 2022

East WilCo Highway Segment 6
Williamson County, Texas
Date: 3/10/2025

Figure A-3
2022 USGS Topographic Map

halff

N

0 0.3 0.6 1.2

Miles

Legend

Project Area

Notes:
1. Map Center: 97.53359°W 30.67098°N
2. Strategic Mapping Program - Texas Orthoimagery Program Imagery: TNRIS

East WilCo Highway Segment 6
Williamson County, Texas
Date: 11/1/2024

Figure A-4
1995 Aerial Imagery Map

halff

N

Legend

Project Area

Notes:
1. Map Center: 105.97958°W 3.43989°N
, Google Earth Imagery: 2008

East WilCo Highway Segment 6
Williamson County, Texas
Date: 11/1/2024

Figure A-5
2008 Aerial Imagery Map

halff

N

0 0.3 0.6 1.2

Miles

Legend

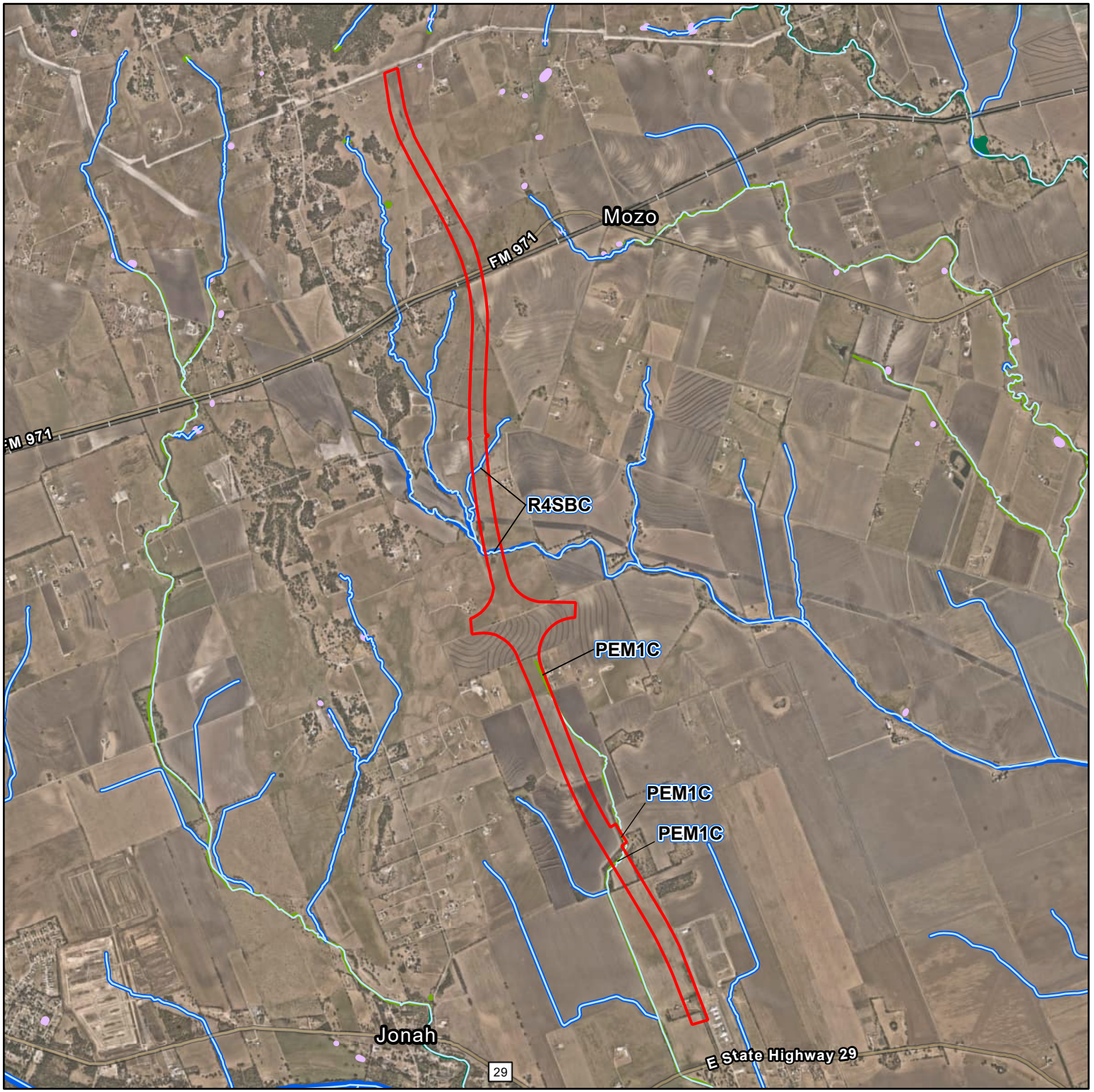
Project Area

Notes:
1. Map Center: 97.53185°W 30.6707°N
Hybrid Reference Layer: Baylor University, County of Williamson, Texas Parks & Wildlife, CONANP, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, USFWS
Nearmap WMS Server: 2024

East WilCo Highway Segment 6
Williamson County, Texas
Date: 11/1/2024

Figure A-6
2024 Aerial Imagery Map

halff



N

0 0.3 0.6 1.2

Miles

Legend

- Project Area
- Stream/River

NWI Feature Type

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

Notes:
1. Map Center: 97.53185°W 30.6707°NBaylor University, County of Williamson, Texas Parks & Wildlife, CONANP, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, USFWS, Nearmap WMS Server: 2024
