

# Waters of the U.S. Delineation Report-Draft

FM 2931 from US 380 to FM 428 (CSJ 2979-01-011)

Texas Department of Transportation, Dallas District March 2022

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# 1.0 Introduction

The Texas Department of Transportation (TxDOT) conducted a water features delineation for a proposed road project on Farm-to-Market (FM) 2931 from United States (US) Highway 380 to FM 428 in Denton County, Texas (CSJ 2979-01-011). The delineation was completed on November 9 and November 10, 2020.

The delineation was performed to evaluate the presence of jurisdictional water features and identify their boundaries within the project area. It is anticipated that this waters of the U.S. delineation report (WOTUS DR) will be used in support of the jurisdictional determination process for on-site aquatic resources. If it is determined that jurisdictional resources would be impacted, this WOTUS DR will also support applications for regulatory permits that might be required from the United States Army Corps of Engineers (USACE) for proposed construction activities.

Waterbodies were delineated according to USACE Regulatory Guidance Letter (RGL) 05-05 Ordinary High Water Mark (OHWM) Identification for non-tidal waters and the Mean High Tide (MHT) line for tidal waters. As required under Section 404 of the Clean Water Act (CWA), wetlands were delineated using the routine method described in the USACE 1987 Wetlands Delineation Manual (1987 Manual) and the USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0) (2010 Regional Supplement). Wetland types and boundaries were determined through initial map review, followed by fieldwork involving the examination of three (3) parameters: hydrology, vegetation, and soils. Delineation criteria and indicators for each of these parameters are outlined in the 1987 Manual and the 2010 Regional Supplement. The 2010 Regional Supplement presents wetland indicators, delineation guidance, and other information that is specific to the Great Plains Region, per the regional supplement. Wetlands were classified according to the Cowardin Classification System used for the United States Fish and Wildlife Service's (USFWS) National Wetlands Inventory (NWI).

This document contains the following three (3) attachments:

- Attachment 1 Figures
- Attachment 2 Wetland Determination Data Forms
- Attachment 3 Historical Aerial Photography
- Attachment 3 Site Photographs

# 2.0 Project Overview

The TxDOT Dallas District is proposing to widen FM 2931 from US 380 to FM 428 in Denton County, Texas. The FM 2931 reconstruction project includes widening approximately 6.37 miles of FM 2931 with a 1,300-foot transition north of FM 428/Spring Hill Road. The existing FM 2931 is a rural two-lane roadway with a right-of-way width of approximately 100 feet wide. The proposed FM 2931 would be reconstructed as a six-lane urban roadway section with a raised median and left-turn lanes in various locations. The proposed right-of-way would be approximately 130 feet wide, with the minimum and maximum right of way width ranging from 126 feet to 244 feet, respectively. Right of entry was not granted for approximately 4.5 acres of the proposed right of way.

Attachment 1 – Figures contains multiple sets of maps of the project area. Figure 1 provides a vicinity map that depicts the location of the project area, Figure 2 is an aerial overview map of the project area, and Figure 3 is a 7.5-minute series United States Geological Survey (USGS) topographic overview map. Figures 4-1 through 4-6 depict the NWI, Figures 5-1 through 5-6 depict the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soils units, and Figure 6 shows the Federal Emergency Management Agency (FEMA) 100-year floodplains. Figures 7-1 through 7-6 show a Light Detection and Ranging (LiDAR) map of the project area, and Figures 8-1 through 8-9 illustrate the waterbodies and wetlands delineated within the project area.

# 3.0 Ecological Site Description

The project area is located within the Southwestern Prairies Cotton and Forage Region (LRR J) in the southern Great Plains and is more specifically located in Major Land Resource Area (MLRA) 84C (East Cross Timbers).

This MLRA is characterized by gently sloping to rolling uplands that are moderately dissected. Sandstone capped hills and ridges rise prominently above the surrounding landscape. This area is underlain by interbedded sandstones and shales in the Woodbine Formation of Cretaceous age. On this gently sloping to rolling landscape, the more resistant sandstones form ridges and hilltops and the more erodible sediments form side slopes, hillsides, and valleys (NRCS 2006).

The dominant soil orders in this MLRA are Alfisols, Entisols, and Mollisols. They are moderately deep or deep, medium textured to coarse textured, and moderately well drained to somewhat excessively drained. They have a thermic soil temperature regime, an ustic soil moisture regime, and smectitic, siliceous, or mixed mineralogy (NRCS 2006). The average annual precipitation in this area is 34 to 41 inches. Most of the rainfall occurs in spring and fall. The average annual temperature is 62 to 66 degrees F (17 to 19 degrees C) (NRCS 2006).

The project area, which is along the existing FM 2931 alignment with additional right of way proposed, consists primarily of upland forest dominated by post oak. The dominant trees include pecan (*Carya illinoinensis*), eastern red cedar (*Juniperus virginiana*), post oak (*Quercus stellata*), American elm (*Ulmus americana*), cedar elm (*Ulmus crassifolia*), sugarberry (*Celtis laevigata*) and vines such as greenbrier (*Smilax bona-nox*) and southern dewberry (*Rubus trivialis*) are included in the woody understory. Bermudagrass (*Cynodon dactylon*), johnsongrass (*Sorghum halepense*), King Ranch bluestem (*Bothriochloa ischaemum*), Virginia wildrye (*Elymus virginicus*), and dallisgrass (*Paspalum dilatatum*) are the dominant herbaceous species.

# 4.0 Methods

# 4.1 Map and Database Review

The following information sources were considered and, if applicable, consulted prior to and during the field delineation to assist in the identification of potential waters of the U.S. within the project area.

#### 4.1.1 USGS Topographic Maps

USGS topographic maps illustrate elevation contours, drainage patterns, and hydrography. The Aubrey and Little Elm, Texas, USGS Quad maps were reviewed to determine the likelihood of the project area containing jurisdictional waterbodies.

#### 4.1.2 USFWS NWI Data

NWI data were reviewed as a contributing resource to help identify potential wetland features located within the project area.

# 4.1.3 NRCS Soil Survey Data

The USDA NRCS maintains an online Web Soil Survey database. The data provided in the Web Soil Survey provides a good basis for the soil textures and types one can expect to find at a particular delineation area. NRCS-mapped soil types within the project area were reviewed to determine which of the soils exhibit hydric characteristics. NRCS-mapped soil types are assigned a hydric indicator status of "hydric" or "non-hydric" by the National Technical Committee for Hydric Soils.

#### 4.1.4 Aerial Photography

Aerial photography provides good insight to the state and function of land resources. Signs of inundation and vegetative signatures on aerial images indicate whether land might be functioning as a wetland or supporting a

stream system. Historic and current aerial photography was reviewed utilizing Google Earth prior to and during the field delineation, in order to further understand the nature of the project area.

#### **4.1.5** FEMA FIRM

FEMA maintains flood insurance rate maps (FIRMs). The FIRM including the project area was reviewed to determine if the 100-year floodplain is mapped. The USACE utilizes the 100-year floodplain to assist in determining jurisdiction of aquatic features. FEMA FIRM data was reviewed to evaluate the location of any mapped floodplain in relation to aquatic resources located within the project area.

#### 4.1.6 LIDAR

LiDAR is a remote sensing technique that measures spatial and temporal data. LiDAR information is provided by the Texas Natural Resources Information System (TNRIS) online database for each USGS Quad. LiDAR data was obtained for the Aubrey and Little Elm, Texas, USGS Quads to evaluate elevation changes throughout the project area.

# 4.2 Water Features Delineation

With respect to any non-tidal waterbodies located within the project area, biologists followed the methodology outlined in RGL 05-05. With respect to any tidal waterbodies located within the site, biologists identified the MHT line by observing changes in vegetation, drift deposits of shells and debris, and physical markings or characteristics along the shoreline that may indicate the general height reached by a rising tide.

Data collected for any waterbodies includes average water depth, average width per waterbody, length of linear segments within the project boundary, and water flow classification (i.e., tidal, non-tidal, ephemeral, intermittent, and/or perennial).

Any wetland delineation was conducted based on the 1987 Manual and the 2010 Regional Supplement: Great Plains Region (Version 2.0), as well as the three (3) parameters described within. The three-parameter approach requires investigation of hydrological characteristics, hydrophytic vegetation, and hydric soils at selected sample points within a project area. Sample points are located to ascertain upland/wetland boundaries and to record significant spatial changes in wetland plant communities. All three (3) indicator parameters must be met in order for the area to be classified as a wetland. See subsections on Hydrology, Vegetation, and Soils, below, for indicator-specific information.

Geospatial data was collected utilizing a Trimble GeoXT 2007 Series Global Positioning System (GPS) with submeter accuracy.

## 4.2.1 Hydrology

Wetland hydrology is characterized when, under normal circumstances, the surface is either inundated or the upper horizon(s) of the soil are saturated at a sufficient frequency and duration to create anaerobic conditions. Seasonal and long-term rainfall patterns, local geology and topography, soil type, local water table conditions, and drainage are factors that influence hydrology.

Wetland hydrology indicators include: oxidized rhizospheres along living roots, saturated soils, standing surface water, algal mat, aquatic fauna, high water table, iron deposits, sparsely vegetated concave surface, geomorphic position, moss trim lines, water-stained leaves, crawfish burrows, watermarks, drainage patterns, and surface soil cracks.

During the field survey, these indicators were used to determine if an area exhibited wetland hydrology.

# 4.2.2 Vegetation

In accordance with the procedure set forth in the 1987 Manual and the 2010 Regional Supplement: Great Plains Region (Version 2.0), the hydrophytic status of vegetation communities was determined by identifying dominant species and, if necessary, calculating a "Prevalence Index," as defined in the 1987 Manual.

Individual plant species were checked against the 2020 National Wetland Plant List (NWPL), and their regional wetland indicator status was determined. Species are classified as follows:

- Obligate Wetland (OBL) if they almost always occur in wetlands (>99 percent of the time)
- Facultative Wetland (FACW) if they usually occur in wetlands (67-99 percent of the time)
- Facultative (FAC) if they are equally likely to occur in wetlands and non-wetlands (34-66 percent of the time)
- Facultative Upland (FACU) if they usually occur in non-wetlands (67-99 percent of the time)
- Obligate Upland (UPL) if they almost always occur in non-wetlands (>99 percent of the time)
- A no indicator (NI) status is recorded for those species for which insufficient information is available to determine an indicator status.

Hydrophytic (wetland) vegetation is considered prevalent where more than 50% of the dominant species in a plant community have an indicator status of OBL, FACW, or FAC. However, in cases where the vegetation community does not meet this hydrophytic threshold, but indicators of hydric soils and wetlands hydrology are present, the prevalence index can be applied. Calculation of this index is based on consideration of both dominant and non-dominant plants in the vegetation community, whereby each indicator status category is given a numeric code and weighted by absolute percent cover. The prevalence index ranges from 1 to 5 and an index of 3.0 or less signifies that hydrophytic vegetation is present. In the current delineation, and as shown on the wetland determination data forms in **Attachment 2**, a prevalence index was calculated for each sample point's vegetation community, where warranted.

#### 4.2.3 Soils

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper horizons. Anaerobic conditions created by repeated or prolonged saturation or flooding result in permanent changes in soil color and chemistry. The changes in soil color are used to differentiate hydric from non-hydric soils.

At each sample point, in areas where the absence of inundation or heavy saturation allowed, a pit was excavated to a depth of at least 16 inches to reveal soil profiles and to determine whether or not positive indicators of hydric soils were present. Hydric soil indicators relate to color, structure, organic content, and the presence of reducing conditions. Color characteristics (Hue, Value, and Chroma) were recorded using Munsell® Charts.

## 5.0 Results

## 5.1 Map and Database Review

#### 5.1.1 USGS Topographic Maps

The Aubrey and Little Elm, Texas USGS 7.5-minute topographic quadrangle maps show that one named stream and several tributaries cross the project area. Running Branch, an associated unnamed tributary, and an unnamed tributary to Little Elm Creek flow south-southeast through the project area. Four other unnamed tributaries to Pecan Creek (outside the project area) flow east-southeast through the project area. It should be noted that during field investigations there was no evidence of the unnamed tributary to Running Branch within

the project area. A storm sewer drain was noted in this location (see **Photo 5** in **Attachment 4**). Additionally, one unnamed tributary to Pecan Creek was identified as a swale with no discernable OHWM (see **Photo 30** in **Attachment 4**). The topography is rolling to strongly sloping with elevations between approximately 545 and 605 feet above mean sea level (AMSL) across the project area. Refer to **Figure 3** in **Attachment 1** for an illustration of topography in and surrounding the project area.

#### 5.1.2 USFWS NWI Data

The table below summarizes the NWI features within the project area. Refer to **Figures 4-1** through **4-6** in **Attachment 1** for an illustration of the NWI features in and surrounding the project area.

Table 1: NWI Features

Classification Code	Code Description	Wetland Type
PF01C	Palustrine Forested, Broad-Leaved Deciduous, Seasonally Flooded	Forested Wetland
R4SBC	Riverine, intermittent, streambed, seasonally flooded	Intermittent Stream

# 5.1.3 NRCS Soil Survey Data

The table below summarizes the soil units represented within the project area based on information collected from the Web Soil Survey database. Refer to **Figures 5-1** through **5-6** in **Attachment 1** for an illustration of the mapped soil units in and surrounding the project area.

Table 2: NRCS Soil Units

Soil Unit	Soil Unit Name	Description	Hydric/Non-hydric
8	Aubrey fine sandy loam, 2 to 5 percent slopes	Moderately deep, well drained, slowly permeable	Non-hydric
12	Birome fine sandy loam, 3 to 5 percent slopes	Moderately deep, well drained, slowly permeable	Non-hydric
20	Bunyan fine sandy loam, frequently flooded	Very deep, well drained, moderately permeable	Non-hydric
23	Callisburg fine sandy loam, 1 to 3 percent slopes	Deep, well drained, moderately slowly permeable soils on uplands	Non-hydric
24	Callisburg fine sandy loam, 3 to 5 percent slopes	Deep, well drained, moderately slowly permeable soils on uplands	Non-hydric
26	Crockett fine sandy loam, 0 to 1 percent slopes	Deep, moderately well drained, very slowly permeable	Non-hydric
27	Crockett fine sandy loam, 1 to 3 percent slopes	Deep, moderately well drained, very slowly permeable	Non-hydric

Table 2: NRCS Soil Units

Soil Unit	Soil Unit Name	Description	Hydric/Non-hydric
35	Gasil fine sandy loam, 1 to 3 percent slopes	Very deep, well drained, moderately permeable	Non-hydric
39	Gowen clay loam, occasionally flooded	Very deep, well drained, moderately permeable	Non-hydric
40	Gowen clay loam, frequently flooded	Very deep, well drained, moderately permeable	Non-hydric
50	Konsil fine sandy loam, 3 to 8 percent slopes	Very deep, well drained, moderately permeable upland soils	Non-hydric
51	Konsil fine sandy loam, 3 to 8 percent slopes	Very deep, well drained, moderately permeable upland soils	Non-hydric
59	Navo clay loam, 0 to 1 percent slopes	Deep, moderately well drained, very slowly permeable	Non-hydric
60	Navo clay loam, 1 to 3 percent slopes	Deep, moderately well drained, very slowly permeable	Non-hydric
72	Silstid loamy fine sand, 1 to 5 percent slopes	Very deep, well drained, moderately permeable	Non-hydric
83	Wilson clay loam, 0 to 1 percent slopes	Very deep, moderately well drained, very slowly permeable	Non-hydric

# 5.1.4 Aerial Photography

Historic aerial imagery for the project area and surrounding areas was evaluated using images provided by Google Earth. The table below summarizes observations for the project area for each year reviewed. **Attachment 3** contains copies of the historic aerial photographs reviewed for the project area.

Table 3: Historic Aerial Photography Observations

Year	Year Observations				
2005	This aerial photograph reflects the general rural nature of the area. Multiple riparian corridors indicative of stream crossings are apparent in the project area. An apparent mining site with a large pond/impoundment is visible on the southwest corner of the Fishtrap Road/FM 2931 intersection. Drainage patterns and potential wetland signatures are noticeable with saturated soils and a contrast in vegetation signatures and can be seen at the locations of wetlands (W-1, W-2, and W-3) identified in the project area.				
2015	No additional changes are visible within the project area.				

Year	Observations
2018	Large areas of land have been cleared for residential development and signatures of wetlands (W-1, W-2, and W-3) identified in the project area are no longer visible. The large pond/impoundment at the mining site identified in the 2005 historic aerial has been filled in and reclamation of the site has begun.
2019	Land clearing has occurred east of FM 2931 on the south side of IS-2 (Unnamed Tributary to Pecan Creek) for a residential subdivision. No other notable changes within the project area are visible.

#### **5.1.5** FEMA FIRM

A review of FEMA FIRMs indicated that portions of the project area associated with streams are within the 100-year floodplain (FEMA FIRM 48121C effective 4/18/2011). These areas include Running Branch and two tributaries to Pecan Creek. Refer to **Figure 6** in **Attachment 1** for an illustration of the FEMA FIRM data within and surrounding the project area.

#### 5.1.6 LiDAR

A review of LiDAR data indicated that the project area is sloping to the south-southeast with the highest elevations found in the northern end of the project near FM 428. Refer to **Figures 7-1** through **7-6** in **Attachment 1** for an illustration of LiDAR data within the project area.

# 5.2 Water Features Delineation

The table below summarizes the waterbodies/wetlands identified within the project area. Refer to **Figures 8-1** through **8-9** in **Attachment 1** for a depiction of the boundaries of each waterbody/wetland feature, as well as the location within the project area where sample point data were collected. Refer to **Attachment 2 – Wetland Determination Data Forms**, for the completed wetland determination data forms for the project. Refer to **Attachment 4 – Site Photographs**, for one or more photographs of each waterbody/wetland feature observed within the project area.