2. USFWS National Wetlands Inventory
3. USGS National Hydrography Dataset

East WilCo Highway Segment 6
Williamson County, Texas
Date: 6/30/2025

Figure A-7
NWI and NHD Map

halff

N

0 0.3 0.6 1.2

Miles

Legend

Project Area

SSURGO Soil Units

- AwD3 - Austin-Whitewright complex, 2 to 6 percent slopes, eroded
- AsB - Austin silty clay, 1 to 3 percent slopes
- BrA - Branyon clay, 0 to 1 percent slopes
- BrkB - Branyon-Krum complex, 1 to 3 percent slopes
- CaB - Castephen silty clay, 3 to 5 percent slopes
- CaC - astephen silty clay, 3 to 5 percent slopes
- EyB - Eddy very gravelly clay loam, 0 to 3 percent slopes
- EyD - Eddy very gravelly clay loam, 3 to 8 percent slopes
- HoB - Houston Black clay, 1 to 3 percent slopes
- HoC2 - Houston Black clay, 3 to 5 percent slopes, moderately eroded
- KrA - Krum silty clay, 0 to 1 percent slopes
- QuF - Queeny-Sunev complex, 5 to 15 percent slopes
- WhC - Whitewright silty clay loam, 1 to 5 percent slopes

Notes:
1. Map Center: 97.53185°W 30.6707°N
Baylor University, County of Williamson, Texas Parks & Wildlife, CONANP, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, USFWS, Nearmap WMS Server: 2024
2. USDA NRCS Web Soil Survey