Table 4: Summary of Waterbody/Wetland Features

Waterbody or Wetland Number	Name	Туре	Latitude, Longitude	Acres within project area (all waterbodies and wetlands)	Linear feet within project area (waterbodies only)	Potentially Jurisdictional (Section 404)?	Potentially Navigable (Section 10)?
1	DD-1	Drainage Ditch	33.225237, -96.965127	0.02	54	No	No
2	Running Branch	Perennial Stream	33.247972, -96.956130	0.11	393	Yes	No
3	W-1	Palustrine Emergent Wetland	33.247923, -96.944654	0.04	N/A	Yes	No

Table 4: Summary of Waterbody/Wetland Features

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Waterbody or Wetland Number	Name	Туре	Latitude, Longitude	Acres within project area (all waterbodies and wetlands)	Linear feet within project area (waterbodies only)	Potentially Jurisdictional (Section 404)?	Potentially Navigable (Section 10)?
4	W-2	Palustrine Emergent Wetland	33.248051, -96.950731	0.02	N/A	Yes	No
5	ES-1	Ephemeral Stream	33.288120, -96.937474	0.02	78	Yes	No
6	W-3	Palustrine Emergent Wetland	33.247821, -96.950770	0.06	N/A	Yes	No
7	IS-1	Intermittent Stream	33.275697, -96.938173	0.10	330	Yes	No
8	OW-1	Pond/ Impoundment	33.254861, -96.940661	<0.01	N/A	Yes	No
9	IS-2	Intermittent Stream	33.262860, -96.940521	0.10	285	Yes	No
10	IS-3	Intermittent Stream	33.255662, -94.680873	0.08	361	Yes	No
11	PS-1	Perennial Stream	33.294342, -96.937132	0.20	417	Yes	No
		Total		0.75	1,918		

# 5.2.1 Hydrology

Normal circumstances were present within the project area. The table below summarizes wetland hydrological indicators identified within the project area. Refer to the wetland determination data forms in **Attachment 2** to see the specific hydrology recorded at each sample point.

Table 5: Wetland Hydrological Indicators

Wetland Type	Sample Point	Primary Wetland Hydrological	Secondary Wetland
	Name(s)	Indicators	Hydrological Indicators
Palustrine Emergent Wetland	SP10, SP12, SP14	Surface Water (A1); Algal Mat or Crust (B4); Oxidized Rhizospheres along Living Roots (C3)	Drainage Patterns (B10)

# 5.2.2 Vegetation

Normal circumstances were present within the project area. Representative dominant taxa for each distinct habitat type encountered within the project area are listed in the tables below. Indicator status for each species was obtained from the 2020 NWPL.

Table 6: Palustrine Emergent Wetland Dominant Plant Species

- and on a distance Emergence reading 2 community is an operation						
Strata	Scientific Name	Common Name	NWPL Classification			
Sapling/Shrub	Salix nigra	Black Willow	OBL			
Herb	Cynodon dactylon	Bermudagrass	FACU			
Herb	Eleocharis montevidensis	Sand Spikerush	FACW			

Table 7: Upland Dominant Plant Species

Strata	Strata Scientific Name		NWPL Classification
Tree	Ulmus americana	American Elm	FAC
Tree	Carya illinoinensis	Pecan	FAC
Tree	Populus deltoides	Eastern Cottonwood	FAC
Tree	Ulmus crassifolia	Cedar Elm	FAC
Tree	Quercus stellata	Post Oak	FACU
Tree	Celtis laevigata	Sugarberry	FAC
Sapling/Shrub	Ulmus rubra	Slippery Elm	FACU
Sapling/Shrub	Morus alba	White Mulberry	FACU
Sapling/Shrub	Celtis laevigata	Sugarberry	FAC
Sapling/Shrub	Ulmus crassifolia	Cedar Elm	FAC
Sapling/Shrub	Sambucus canadensis	Elderberry	UPL
Sapling/Shrub	Quercus falcata	Southern Red Oak	FACU

Strata	Scientific Name	Common Name	NWPL Classification
Sapling/Shrub	Gleditsia triacanthos	Honeylocust	FACU
Sapling/Shrub	Platanus occidentalis	American Sycamore	FAC
Sapling/Shrub	Ulmus americana	American Elm	FAC
Herb	Chasmanthium latifolium	Indian Woodoats	FACU
Herb	Cynodon dactylon	Bermudagrass	FACU
Herb	Setaria leucopila	Streambed Bristlegrass	UPL
Herb	Paspalum dilatatum	Dallisgrass	FAC
Herb	Elymus virginicus	Virginia Wildrye	FAC
Herb	Sorghum halepense	Johnsongrass	FACU
Herb	Carex blanda	Eastern Woodland Sedge	FAC
Woody Vine	Smilax bona-nox	Saw Greenbrier	FACU
Woody Vine	Vitis mustangensis	Mustang Grape	UPL
Woody Vine	Rubus trivialis	Southern Dewberry	FACU
Woody Vine	Campsis radicans	Trumpet Creeper	FACU

# 5.2.3 Soils

Normal circumstances were present for soils within the project area. The table below summarizes hydric soil data identified within the project area. Refer to the wetland determination data forms in **Attachment 2** to see the specific soil data recorded at each sample point.

Table 8: Hydric Soil Indicator(s)

Wetland Type	Sample Point Name(s)	Hydric Soil Indicator(s)
Delivations Employeent Watland	CD40 CD40 CD44	Sandy Redox (S5)
Palustrine Emergent Wetland	SP10, SP12, SP14	Depleted Matrix (F3)

# 6.0 Conclusion

A WOTUS delineation was conducted for FM 2931 from US 380 to FM 428 located in Denton County, Texas (CSJ 2979-01-011). The field delineation was completed on November 9 and November 10, 2020. Refer to **Section 5.2**, above, for a table summarizing the aquatic resources (i.e., waterbodies/wetlands) identified within the project area. The following jurisdictional determinations are based on the pre-2015 regulatory regime.

# 6.1 Potentially Jurisdictional Waterbodies and Wetlands

The project area consists of two potentially jurisdictional perennial streams (P-1 and Running Branch), three potentially jurisdictional intermittent streams (IS-1 through IS-3), one potentially jurisdictional open water

pond/impoundment (OW-1), one potentially jurisdictional ephemeral stream (ES-1), and three potentially jurisdictional palustrine emergent wetlands (W-1, W-2, and W-3). P-1, Running Branch, and IS-1 through IS-3 were determined to be Relatively Permanent Waters (RPWs) that exhibit defined OHWMs and have a continuous downstream surface connection that contributes surface water to Pecan Creek and Little Elm Creek, which both flow to Lewisville Lake, a Traditional Navigable Waterway (TNW). Therefore, the USACE would likely assert jurisdiction over these features.

OW-1, which was under construction at the time of the field investigation, is an on-channel impoundment of IS-3, a potentially jurisdictional RPW. Because of this, the USACE would likely assert jurisdiction over this feature.

ES-1 was determined to be a Non-Relatively Permanent Water (Non-RPW) that appears to have a discontinuous OHWM downstream of the proposed project. Based on a review of current and historical aerial imagery and LiDAR, this feature generally flows south and southeast through a series of on-channel ponds to Little Elm Creek. Drainage patterns and potential wetland signatures are noticeable with saturated soils and a contrast in vegetation signatures both upstream and downstream of the on-channel ponds with the channel becoming more defined and continuous further downstream. Because of its downstream surface connection to Little Elm Creek, ES-1 likely has a significant nexus with Lewisville Lake, a TNW. Therefore, the USACE may assert jurisdiction over this feature. It should be noted that ongoing development and disturbance are currently occurring downstream of the project area. Pooling water observed within this feature during the field investigation is artificially sourced from overflow from an upstream manmade lake excavated in uplands and created as an aesthetic amenity for a recently constructed subdivision. W-3 is located between the manmade lake and ES-1, is also artificially sourced from overflow from the lake, but has a direct hydrologic surface connection to ES-1 through an existing culvert. Because of this, the USACE may assert jurisdiction over this feature.

W-1 and W-2 are located within a drainage swale that appears to develop a discontinuous OHWM downstream of the proposed project. Based on a review of current and historical aerial imagery and LiDAR, this feature generally flows south and southeast through a series of on-channel ponds to ES-1. Drainage patterns are noticeable with saturated soils and a contrast in vegetation signatures both upstream and downstream of the on-channel ponds. Because W-1 and W-2 appear to have a hydrologic surface connection to ES-1, the USACE may assert jurisdiction over these features.

#### 6.2 Potentially Non-Jurisdictional Waterbodies and Wetlands

The project consists of one potentially non-jurisdictional drainage ditch (DD-1). DD-1 is a manmade drainage ditch that, based on a review of historical aerial imagery and topographic maps, was recently created, excavated in uplands and drains only uplands, and does not relocate a tributary; therefore, the USACE is not likely to assert jurisdiction over this feature.

The professional opinion offered in this report is based on best professional judgment. It should be noted that the USACE makes the final determination on the location of waterbody and wetland boundaries and their jurisdictional status. To obtain an official jurisdictional determination (JD) from the USACE, this report must be submitted to the USACE Fort Worth District Office, along with a JD request form and, if appropriate, a PCN/permit application.

# 7.0 References

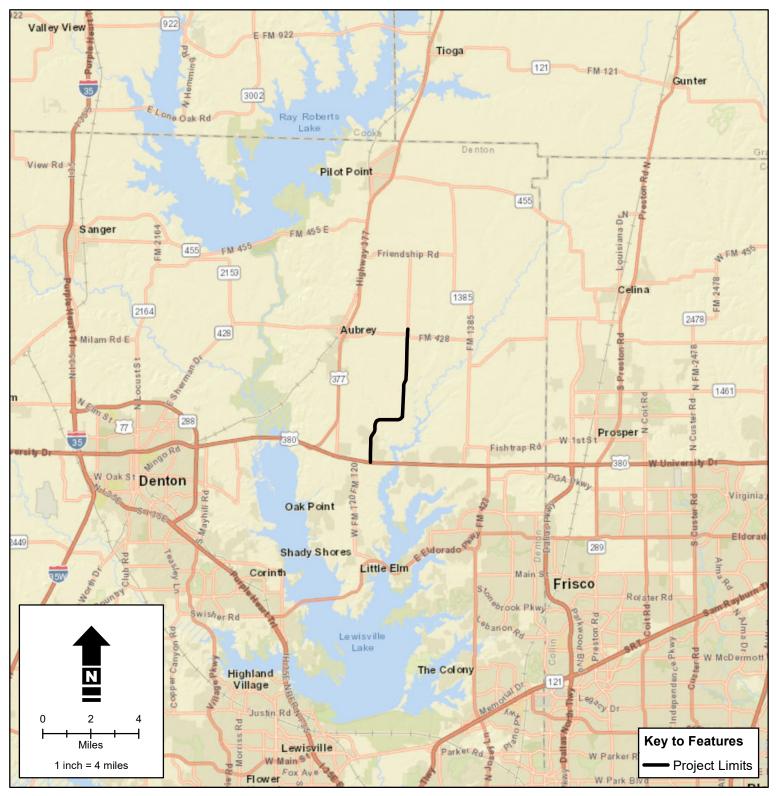
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# 8.0 Attachments

- 1. Figures
- 2. Wetland Determination Data Forms
- 3. Historical Aerial Photography
- 4. Site Photographs

# **Attachment 1 - Figures**





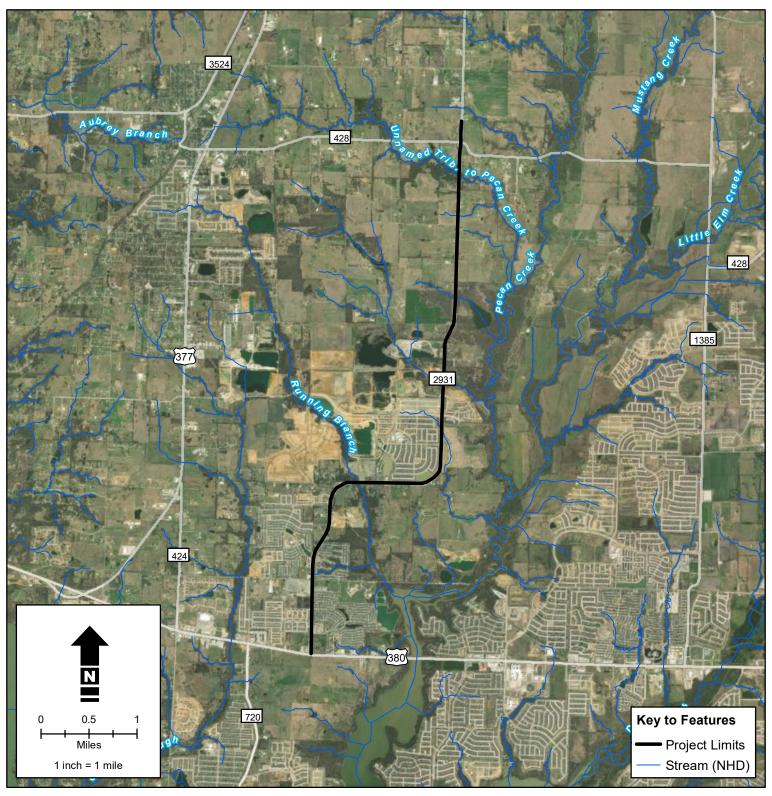
# Figure 1

# **Vicinity Map**

FM 2931 from US 380 to FM 428 Denton County, Texas CSJ: 2979-01-011

Source: ESRI World Street Map (2020)







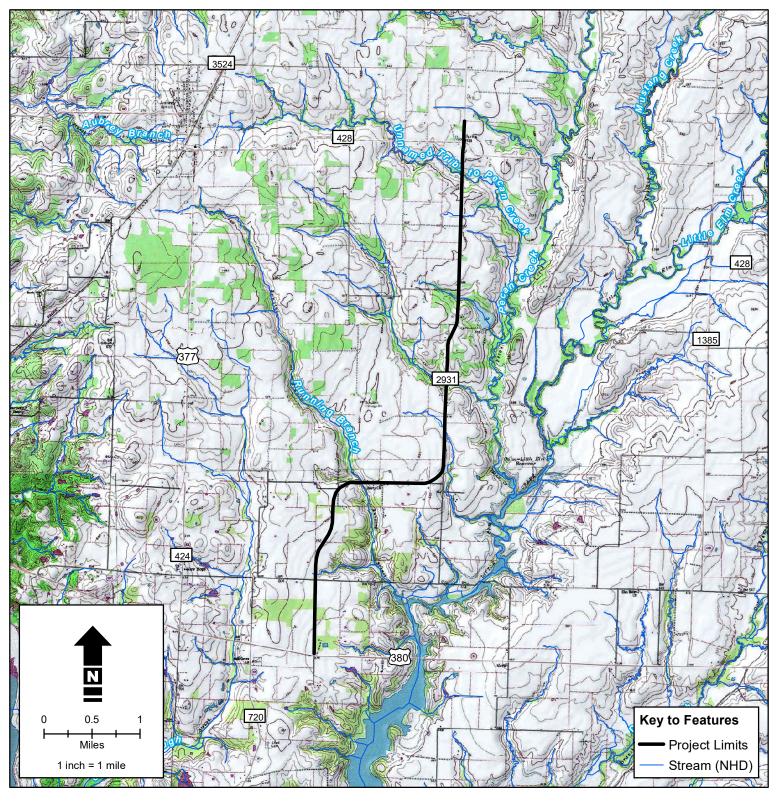
# Figure 2

# **Aerial Overview Map**

FM 2931 from US 380 to FM 428 Denton County, Texas CSJ: 2979-01-011

Source: Maxar 3/7/2021







# Figure 3

# **Topographic Overview Map**

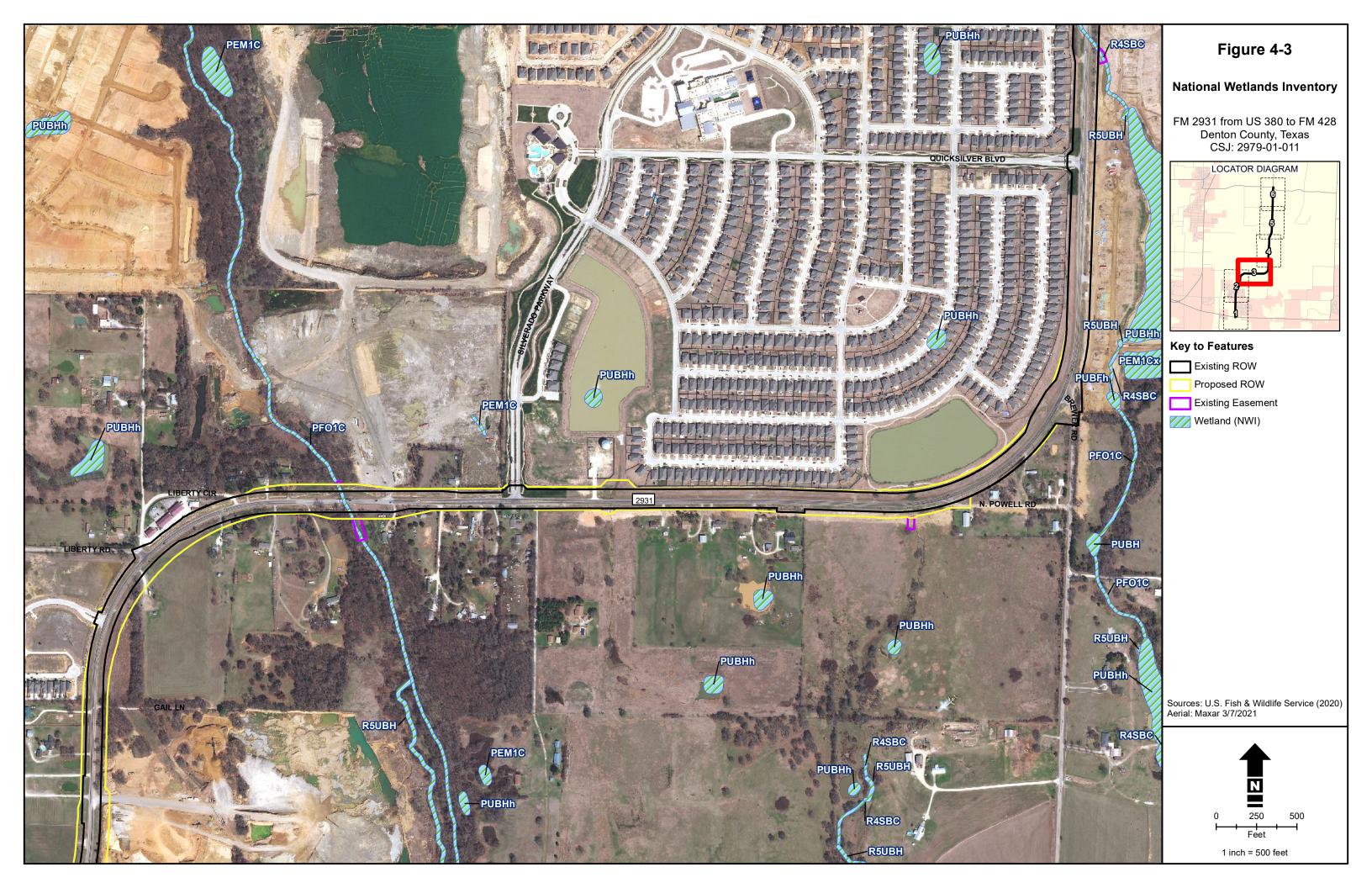
FM 2931 from US 380 to FM 428 Denton County, Texas CSJ: 2979-01-011