East WilCo Highway Segment 6
Williamson County, Texas
Date: 3/21/2025

Figure 8
Soil Map

halff

N

0 0.3 0.6 1.2

Miles

Legend

Project Area

Flood Zone Type

Area of Minimal Chance Flood Hazard

500-Year Floodplain

100-Year Floodplain

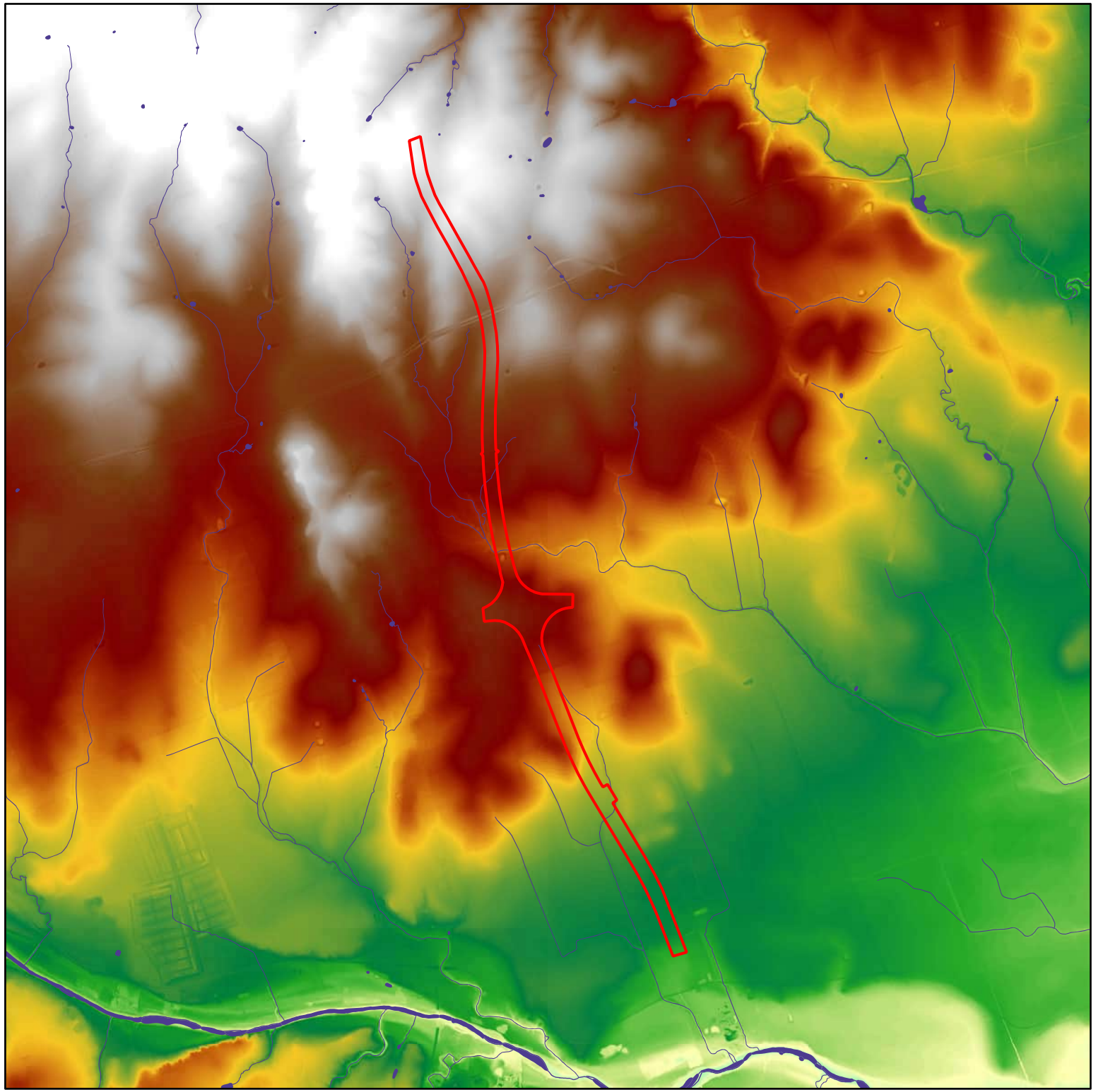
Floodway

Notes:
1. Map Center: 97.53185°W 30.6707°N
Baylor University, County of Williamson, Texas Parks & Wildlife, CONANP, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, USFWS, Nearmap WMS Server: 2024
2. FEMA National Flood Hazard Layer

East WilCo Highway Segment 6
Williamson County, Texas
Date: 3/9/2025

Figure A-9
FEMA Floodplain Map

halff



N

0 0.35 0.7 1.4

Miles

Legend

Project Area

LiDAR Value (feet)