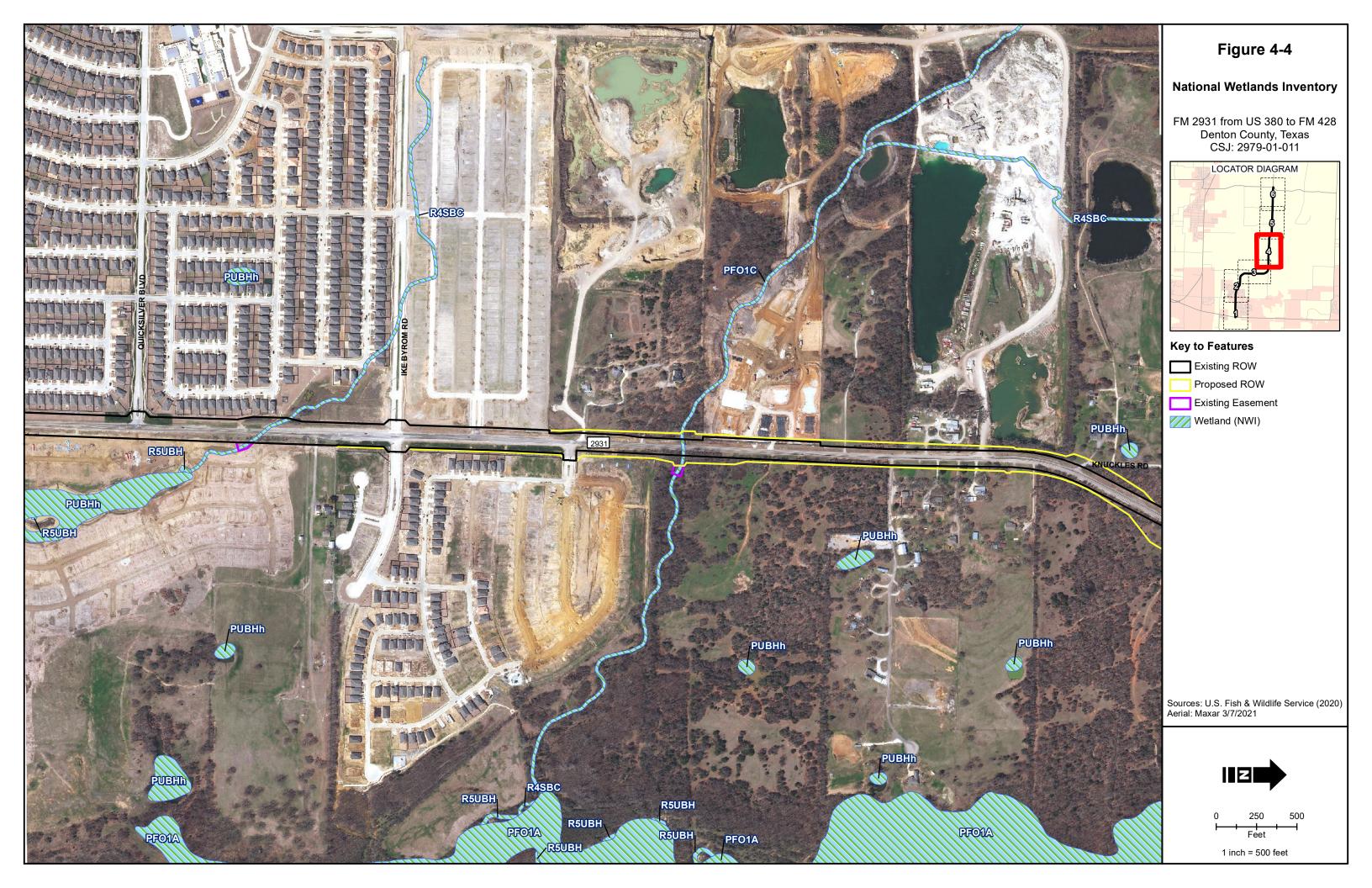
USGS 7.5-minute Topographic Quadrangles: Little Elm (33096-B8), & Aubrey (33096-C8), TX