868.64

523.09

Notes:
1. Map Center: 97.53185°W 30.6707°N
2. TNRIS, 2024, (Weir SW, Weir SE, Weir NE, Weir NW, Granger NW, Granger SW)

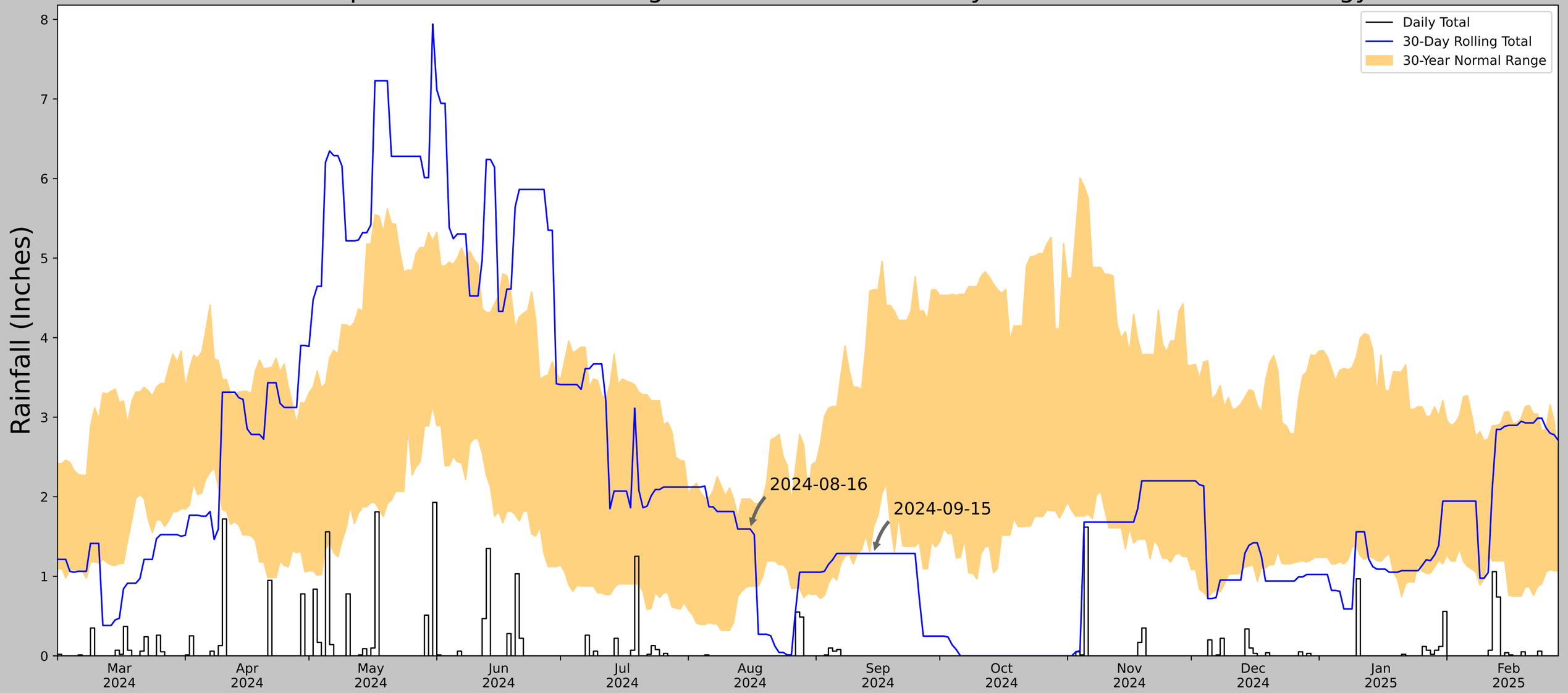
East WilCo Highway Segment 6
Williamson County, Texas
Date: 3/10/2025

Figure A-10
LiDAR Map

halff

Appendix B: APT Model

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	30.64314575, -97.52222002
Observation Date	2024-10-15
Elevation (ft)	600.354
Drought Index (PDSI)	Mild drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-10-15	1.099606	4.605512	0.0	Dry	1	3	3
2024-09-15	1.632284	4.606299	1.287402	Dry	1	2	2
2024-08-16	0.877953	1.972441	1.594488	Normal	2	1	2
Result							Drier than Normal - 7

US Army Corps of Engineers

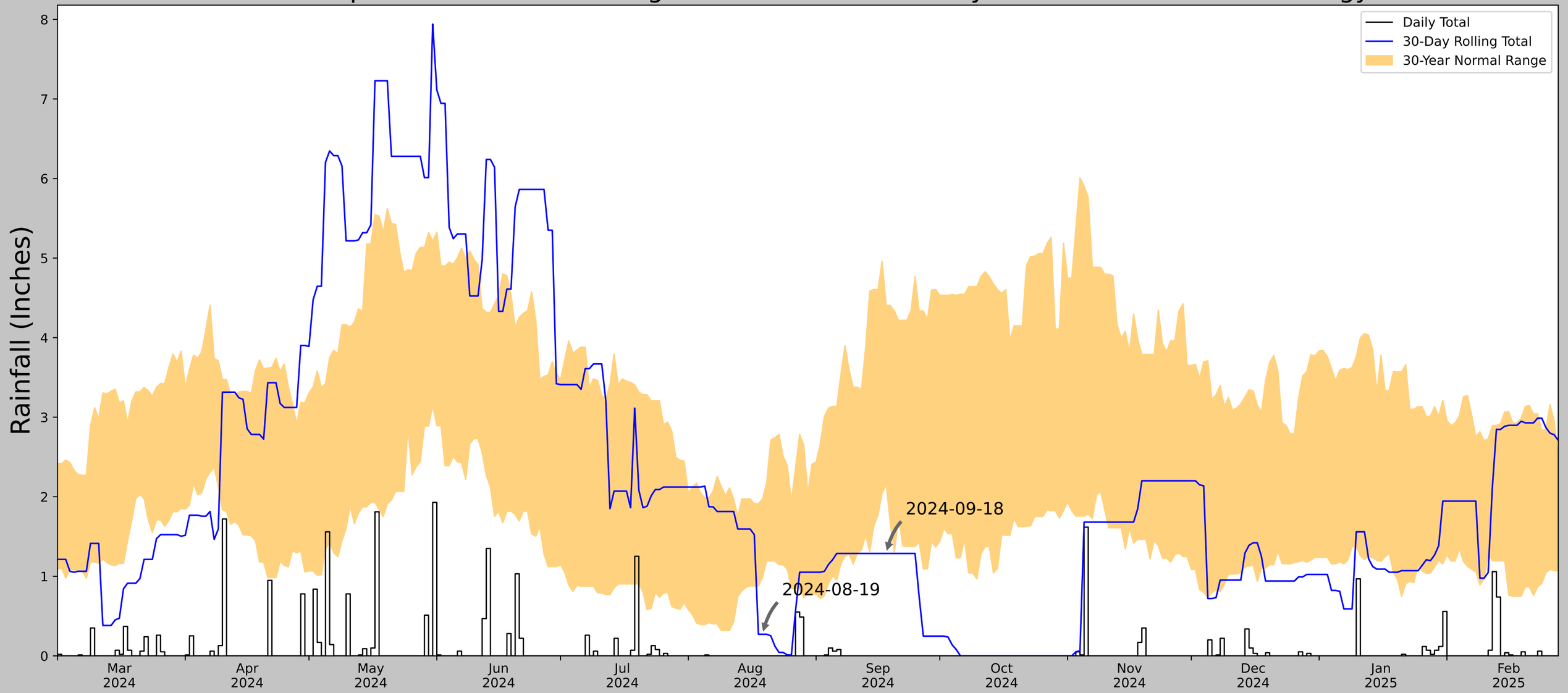
ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
TAYLOR 1NW	30.5844, -97.4156	570.866	7.528	29.488	3.61	8793	90
TAYLOR 1.2 WNW	30.5777, -97.4297	598.097	0.958	27.231	0.457	3	0
TAYLOR	30.57, -97.4092	564.961	1.065	5.905	0.486	2546	0
GRANGER	30.715, -97.4483	571.85	9.231	0.984	4.163	11	0