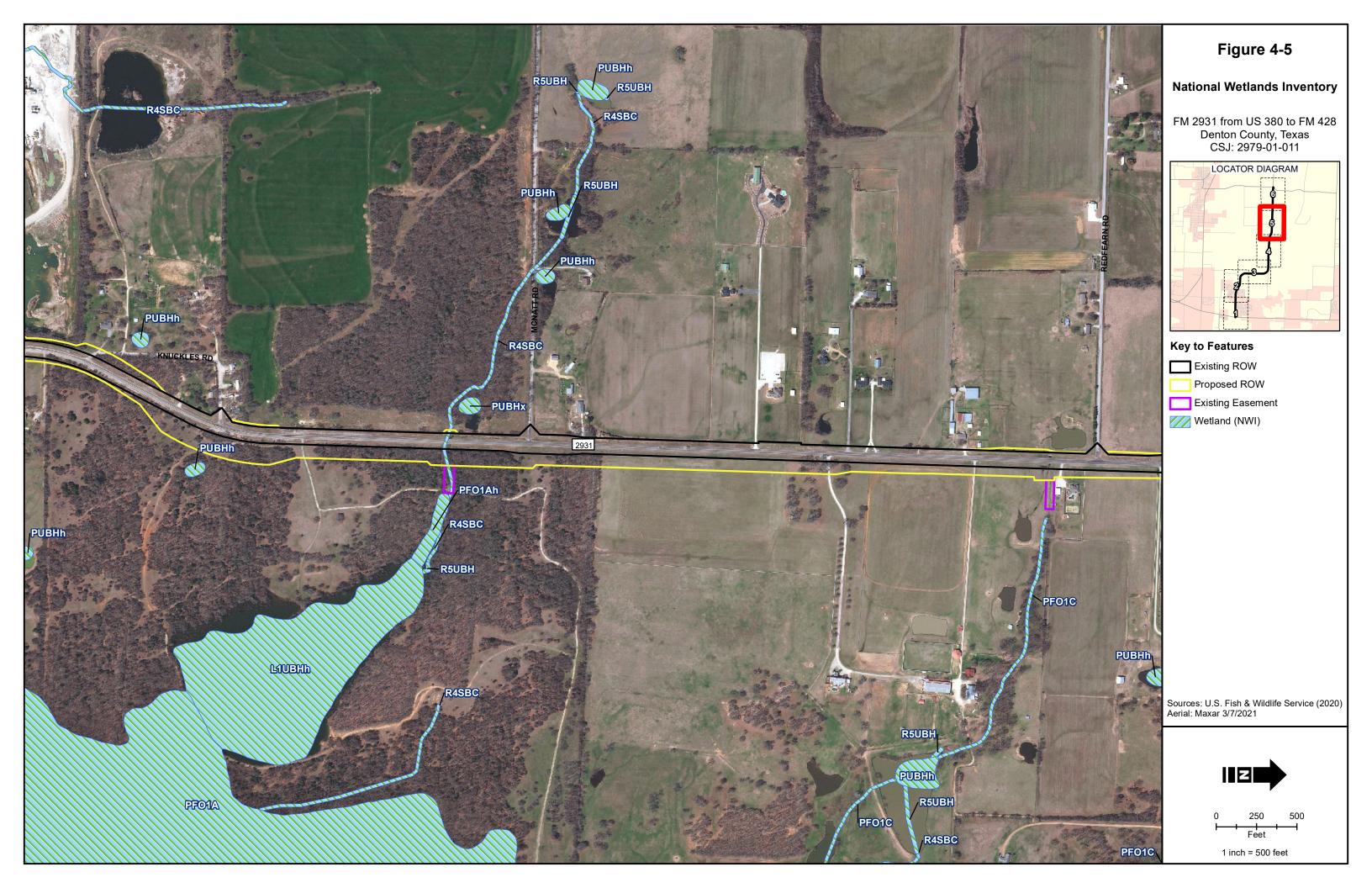




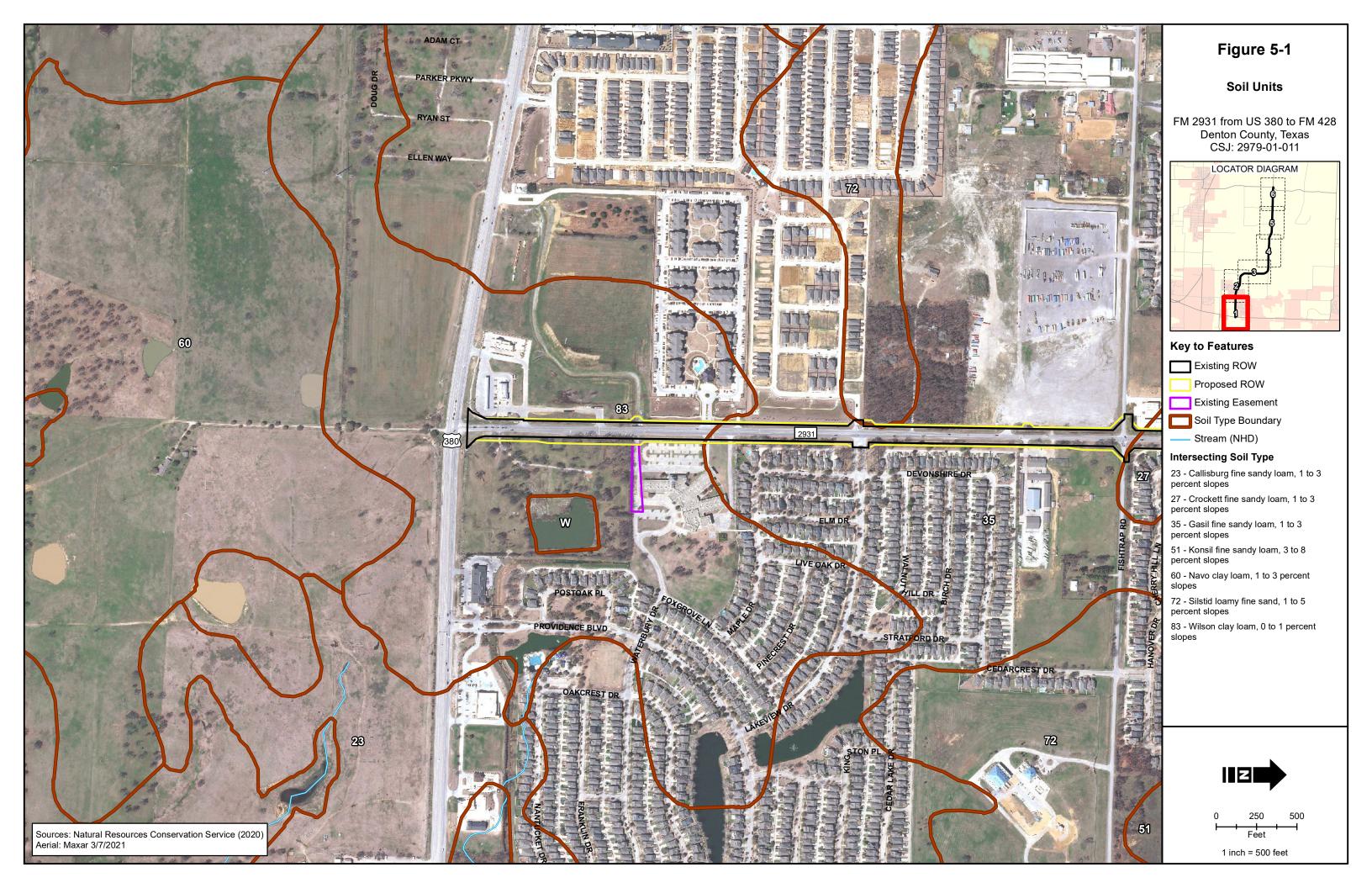


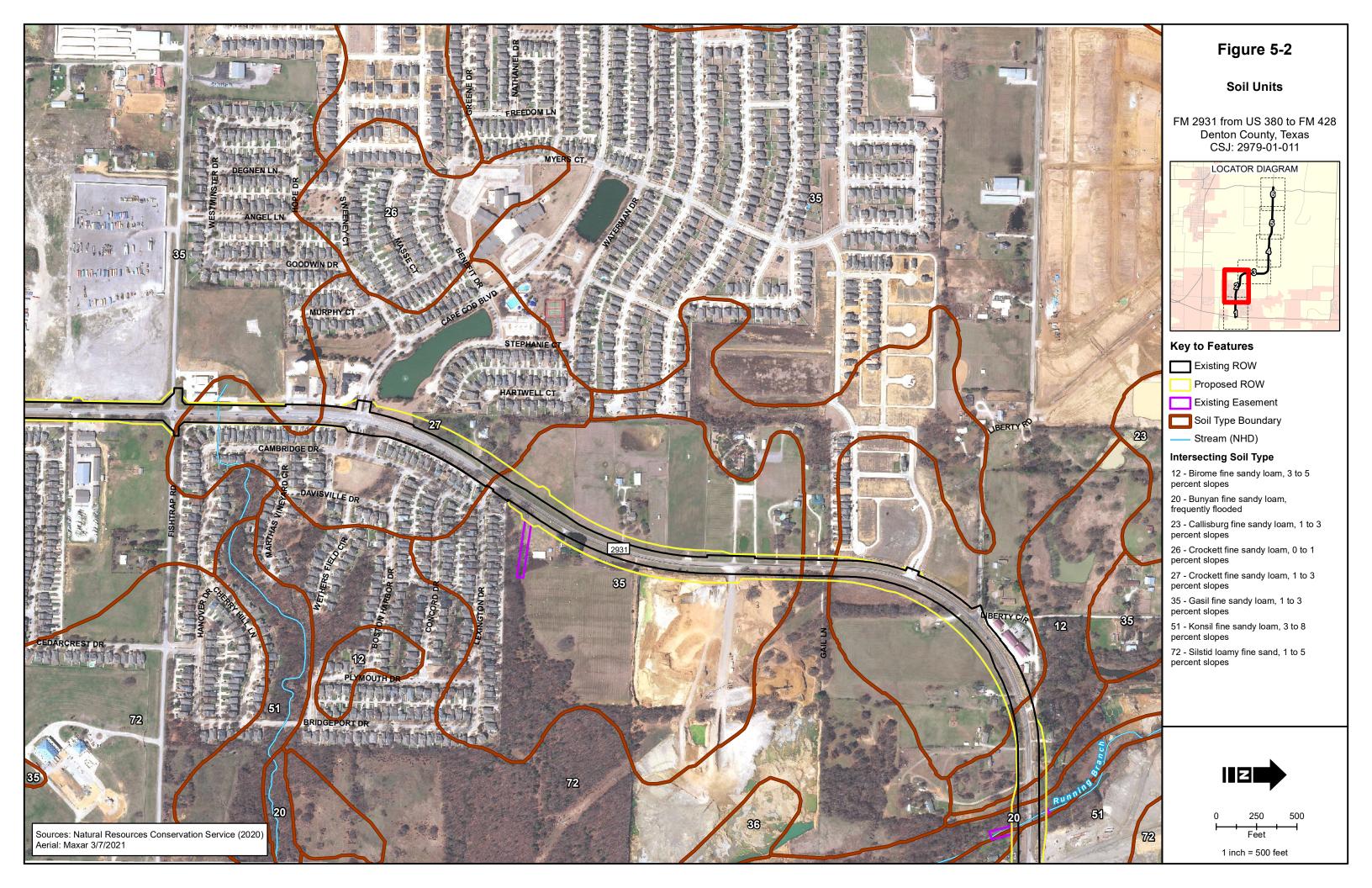


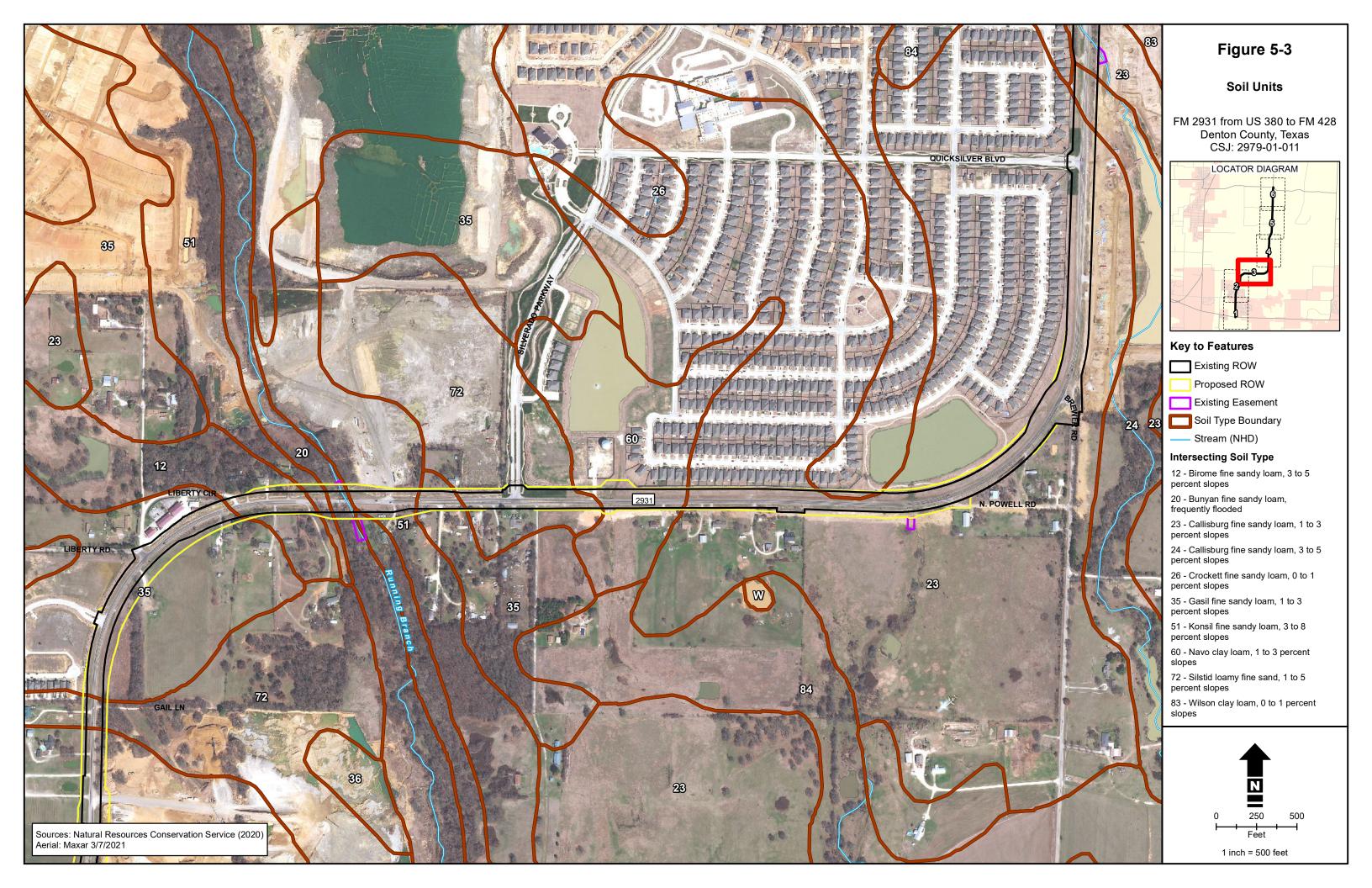


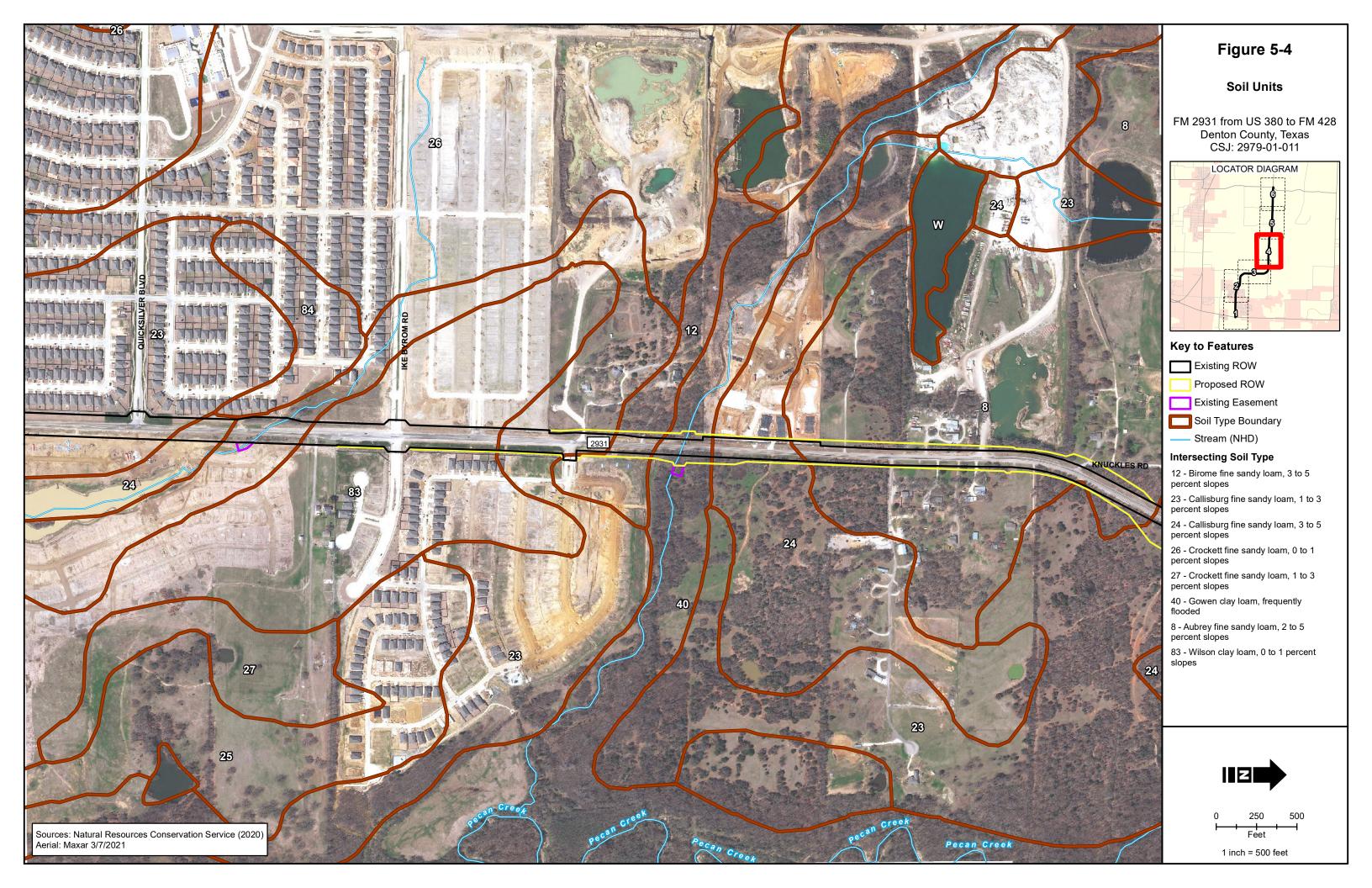


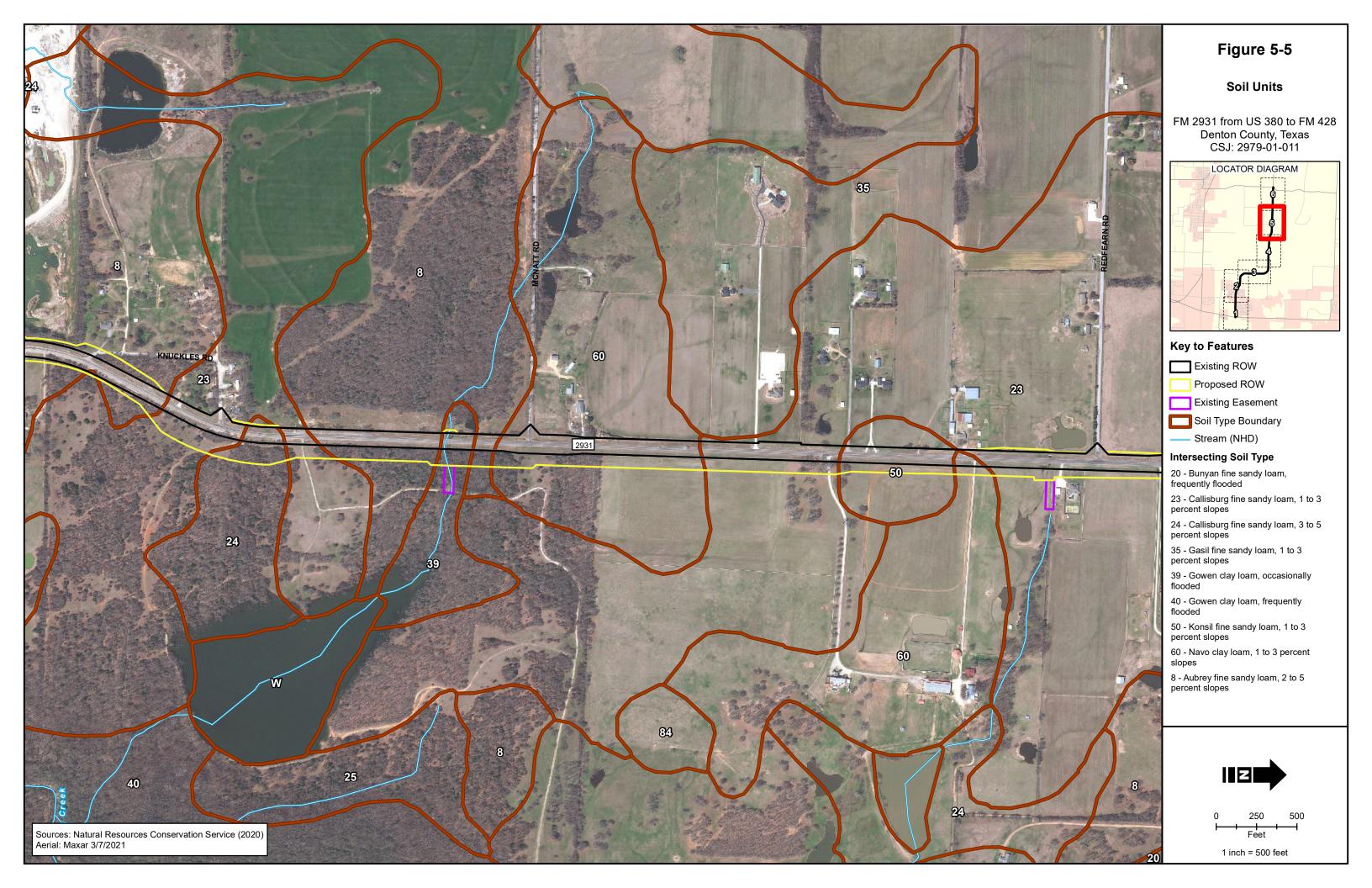


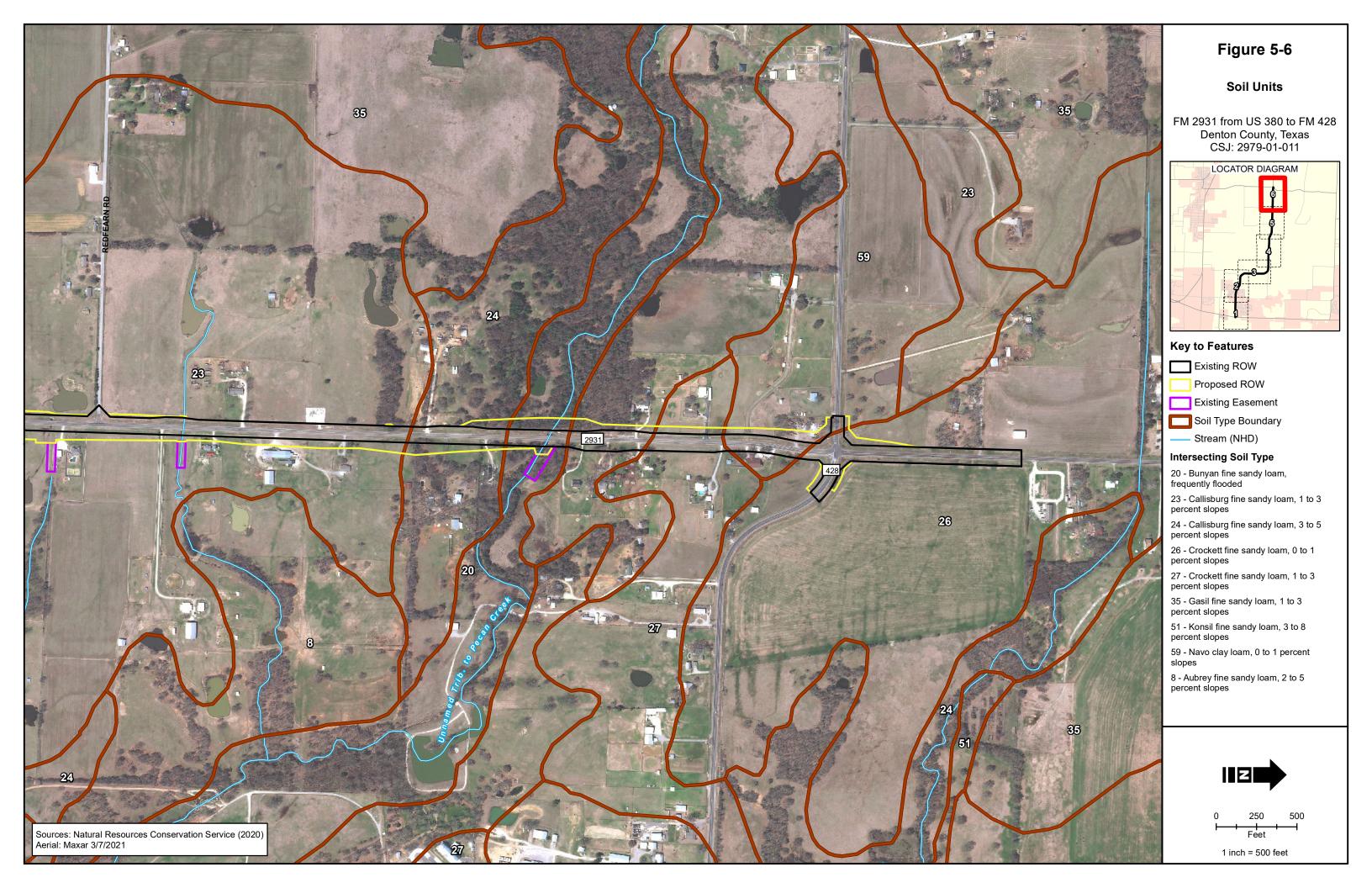


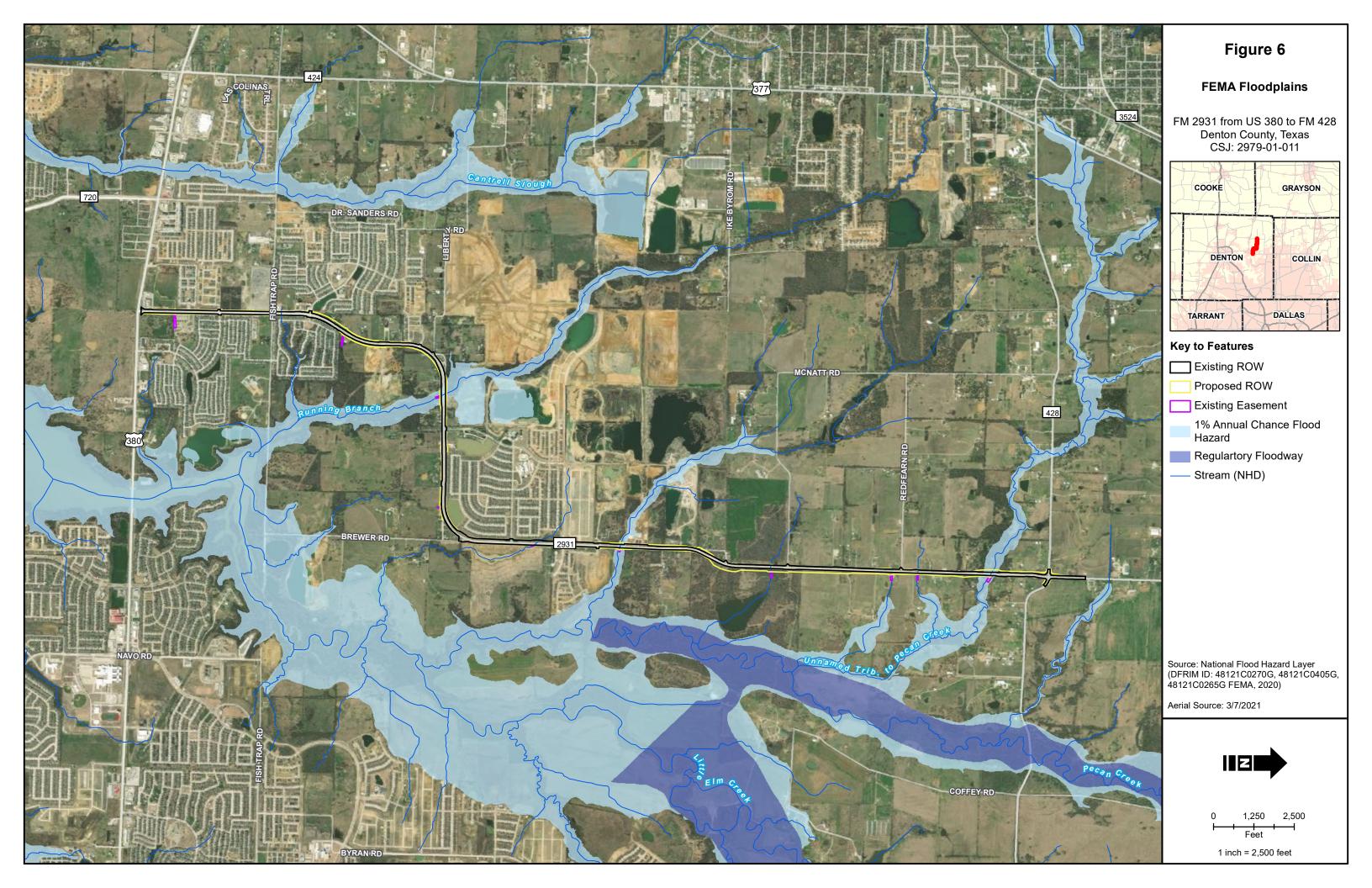


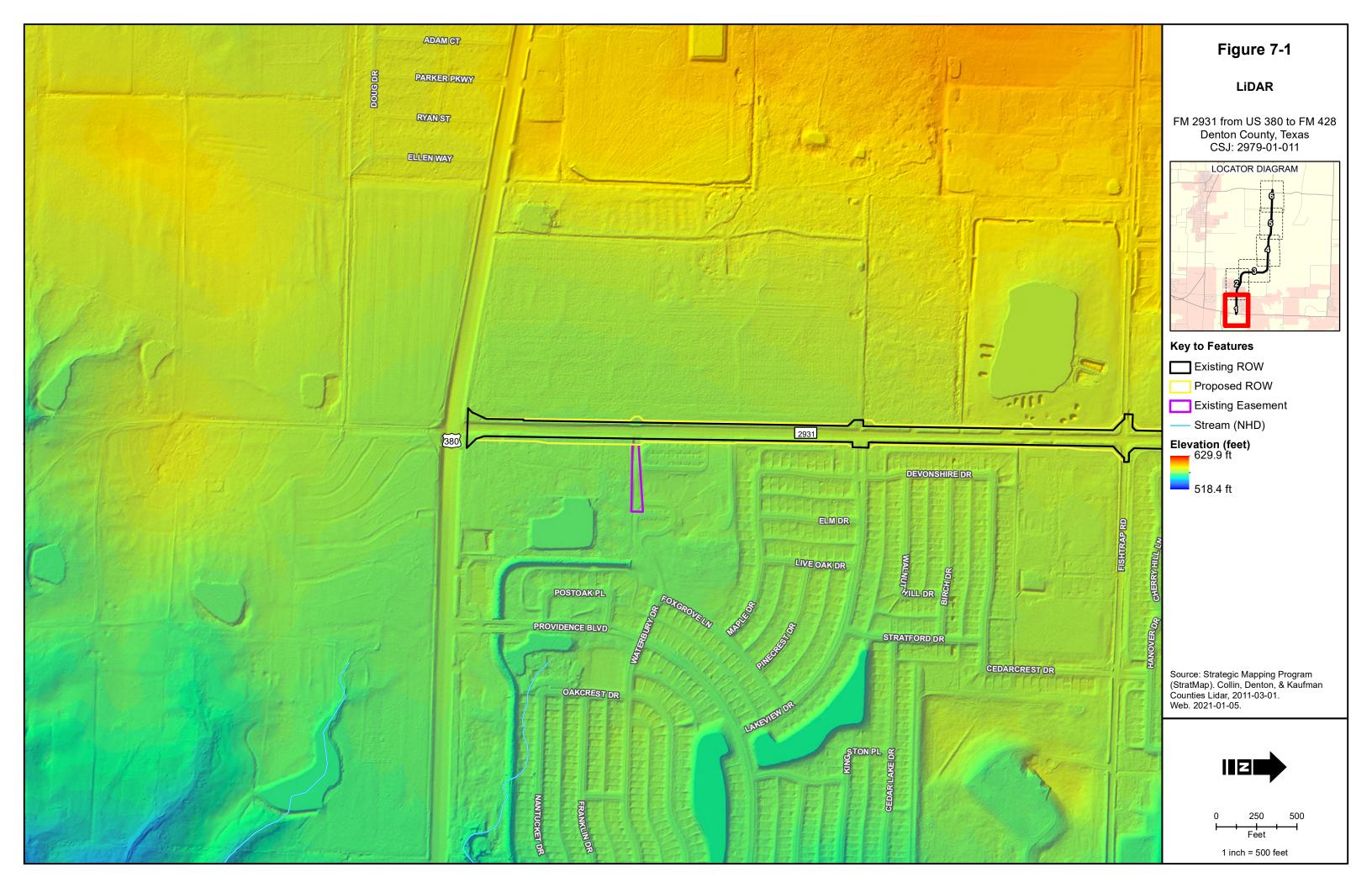


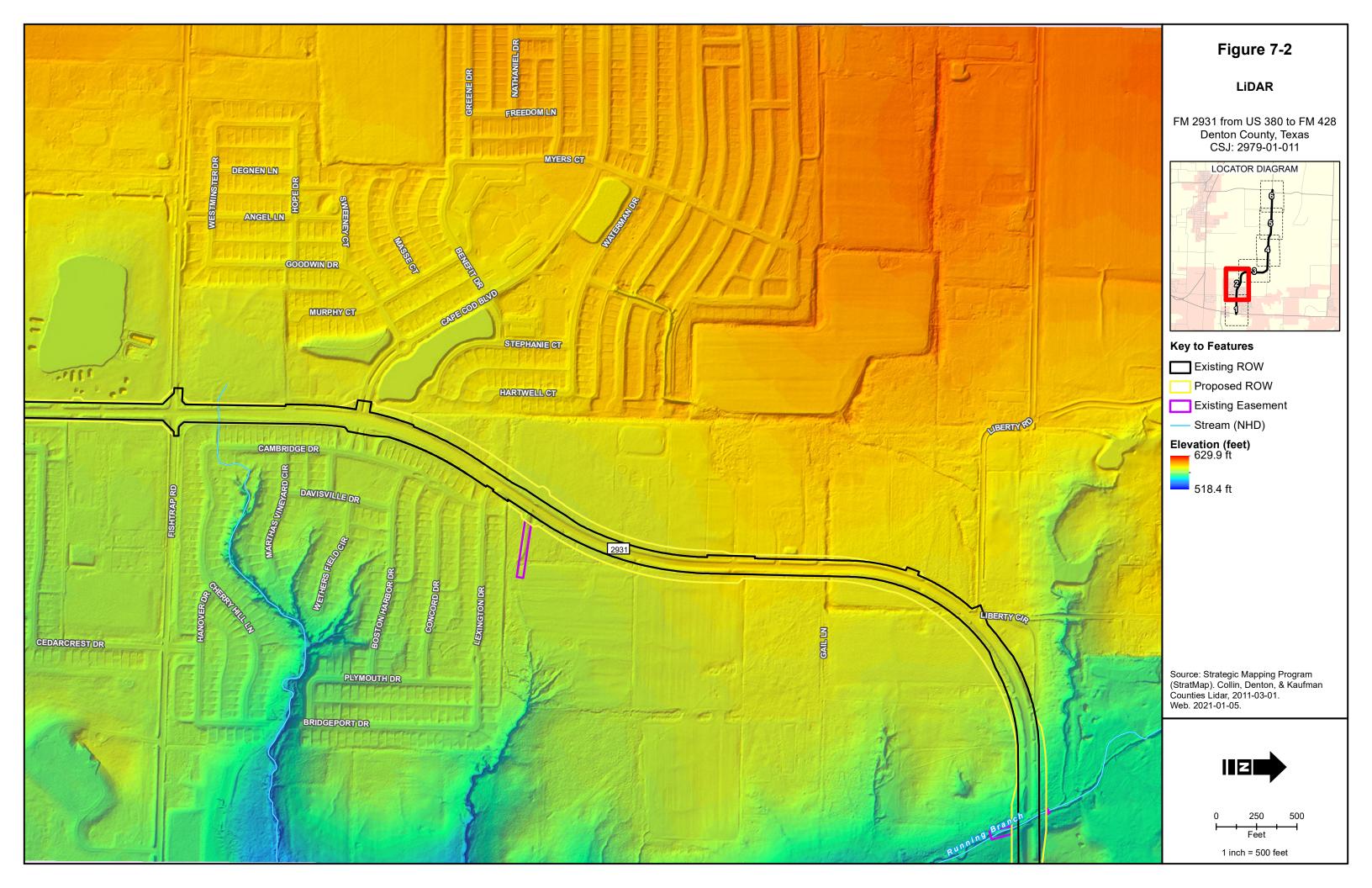


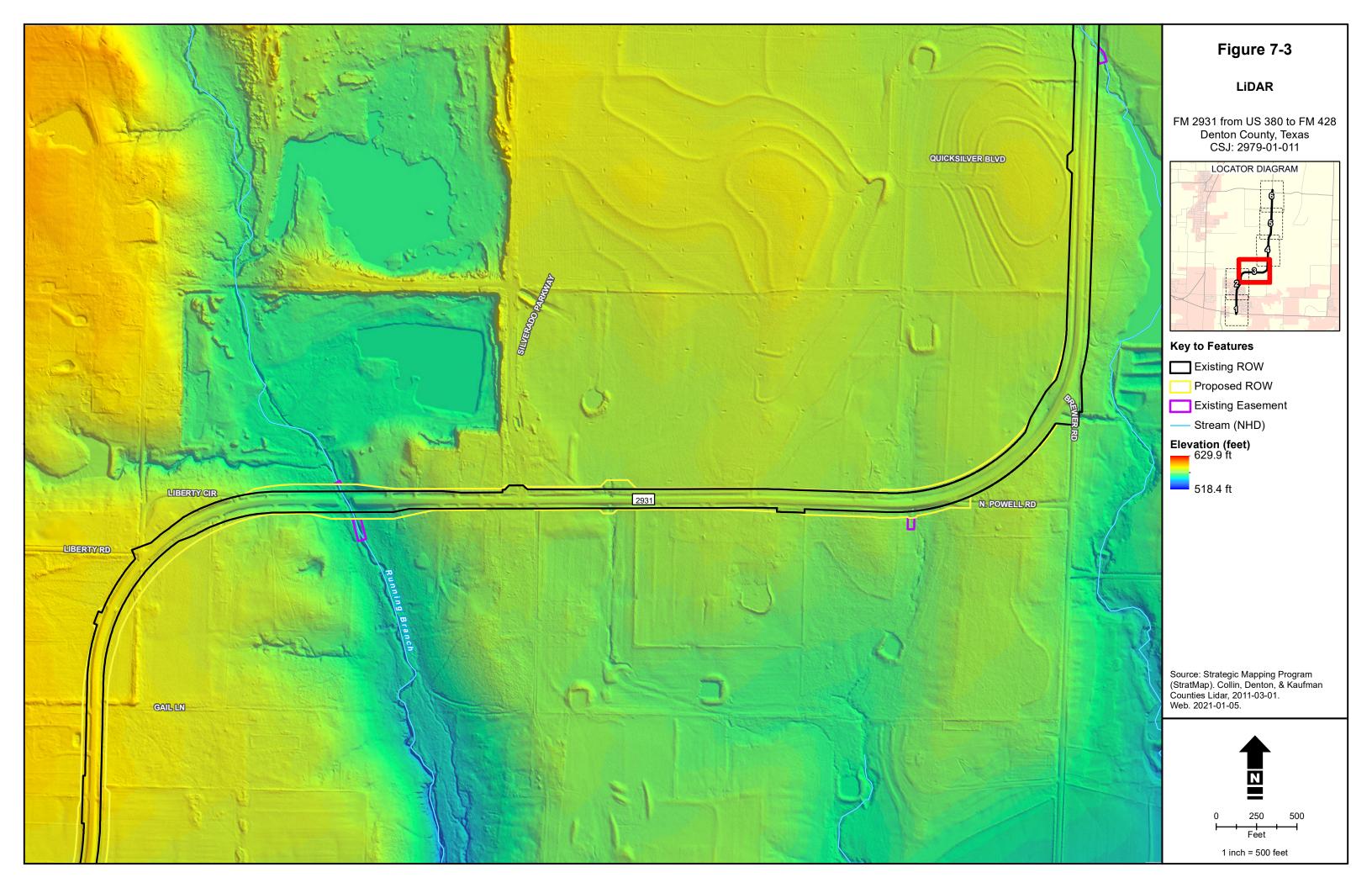


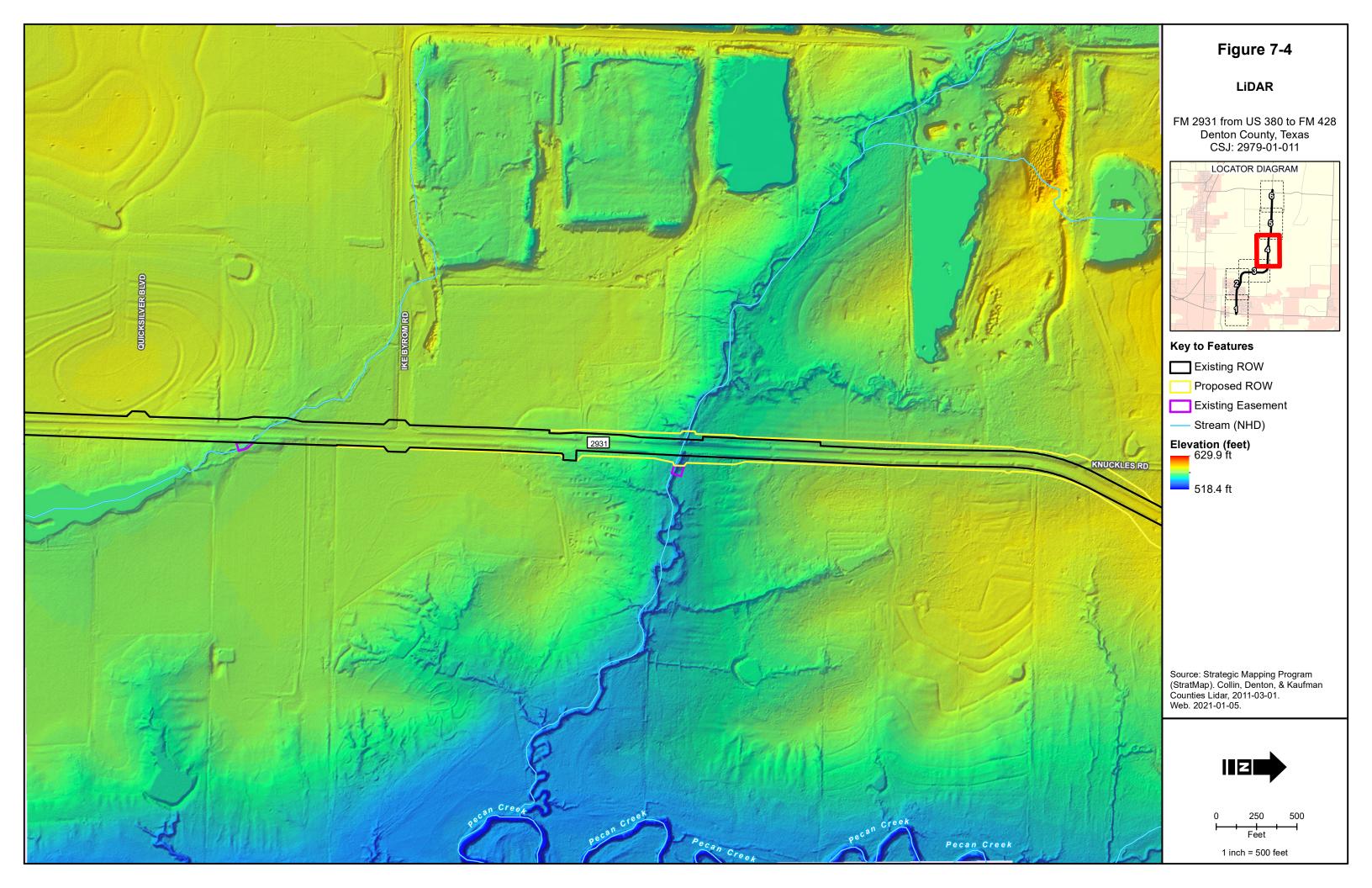


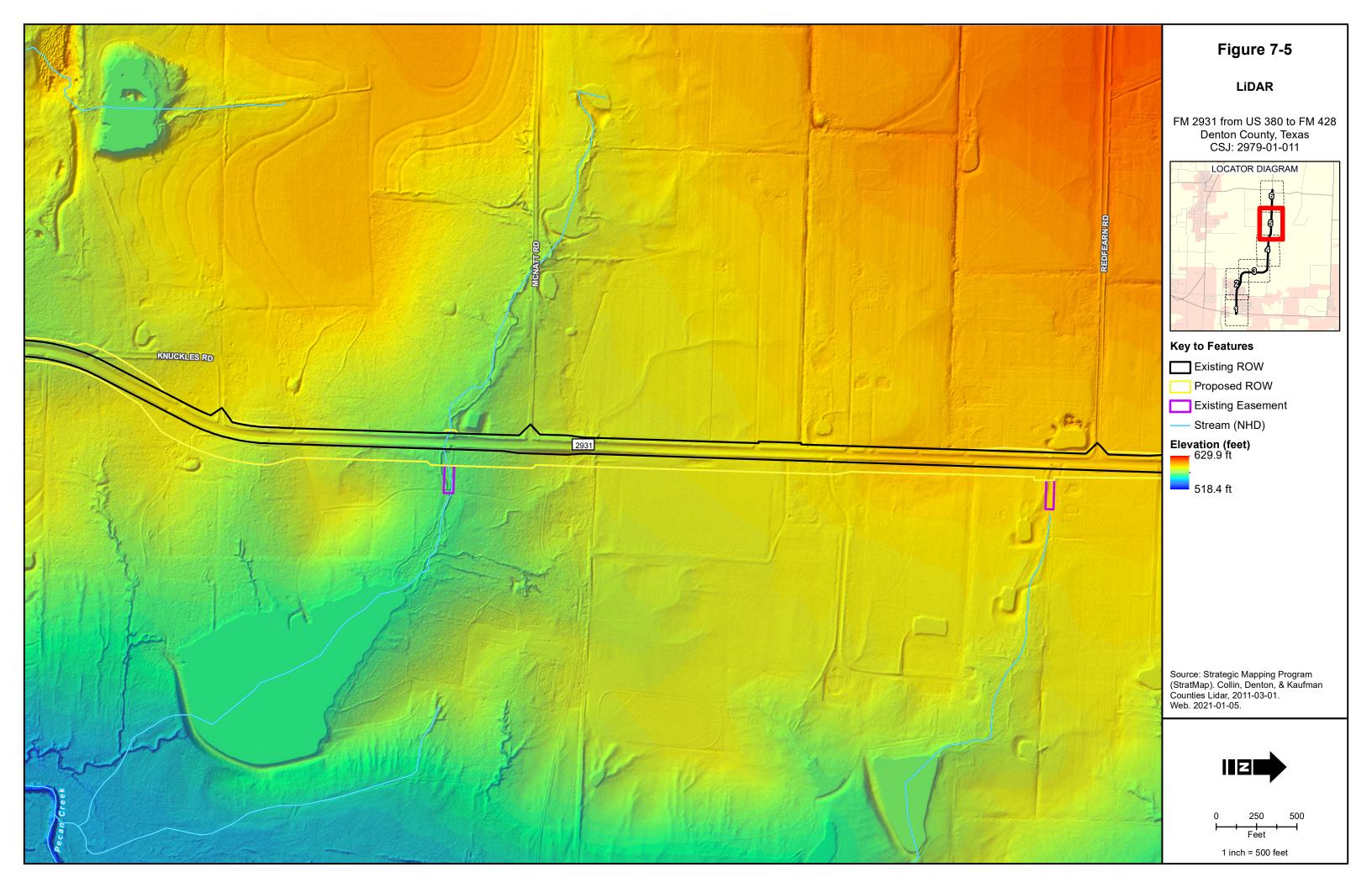


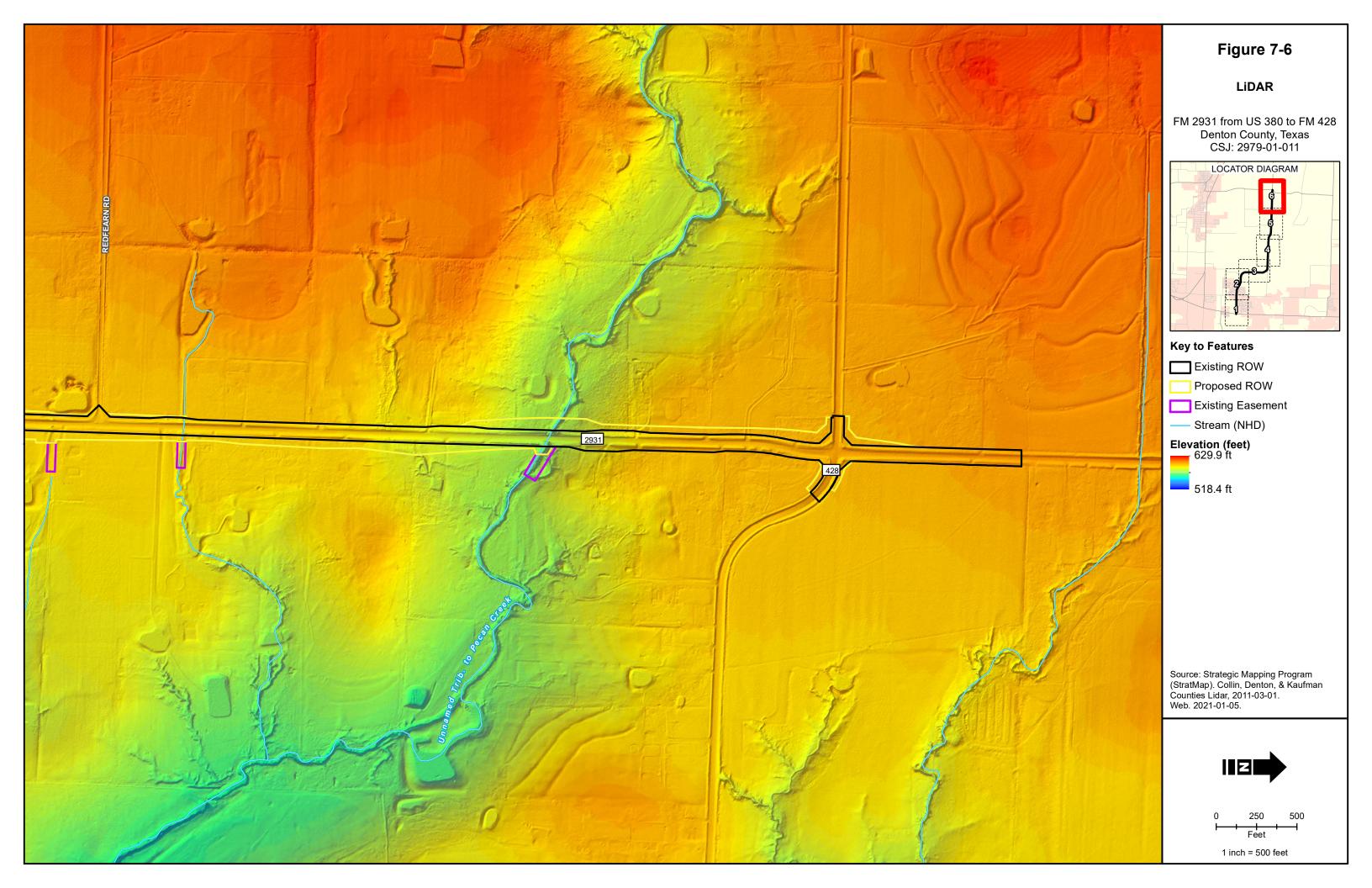


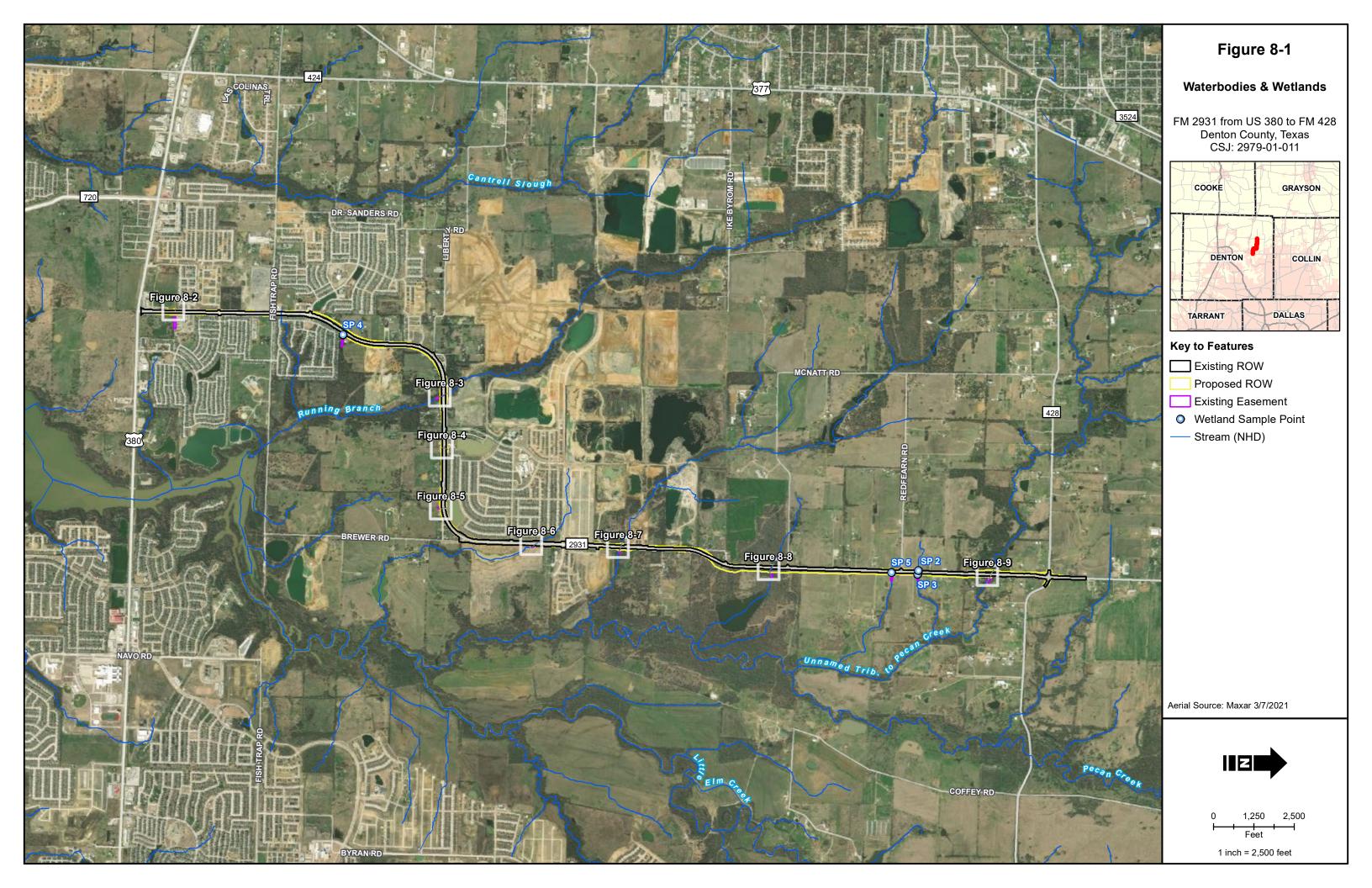


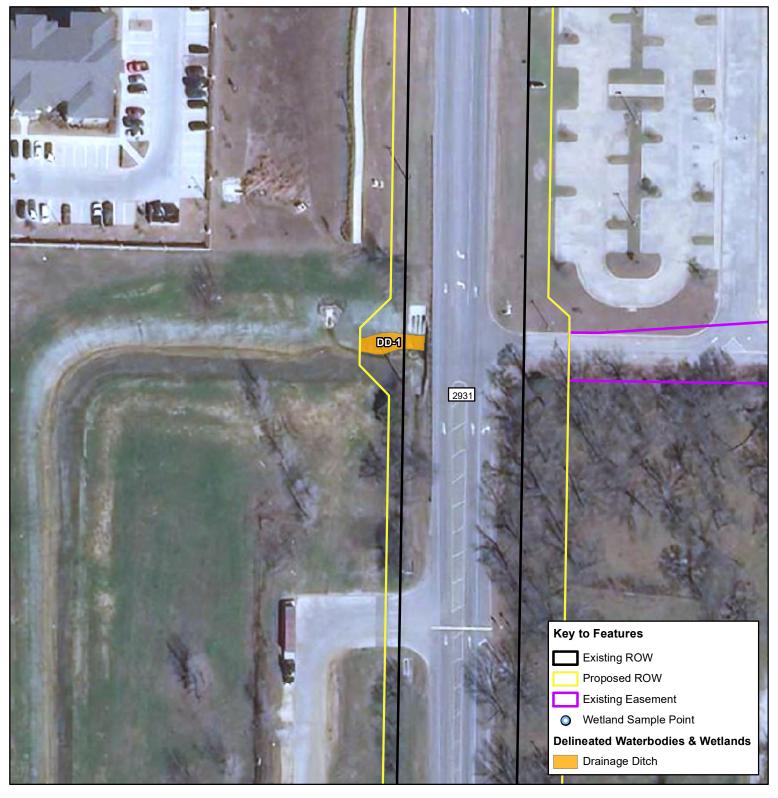


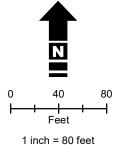






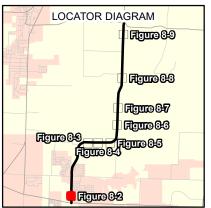


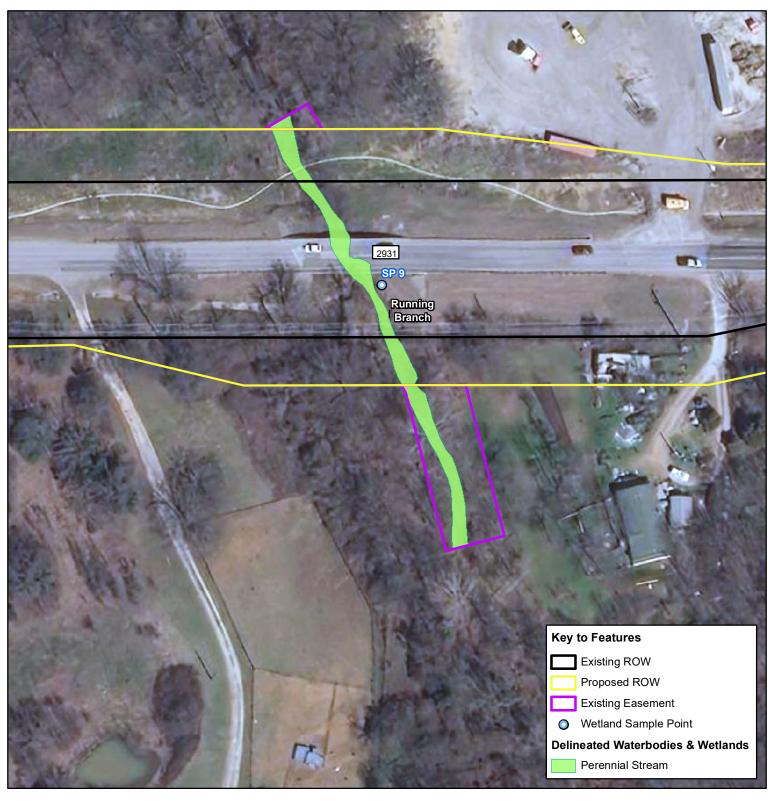


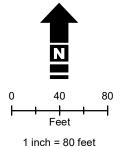


#### Waterbodies & Wetlands

FM 2931 from US 380 to FM 428 Denton County, Texas CSJ: 2979-01-011

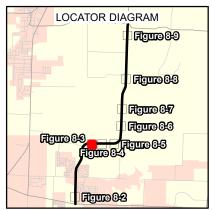




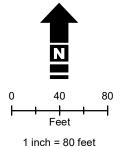


#### Waterbodies & Wetlands

FM 2931 from US 380 to FM 428 Denton County, Texas CSJ: 2979-01-011

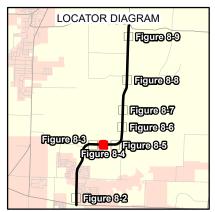


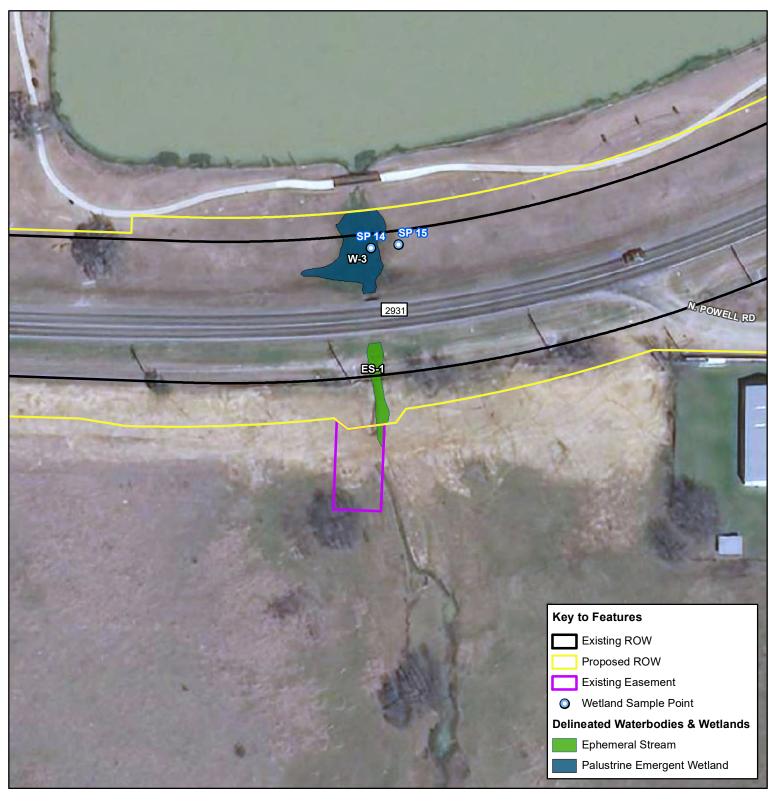


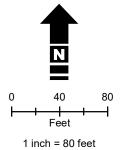


#### Waterbodies & Wetlands

FM 2931 from US 380 to FM 428 Denton County, Texas CSJ: 2979-01-011

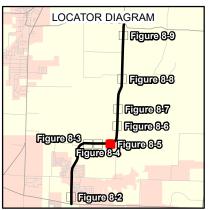


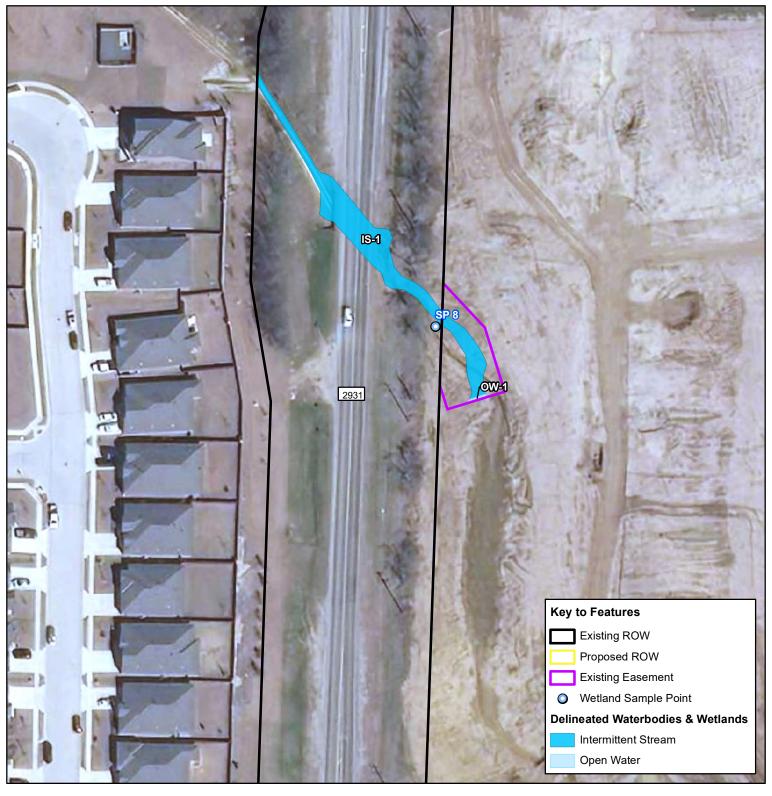


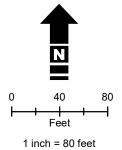


#### Waterbodies & Wetlands

FM 2931 from US 380 to FM 428 Denton County, Texas CSJ: 2979-01-011

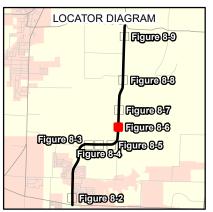


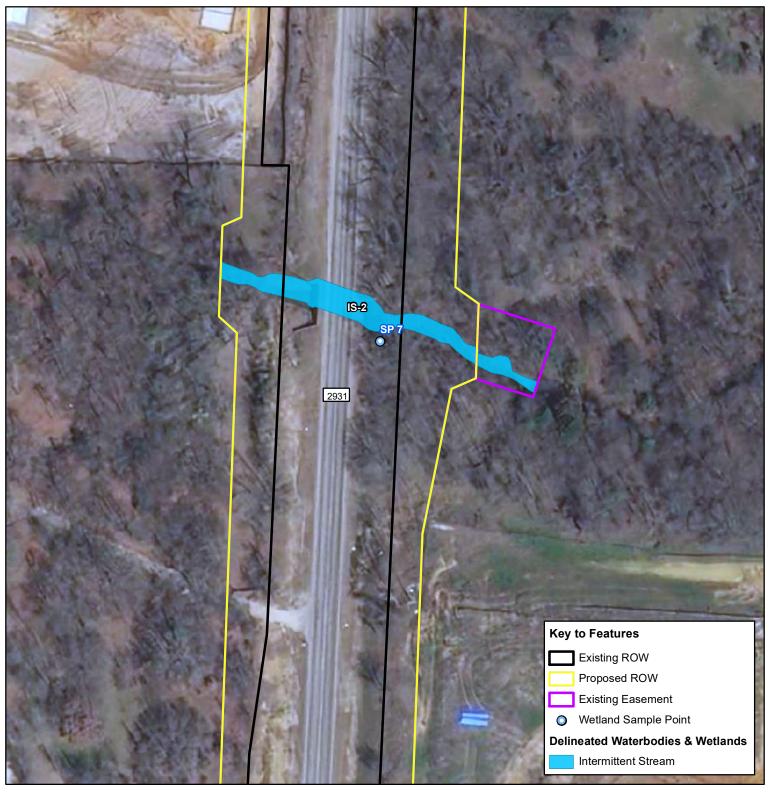


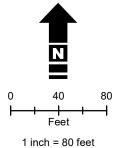


#### Waterbodies & Wetlands

FM 2931 from US 380 to FM 428 Denton County, Texas CSJ: 2979-01-011

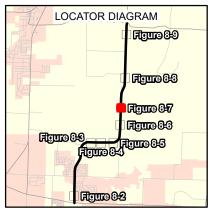


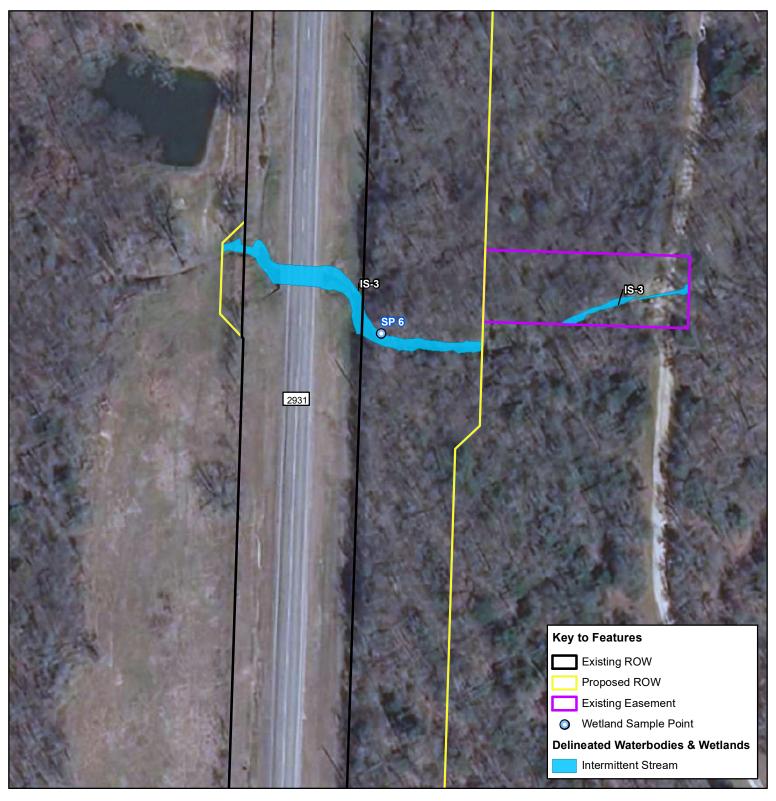


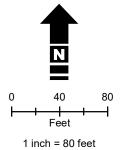


#### Waterbodies & Wetlands

FM 2931 from US 380 to FM 428 Denton County, Texas CSJ: 2979-01-011

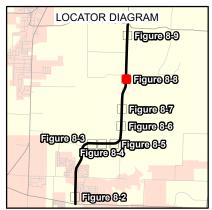


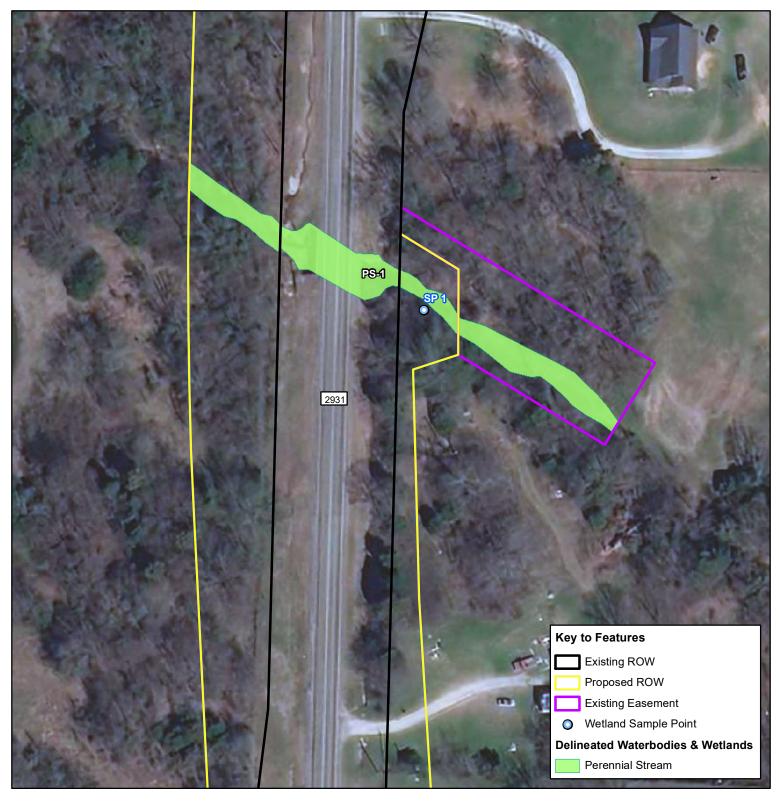


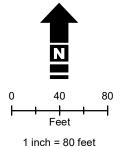


#### Waterbodies & Wetlands

FM 2931 from US 380 to FM 428 Denton County, Texas CSJ: 2979-01-011

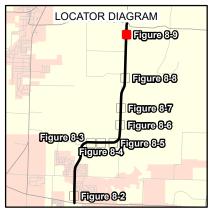






#### Waterbodies & Wetlands

FM 2931 from US 380 to FM 428 Denton County, Texas CSJ: 2979-01-011



## **Attachment 2 - Wetland Determination Data Forms**

Project/Site:	FM 2931		City/County	y: Dento	on	Sampling Date	e:	11/9/2020	
Applicant/Owner:	-	TxDOT Dallas		Stat					
				Section, Towns					
Landform (hillslope, terrace								0-	-2%
Subregion (LRR):			_	Long:					33
Soil Map Unit Name:						cation:			
Are climatic/hydrologic cond				_					ks)
Are vegetation No , so							_		
			_	blematic?					
SUMMARY OF FINDI									res. etc
Hydrophytic Vegetation Pre		Yes	No X	J					
Hydric Soil Present?	oont:	Yes	No X						
Wetland Hydrology Present	?	Yes	No X	Is the Sample	d Δrea within	n a Wetland?	Yes	No X	
Remarks: Does not meet th				15 the Gample	a Al Cu Witim	r u Wedana:			
Sample point tak year.	en on streamb	oank. Sand an		rate. A review of the	he Anteceder	nt Precipitation 1	ool data indi	cates a typ	oical
VEGETATION Use scien	tific names of	plants.							
- 0	(5)		Absolute %	Dominant	Indicator	Dominance Te	st workshee	∍t:	
Tree Stratum	(Plot size:	30-ft R )	Cover	Species?	Status	Number of Dom	•		
Ulmus americana     Carya illinoinensis			<del>40</del> 30	Yes Yes	FAC FAC	That Are OBL, (excluding FAC		C ⊿	(A)
3. Juniperus virginiana	9		15	No	UPL	Total Number of	•		. (~)
4. Quercus stellata	~		5	No	FACU	Species Across		8	(B)
			90	= Total Cover		Percent of Dom		, <del></del>	. ` ′
	50% (	of total cover:		0% of total cover:	18	That Are OBL,	•		(A/B)
Sapling/Shrub Stratum	(Plot size:	15-ft R )		-					•
1. Ulmus americana	,		5	Yes	FAC	Prevalence In	dex Worksh	eet	
2. Morus alba			5	Yes	FACU	Total % Cover	of:	Multiply	y by:
3.				· <del></del>		OBL species		x 1 =	
4.						FACW species		x 2 =	30