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	30.6729301, -97.5361142
Observation Date	2024-10-18
Elevation (ft)	666.923
Drought Index (PDSI)	Mild drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-10-18	1.516142	3.973228	0.0	Dry	1	3	3
2024-09-18	2.154724	4.403937	1.287402	Dry	1	2	2
2024-08-19	0.988189	1.972441	0.271654	Dry	1	1	1
Result							Drier than Normal - 6

US Army Corps of Engineers

ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
TAYLOR 1NW	30.5844, -97.4156	570.866	9.421	96.057	5.144	8793	90
TAYLOR 1.2 WNW	30.5777, -97.4297	598.097	0.958	27.231	0.457	3	0
TAYLOR	30.57, -97.4092	564.961	1.065	5.905	0.486	2546	0
GRANGER	30.715, -97.4483	571.85	9.231	0.984	4.163	11	0

Appendix C: Wetland Data Forms

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: E WilCo Hwy Seg 6 City/County: Williamson County Sampling Date: 2024-10-15

Applicant/Owner: Williamson County State: Texas Sampling Point: DP-01

Investigator(s): P. Van Zandt Section, Township, Range:

Landform (hillslope, terrace, etc.): Upland, Flat Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR): J 86A Lat: 30.64277745 Long: -97.5221426 Datum: WGS 84

Soil Map Unit Name: BrA - Branyon clay, 0 to 1 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland scrub-shrub vegetation community.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Arundo donax	100	✔	FAC
2.			
3.			
4.			
	100 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Celtis laevigata	5	✔	FAC
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: 15 ft r)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	105	x 3 =	315
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		315 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 18	10YR 4/2	100					Silty Clay	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Datapoint Photograph

DP-01: View of upland scrub-shrub vegetation community. Photo taken on October 15, 2024.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: E WilCo Hwy Seg 6 City/County: Williamson County Sampling Date: 2024-10-15

Applicant/Owner: Williamson County State: Texas Sampling Point: DP-02

Investigator(s): P. Van Zandt Section, Township, Range:

Landform (hillslope, terrace, etc.): Upland, Flat Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR): J 86A Lat: 30.64314575 Long: -97.52222002 Datum: WGS 84

Soil Map Unit Name: BrA - Branyon clay, 0 to 1 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland scrub-shrub vegetation community.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Arundo donax	96	✔	FAC
2. Celtis laevigata	2		FAC
3. Melia azedarach	2		FACU
4.			
	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	_____	= Total Cover	
Herb Stratum (Plot size: 15 ft r)			
1. Ambrosia trifida	10	✔	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	10	= Total Cover	
Woody Vine Stratum (Plot size: 15 ft r)			
1. Toxicodendron radicans	5	✔	FACU
2. Vitis mustangensis	2	✔	UPL
	7	= Total Cover	

% Bare Ground in Herb Stratum 90

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	108	x 3 =	324
FACU species	7	x 4 =	28
UPL species	2	x 5 =	10
Column Totals:	117 (A)		362 (B)

Prevalence Index = B/A = 3.09

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 18	10YR 4/2	100					Silty Clay	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Datapoint Photograph

DP-02: View of upland scrub-shrub vegetation community. Photo taken on October 15, 2024.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: E WilCo Hwy Seg 6 City/County: Williamson County Sampling Date: 2024-10-15

Applicant/Owner: Williamson County State: Texas Sampling Point: DP-03

Investigator(s): P. Van Zandt Section, Township, Range:

Landform (hillslope, terrace, etc.): Upland, Flat Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR): J 86A Lat: 30.64347974 Long: -97.52287456 Datum: WGS 84

Soil Map Unit Name: BrA - Branyon clay, 0 to 1 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland herbaceous vegetation community.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 15 ft r)			
1. Sorghum halepense	60	✔	FACU
2. Ambrosia trifida	20	✔	FAC
3. Zea mays	20	✔	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 15 ft r)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	60	x 4 =	240
UPL species	20	x 5 =	100
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: DP-03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 18	10YR 4/2	100					Silty Clay	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Datapoint Photograph

DP-03: View of upland herbaceous (agricultural) vegetation community. Photo taken on October 15, 2024.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: E WilCo Hwy Seg 6 City/County: Williamson County Sampling Date: 2024-10-15

Applicant/Owner: Williamson County State: Texas Sampling Point: DP-04

Investigator(s): P. Van Zandt Section, Township, Range:

Landform (hillslope, terrace, etc.): Upland, Flat Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR): J 86A Lat: 30.6500584 Long: -97.52742161 Datum: WGS 84

Soil Map Unit Name: HoB - Houston Black clay, 1 to 3 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland woodland vegetation community.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Celtis laevigata	40	✔	FAC
2.			
3.			
4.			
	40 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Celtis laevigata	20	✔	FAC
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: 15 ft r)			
1. Sorghum halepense	40	✔	FACU
2. Ambrosia trifida	20	✔	FAC
3. Xanthium orientale	10		UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70 = Total Cover		
Woody Vine Stratum (Plot size: 15 ft r)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 30

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	40	x 4 =	160
UPL species	10	x 5 =	50
Column Totals:	130 (A)		450 (B)

Prevalence Index = B/A = 3.46

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: DP-04

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 18	10YR 3/2	100					Silty Clay	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Datapoint Photograph

DP-04: View of upland woodland vegetation community. Photo taken on October 15, 2024.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: E WilCo Hwy Seg 6 City/County: Williamson County Sampling Date: 2024-10-15

Applicant/Owner: Williamson County State: Texas Sampling Point: DP-05

Investigator(s): P. Van Zandt Section, Township, Range:

Landform (hillslope, terrace, etc.): Upland, Flat Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR): J 86A Lat: 30.65080095 Long: -97.52685797 Datum: WGS 84

Soil Map Unit Name: HoB - Houston Black clay, 1 to 3 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland herbaceous vegetation community.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Celtis laevigata	20	✔	FAC
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: 15 ft r)			
1. Sorghum halepense	40	✔	FACU
2. Ambrosia trifida	20	✔	FAC
3. Xanthium orientale	20	✔	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: 15 ft r)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 20

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	40	x 3 =	120
FACU species	40	x 4 =	160
UPL species	20	x 5 =	100
Column Totals:	100 (A)		380 (B)

Prevalence Index = B/A = 3.80

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: DP-05

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 18	10YR 3/2	100					Silty Clay	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Datapoint Photograph

DP-05: View of upland herbaceous vegetation community. Photo taken on October 15, 2024.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: E WilCo Hwy Seg 6 City/County: Williamson County Sampling Date: 2024-10-18

Applicant/Owner: Williamson County State: Texas Sampling Point: DP-06

Investigator(s): P. Van Zandt Section, Township, Range:

Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): J 86A Lat: 30.66151223 Long: -97.53184266 Datum: WGS 84

Soil Map Unit Name: HoB - Houston Black clay, 1 to 3 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Sampled within a ditch. Upland herbaceous vegetation community.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Arundo donax	15	✔	FAC
2.			
3.			
4.			
5.			
	15 = Total Cover		
Herb Stratum (Plot size: 15 ft r)			
1. Cynodon dactylon	80	✔	FACU
2. Sorghum halepense	15		FACU
3. Parthenium hysterophorus	5		FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 15 ft r)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	95	x 4 =	380
UPL species	0	x 5 =	0
Column Totals:	115 (A)		440 (B)