5			10	= Total Cover		FAC species FACU species			140
	50% (	of total cover:		0% of total cover:	2	UPL species			100
Herb Stratum	(Plot size:	5-ft R )		-		Column Totals	145 (A	49	95 (B)
Symphyotrichum la	_		15	Yes	FACW	Prevalence Inc	dex = B/A =	3.41	
2. Chasmanthium latif	olium		10	Yes	FACU	Hydrophytic \	/egetation Ir	ndicators:	
3							est for Hydrop	, ,	ation
				· <del></del>			nce Test is >5		
5. 6.				<del></del>			nce Index is ≤		
7.							ogical Adapta data in Remar		
8.						sheet)	iala III INGIIIai	KS OI OII a s	separate
9.						Problemation	Hydrophytic	Vegetation <sup>1</sup>	I
10.						(Explain)		Ū	
	E00/ -	of total cover:	25 12.5 20	= Total Cover 0% of total cover:	F	1			_
Woody Vine Stratum		30-ft R )	12.0 20	o /o Oi lolai Covel.	5	<sup>1</sup> Indicators of hyd be present, unles		•	gy must
1. Smilax bona-nox	<u> </u>		15	Yes	FACU				
2. Vitis mustangensis			5	Yes	UPL				
		-64-4.1	20	= Total Cover		Hydrophytic			
% Bare Ground in Herb St		of total cover:	10 20	0% of total cover:	4	Vegetation Present	Yes	No	Х
Remarks: Does not me	et the criteria	for hydrophytic	c vegetation.						
Approximately 75% of total			-	er.					

Profile Desc Depth	ription: (Describe <u>Matri</u>	•	pin needed to do		indicator or con Features	mrm the absen	ce or indicators.) -			
(Inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	R	emarks	
0-16	10YR 5/6	98	7.5YR 4/6	2	C	M	sand			
				<u> </u>						
				<u> </u>						
	<del>_</del>			<del></del> .			-			
				· ·		-	-			
<sup>1</sup> Type: C = C	oncentration, D = D	enletion F	- Reduced M:	atrix MS = Ma	sked Sand Grai	ns <sup>2</sup> l ocation	n: PL = Pore Lining	M = Matrix		
	Indicators: (App						dicators for Prob		ic Soils <sup>3</sup> :	
Histos				Sandy Gleyed			cm Muck (A9) (LR	-		
	Epipedon (A2)			Sandy Cleyco			past Prairie Redox		:. G. H)	
	Histic (A3)			Stripped Matri			ark Surface (S7) (I		, =,,	
	gen Sulfide (A4)			Loamy Mucky			gh Plains Depress			
Stratifi	ed Layers (A5) <b>(L</b> l	RR F)	i	Loamy Gleyed	d Matrix (F2)		(LRR H outs	ide of MLRA	72 & 73)	
	luck (A9) (LRR F,			Depleted Mati	rix (F3)	Re	educed Vertic (F18	3)		
	ed Below Dark Su	,		Redox Dark S			ed Parent Material			
	Dark Surface (A12				k Surface (F7)		ery Shallow Dark S		)	
	Mucky Mineral (S			Redox Depres			her (Explain in Re			
	Mucky Peat or Pollucky Peat or Pea	` , `	· · · —	-	epressions (F102 & 73 of LRR I	•	dicators of hydro			
5 CIII N	nucky real of rea	II (33) <b>(LK</b>	.к г)	(IVILKA 12	2 & 73 OI LKK I		drology must be poblematic.	resent, unless	, disturbed	l OI
Restrictive I	.ayer (if present):									
	ayor (ii procent).									
Type:	(inches):					Hydric S	Soil Present?	Yes	No	Х
Бериг	(11101103).					Tiyane	John Tresent:			
			_							
HYDROL										
-	drology Indicato									
	cators (minimum o	of one requ				Seconda	ary Indicators (min		equired)	_
	e Water (A1)			Salt Crust (B1	•		Surface Soil Cra		0 ( (5	20)
	Vater Table (A2) tion (A3)				tebrates (B13) fide Odor (C1)		Sparsely Vegeta  Drainage Patter		Surface (B	38)
	Marks (B1)			, ,	Vater Table (C2		Oxidized Rhizos	` ,	ina Roots	(C3)
	ent Deposits (B2)			•	cospheres on Liv		(where tilled)	pricies on Liv	ing recots i	(00)
	eposits (B3)			(C3) (where r		9 . 10010	Crayfish Burrow	rs (C8)		
	Mat or Crust (B4)				Reduced Iron (C		Saturation Visib		nagery (C9	<del>)</del> )
Iron De	eposits (B5)		<u> </u>	Thin Muck Su	ırface (C7)		Geomorphic Po	sition (D2)		
	ition Visible on Ae	U	ry (B7)(	Other (Explair	n in Remarks)		FAC-Neutral Te	` '		
Water-	Stained Leaves (E	39)					Frost-Heave Hu	mmocks (D7)	(LRR F)	
Field Obse	rvations:									
	ter Present?	Yes		epth (inches):						
Water Table		Yes		epth (inches):		\ <b>4</b> /-4	-l l D 40		NI.	v
Saturation F		Yes	No X De	epth (inches):		wetland Hy	drology Present?	Yes	_ No _	<u> </u>
,	pillary fringe)	om gouge		II carial abota		acations) if ou	ailahla:			
Describe Re	ecorded Data (stre	am gauge	s, monitoring wei	ıı, aeriai prioto	os, previous iris	pections), ii av	allable.			
Remarks:	Does not meet	the criteria	a for wetland hyd	drology.						