Prevalence Index = B/A = 3.82

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: DP-06

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 16	10YR 4/2	100					Silty Clay	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ✔ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✔ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? **Yes** ✔ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Datapoint Photograph

DP-06: View of upland herbaceous (agricultural) vegetation community. Photo taken on October 18, 2024.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: E WilCo Hwy Seg 6 City/County: Williamson County Sampling Date: 2024-10-18

Applicant/Owner: Williamson County State: Texas Sampling Point: DP-07

Investigator(s): P. Van Zandt Section, Township, Range:

Landform (hillslope, terrace, etc.): Upland, Flat Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR): J 86A Lat: 30.67000001 Long: -97.5362585 Datum: WGS 84

Soil Map Unit Name: HoB - Houston Black clay, 1 to 3 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland herbaceous vegetation community.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 15 ft r)			
1. Cynodon dactylon	60	✔	FACU
2. Bothriochloa ischaemum	40	✔	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 15 ft r)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	60	x 4 =	240
UPL species	40	x 5 =	200
Column Totals:	100 (A)		440 (B)

Prevalence Index = B/A = 4.40

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: DP-07

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 16	10YR 4/2	100					Silty Clay	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Datapoint Photograph

DP-07: View of upland herbaceous (agricultural) vegetation community. Photo taken on October 18, 2024.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: E WilCo Hwy Seg 6 City/County: Williamson County Sampling Date: 2024-10-18

Applicant/Owner: Williamson County State: Texas Sampling Point: DP-08

Investigator(s): P. Van Zandt Section, Township, Range:

Landform (hillslope, terrace, etc.): Upland, Flat Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR): J 86A Lat: 30.696893 Long: -97.541356 Datum: WGS 84

Soil Map Unit Name: EyD - Eddy very gravelly clay loam, 3 to 8 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland herbaceous vegetation community.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 15 ft r)			
1. Cynodon dactylon	60	✔	FACU
2. Bothriochloa ischaemum	40	✔	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 15 ft r)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	60	x 4 =	240
UPL species	40	x 5 =	200
Column Totals:	100 (A)		440 (B)

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Hydrophytic Vegetation Indicators:

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___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: DP-08

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 16	10YR 4/2	100					Silty Clay	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR F**)
- ___ 1 cm Muck (A9) (**LRR F, G, H**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR I, J**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Datapoint Photograph

DP-08: View of upland herbaceous (agricultural) vegetation community. Photo taken on October 18, 2024.

Appendix D: Representative Photographs

Photograph 1 (PP01): View of study area from the southern project limits approximately 0.2-mile north of SH 29, facing north.

Photograph 2 (PP02): Representative view of agricultural land use near in the southern portion of the project area, facing north.

Photograph 3 (PP03): View of ephemeral stream (W-1A), facing upstream and east.

Photograph 4 (PP04): View of erosional feature into W-1A, facing northwest.

Photograph 5 (PP05): View of ephemeral stream (W-1A), facing upstream and east.

Photograph 6 (PP06): View of ephemeral stream (W-1A), facing upstream and northeast.

Photograph 7 (PP07): View of ephemeral stream (W-1A), facing upstream and north.

Photograph 8 (PP08): View of erosional wash between agricultural fields, facing upstream and west.

Photograph 9 (PP09): View of ephemeral stream (W-1C) from CR 127, facing downstream and southeast.

Photograph 10 (PP10): View of drainage ditch on upstream side of CR 127 and W-1C, facing upstream and north.

Photograph 11 (PP11): View of open water pond (W-2), facing northeast.

Photograph 12 (PP12): View of intermittent stream (W-3), facing downstream and east.

Photograph 13 (PP13): View of vegetated swale (W-4), facing downstream and southwest.