Project/Site:	FM 2931		City/Count	y: Dento	on	Sampling Da	te:	11/9/2020	
Applicant/Owner:		TxDOT Dallas	<del></del>	Stat	e: Texas	Sampling Poi	nt:	SP 2	
Investigator(s): J. LeCla	air, P. Van Zan	dt		Section, Towns	ship, Range:		N/A		
Landform (hillslope, terrace	e, etc.):	Ditch	Local relief	 (concave, convex,	none):	Concave	Slope (%	): 1-	-2%
Subregion (LRR):	LLR J	Lat:		Long:	-96.93756	9	Datum:	NAD 198	3
Soil Map Unit Name:	Callisburg				NWI Classifi			one	
Are climatic/hydrologic cor							(If no, expl	ain in remar	ks)
				disturbed? Are "					
				blematic?					
SUMMARY OF FIND			_						res. etc
				, <b></b> p					
Hydrophytic Vegetation Pro	esent	Yes	No X						
Hydric Soil Present? Wetland Hydrology Preser	. <del>+</del> 2	Yes X	No	la the Sample	d Aroo within	a a Watland?	Yes	No X	
		Yes	No <u>X</u>	Is the Sample	u Area Willin	i a vvetianu i		No X	_
Remarks: Does not meet t									
Sample point ta data indicates a		adside ditch dr	aining to cond	crete lined feature	at RCP culve	rt. A review of	the Antecede	ent Precipita	tion Tool
VEGETATION Use scier	ntific names of	plants.							
			Absolute %	Dominant	Indicator	Dominance 1	est workshe	et:	
Tree Stratum	(Plot size:	30-ft R )	Cover	Species?	Status	Number of Do	•		
1. <u>N/A</u> 2.			-	· <del></del> -		That Are OBL (excluding FA		AC 0	(A)
2. 3.				·		Total Number	•		(~)
4.				·		Species Acros		1	(B)
			0	= Total Cover		Percent of Do	minant Snecie	25	
	50%	of total cover:	0 2	0% of total cover:	0	That Are OBL	•		(A/B)
Sapling/Shrub Stratum	(Plot size	: 15-ft R )		_					•
1. N/A				. <u></u> .		Prevalence I	ndex Works	heet	
2.						Total % Cove	of:	Multiply	y by:
3.						OBL species FACW specie		x 1 =	
5. ————————————————————————————————————				· ——— -		FAC species	s	x 2 =	
·			0	= Total Cover		FACU species	; ——	x 4 =	
	50%	of total cover:	0 2	0% of total cover:	0	UPL species		x 5 =	
Herb Stratum	(Plot size:	5-ft R )		_		Column Totals	;(	A)	(B)
Cynodon dactylon			95	Yes	FACU	Prevalence In			
2. Echinochloa crus-g	galli		5	<u>No</u>	FAC	Hydrophytic	•		
3. 4.			-	· <del></del> -		I ——	Test for Hydro ance Test is >		ation
5.				· <del></del> -		l ——	ence Index is:		
6.				·			ological Adapt		/ide
7.							data in Rema	`	
8						sheet)			
9.							ic Hydrophytic	: Vegetation <sup>1</sup>	ı
10			100	= Total Cover		(Explain)			
	50%	of total cover:		0% of total cover:	20	1Indicators of h	ydric soil and w	etland hydrolc	ogy must
Woody Vine Stratum	(Plot size	: 30-ft R )		_		be present, unl	ess disturbed o	r problematic	
1. N/A 2.				·					
<u>-</u> .			0	= Total Cover		Hydrophytic			
	50%	of total cover:	0 2	0% of total cover:	0	Vegetation			
% Bare Ground in Herb S	tratum					Present	Yes	No	X
Remarks: Does not m	eet the criteria	for hydrophytic	c vegetation.					<del></del>	

Profile Desc Depth	ription: (Describe Matrix	-	otn needed to do		indicator or con Features	tirm the absen	ce of indicators.)	
(Inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-16	10YR 3/2	95	7.5YR 3/4	5	C	PL	clay	. toa.r.o
							· <del></del> -	
	<del></del>						· <del></del> -	
<sup>1</sup> Type: C = Ce	oncentration, D = D	epletion. R	M = Reduced Ma	trix. MS = Ma	asked Sand Grai	ns. <sup>2</sup> Location	: PL = Pore Lining,	M = Matrix
,,	Indicators: (App							ematic Hydric Soils <sup>3</sup> :
Histos	ol (A1)		S	andy Gleveo	d Matrix (S4)	1 (	m Muck (A9) (LRF	R I, J)
	Epipedon (A2)			andy Redox	, ,			(A16) <b>(LRR F, G, H)</b>
	Histic (A3)			tripped Matr		Da	rk Surface (S7) <b>(LI</b>	RR G)
	gen Sulfide (A4)				/ Mineral (F1)	Hi	gh Plains Depression	
	ed Layers (A5) (LF				d Matrix (F2)	Da	•	de of MLRA 72 & 73)
	/luck (A9) <b>(LRR F,</b> ed Below Dark Su			epleted Mati Redox Dark S	, ,		duced Vertic (F18) d Parent Material (	
	Dark Surface (A12				k Surface (F7)		ry Shallow Dark Su	•
	Mucky Mineral (S			Redox Depres	, ,		her (Explain in Ren	
	Mucky Peat or Pe		.RR G, H)	ligh Plains D	epressions (F16			nytic vegetation and wetland
5 cm N	Mucky Peat or Pea	t (S3) <b>(LR</b>	R F)	(MLRA 72	2 & 73 of LRR H		• • • • • • • • • • • • • • • • • • • •	esent, unless disturbed or
						pro	blematic.	
Restrictive L	.ayer (if present):							
Type:								
Depth	(inches):					Hydric S	oil Present?	Yes X No
Remarks:	Meets the crite	ria for hyd	ric soil					
rtomanto.	Weete the onte	na ioi riya	110 0011.					
HYDROL	.OGY							
Wetland Hy	drology Indicato	rs:						
Primary India	cators (minimum o	of one requ	ired: check all th	at apply)		Seconda	ry Indicators (minir	num of two required)
,	e Water (A1)	one requ		alt Crust (B1	11)	00001100	Surface Soil Crac	<u> </u>
	Vater Table (A2)			•	tebrates (B13)		_	ed Concave Surface (B8)
Satura	tion (A3)		<u> </u>	lydrogen Sul	fide Odor (C1)		Drainage Patterns	s (B10)
	Marks (B1)			-	Vater Table (C2		_	heres on Living Roots (C3)
	ent Deposits (B2)				ospheres on Liv	ing Roots	(where tilled)	(00)
	eposits (B3)		•	C3) <b>(where</b> r			Crayfish Burrows	
	Mat or Crust (B4) eposits (B5)			hin Muck Su	Reduced Iron (C	<del></del>	Geomorphic Posi	e on Aerial Imagery (C9)
	ition Visible on Ae	rial Imagei			n in Remarks)		FAC-Neutral Test	
	Stained Leaves (E	Ū		tiror (Explain	in in remaine)			nmocks (D7) (LRR F)
Field Obse	•						•	
		Yes	No X De	pth (inches):				
Water Table		Yes		pth (inches):				
Saturation F	Present?	Yes		pth (inches):		Wetland Hyd	drology Present?	Yes No X
(includes ca	pillary fringe)							
Describe Re	ecorded Data (stre	am gauge	, monitoring well	, aerial photo	os, previous ins	pections), if ava	ailable:	
Damada	D	41						
Remarks:	Does not meet	uie criteria	for wetland hyd	rology.				

Project/Site:	FM 293	1	City/County	r: Dento	on	Sampling Dat	e:	11/9/2020	
Applicant/Owner:		TxDOT Dallas		Stat					
	air, P. Van Za			Section, Towns					
Landform (hillslope, terrac								: 1-	-2%
Subregion (LRR):				Long:					3
Soil Map Unit Name:	Callisbu	_						ne	
Are climatic/hydrologic cor								ain in remarl	ks)
Are vegetation No , s					_		_		
				olematic?					
SUMMARY OF FIND									res, etc
Hydrophytic Vegetation Pr		Yes	No X			•	<u> </u>		
Hydric Soil Present?	COCITE:	Yes	No X						
Wetland Hydrology Preser	nt?			Is the Sample	d Area withi	n a Wetland?	Yes	No X	
Remarks: Does not meet		<u> </u>						<u> </u>	
Tremains. Does not meet	ine tinee onte	ina ioi a wellani	۵.						
Vegetated swale	e with no OH	VM. A review of	f the Antecede	nt Precipitation To	ool data indic	ates a typical ye	ear.		
VEGETATION Use scien	ntific names o	of plants							
VEGETATION 03c 3cicl	Titillo Harrics (	л ріапіз.				Dominance To	est worksho	ot·	
Tree Stratum	(Plot size	: 30-ft R )	Absolute % Cover	Dominant Species?	Indicator Status				
1. N/A	(1 101 3120	. <u>30-1111</u> )	00701	Орескоз:	Otatus	Number of Dor That Are OBL,	•		
2.						(excluding FAC		1	(A)
3.						Total Number	of Dominant		
4						Species Acros	s All Strata:	2	(B)
				= Total Cover		Percent of Don	•		
		% of total cover:	0 20	% of total cover:	0	That Are OBL,	FACW, or FA	C: <u>50%</u>	(A/B)
Sapling/Shrub Stratum	(Plot siz	e: 15-ft R )				<u> </u>			
1. <u>N/A</u> 2.						Prevalence In Total % Cover		neet Multiply	y by:
3.			·			OBL species	01.	x 1 =	, by.
4.						FACW species	3	x 2 =	6
5.						FAC species	27		81
	F00	/ af tatal assum		= Total Cover	0	FACU species			40
I I and Others to one		% of total cover:		% of total cover:	0	UPL species Column Totals	60 100 (A	$x 5 = \frac{3}{42}$	300 27 (B)
Herb Stratum  1. Setaria leucopila	(Plot size	: <u>5-ft R</u> )	60	Yes	UPL	Prevalence In	<del></del> '	4.27	(5)
Paspalum dilatatui	m		27	Yes	FAC	Hydrophytic '			
3. Cynodon dactylon			10	No	FACU		est for Hydrop		ation
4. Persicaria pensylv	anica		3	No	FACW	l	nce Test is >5		
5						3 - Prevale	nce Index is ≤	.3.0 <sup>1</sup>	
6.							logical Adapta		
7. 8.			. ———			supporting sheet)	data in Rema	rks or on a s	separate
9.						1	c Hydrophytic	Vegetation <sup>1</sup>	
10.						(Explain)	21.ya.opya.o	r ogotatio	
		/ of total carra		= Total Cover	20	1			
Woody Vine Stratum		% of total cover: e: 30-ft R )		% of total cover:	20	<sup>1</sup> Indicators of hy be present, unle		•	gy must
1. N/A									
2.							·	<del></del>	
	F00	/		= Total Cover	0	Hydrophytic			
% Bare Ground in Herb S		% of total cover:	0 20	% of total cover:	0	Vegetation Present	Yes	No	Х
		a for hydrophyti	c vegetation			1			
		. , ,	- 0 - 1-1-1						

Depth	ription: (Describe <u>Matri</u>	-	our needed to do		ndicator or con Features	mrm the abser	ce of indicators.)			
(Inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	- Texture	R	emarks	
0-16	10YR 3/3	90	5YR 3/4	10	С	PL/M	sandy loam			
							<b>.</b> .			
<sup>1</sup> Type: C = Co	oncentration, D = D	enletion R	. — Reduced Ma	atrix MS = Ma	sked Sand Grai	ns <sup>2</sup> l ocation	n: PL = Pore Lining	M = Matrix		
	Indicators: (App						dicators for Prob		c Soils <sup>3</sup> :	
Histose				Sandy Gleyed		1	cm Muck (A9) (LR	R L J)		
	Epipedon (A2)			Sandy Redox			oast Prairie Redox		. G. H)	
	Histic (A3)			Stripped Matri			ark Surface (S7) (L		, -, ,	
Hydrog	gen Sulfide (A4)		— <sub>L</sub>	oamy Mucky	Mineral (F1)	—— Hi	gh Plains Depress	ions (F16)		
Stratifi	ed Layers (A5) <b>(L</b>	RR F)	<u> </u>	oamy Gleyed	d Matrix (F2)	<u> </u>	(LRR H outs	ide of MLRA	72 & 73)	
	/luck (A9) (LRR F			Depleted Matr	` '		educed Vertic (F18	,		
	ed Below Dark Su			Redox Dark S			ed Parent Material			
	Dark Surface (A12				Surface (F7)		ery Shallow Dark S			
	Mucky Mineral (S	•		Redox Depres	, ,		ther (Explain in Re			
	i Mucky Peat or Pi ∕lucky Peat or Pea	. , .		-	epressions (F10 2 & 73 of LRR I	•	ndicators of hydrop drology must be p			
	nucky real of rea	it (33) <b>(EK</b>	.к.г)	(WILKA 12	. & 73 OI LKK I	,	oblematic.	reserit, uriless	uistuibeu	OI
Restrictive I	.ayer (if present):									
	ayor (ii procont).									
Type:	(inches):					Hydric 9	Soil Present?	Yes	No	X
Берит	(11101103).					Tiyane	John Frederit:			<u> </u>
HYDROL										
Wetland Hy	drology Indicato	rs:								
	cators (minimum o	of one requ				Seconda	ary Indicators (min		equired)	_
	e Water (A1)			Salt Crust (B1	•		Surface Soil Cra	. ,	o	
	Vater Table (A2)				ebrates (B13)		Sparsely Vegeta		Surface (B	·8)
	tion (A3) Marks (B1)			, ,	fide Odor (C1) Vater Table (C2		Drainage Patters Oxidized Rhizos	,	na Poots i	(C3)
	ent Deposits (B2)			•	ospheres on Liv	·	(where tilled)	prieres on Liv	ng Roots i	(03)
	eposits (B3)			C3) (where n		virig 1100t3	Crayfish Burrow	s (C8)		
	Nat or Crust (B4)		•	, .	Reduced Iron (C	(4)	Saturation Visible		agery (C9	)
	eposits (B5)		<del></del>	Thin Muck Su	rface (C7)		Geomorphic Pos			
Inunda	ition Visible on Ae	rial Image	ry (B7)(	Other (Explain	n in Remarks)	<u> </u>	FAC-Neutral Tes	st (D5)		
Water-	Stained Leaves (I	39)					Frost-Heave Hu	mmocks (D7)	(LRR F)	
Field Obse	rvations:									
Surface Wa	ter Present?	Yes	No X De	epth (inches):						
Water Table		Yes		epth (inches):						
Saturation F		Yes	No X De	epth (inches):		Wetland Hy	drology Present?	Yes	_ No _	X
,	ipillary fringe)						-9-6-1-			
Describe Re	ecorded Data (stre	am gauge	, monitoring well	i, aeriai photo	s, previous ins	pections), if av	allable:			
Remarks:	Does not meet	the criteria	a for wetland hyd	Irology.						

Project/Site:	FM 2931	City/County:	Dento	on	Sampling Date:	11/9/202	20
Applicant/Owner:	TxDOT Dalla			e: Texas	Sampling Point:	SP 4	
Investigator(s): J. LeClair							
Landform (hillslope, terrace,	etc.): Swale	Local relief (co	ncave, convex,	none):	Concave Slo	pe (%):	0-2%
Subregion (LRR):				_			1983
Soil Map Unit Name:					cation:		
Are climatic/hydrologic cond							marks)
Are vegetation No , soi							
Are vegetation No, soi							
SUMMARY OF FINDIN							tures, etc
		· ·			,,		
Hydrophytic Vegetation Pres							
Hydric Soil Present?	Yes X		la tha Campla	d Avaa within	a Watlanda Vaa	. No	v
Wetland Hydrology Present?			is the Samplet	Area Within	n a Wetland? Yes	NO _	
Remarks: Does not meet the	e three criteria for a wetlar	na.					
Vegetated swale	with no OHWM. A review	of the Antecedent	Precipitation To	ol data indica	ates a typical year.		
VEGETATION Use scienti	ific names of plants.						
		Absolute %	Dominant	Indicator	Dominance Test wo	orksheet:	
Tree Stratum	(Plot size: 30-ft R)	Cover	Species?	Status	Number of Dominant		
1. Populus deltoides		15	Yes	FAC	That Are OBL, FACW (excluding FAC-):		I (A)
2. 3.					Total Number of Dom		(A)
4.					Species Across All S		2 (B)
		15 =	Total Cover		Percent of Dominant	Species	
	50% of total cover	7.5 20%	of total cover:	3	That Are OBL, FACW	•	% (A/B)
Sapling/Shrub Stratum	(Plot size: 15-ft R )		_				
1. N/A					Prevalence Index \	Norksheet	
2.					Total % Cover of:		tiply by:
3.					OBL species	x1=_	
5.					FACW species	x 2 = _ x 3 =	90
J		0 =	Total Cover			35 x 4 =	340
	50% of total cover	r: 0 20%	of total cover:	0	UPL species	x 5 =	
Herb Stratum	(Plot size: 5-ft R )		_		Column Totals 1	<u>15</u> (A)	430 (B)
Cynodon dactylon		85	Yes	FACU	Prevalence Index =		
2. Rumex crispus		15	No	FAC	Hydrophytic Veget		
3. 4.					1 - Rapid Test for 2 - Dominance Te	, , ,	egetation
5.					3 - Prevalence In		
6.					— 4 - Morphological		Provide
7.					supporting data ir		
8					sheet)		
9.					Problematic Hydr	ophytic Vegetati	ion <sup>1</sup>
10		100 =	Total Cover		(Explain)		
	50% of total cover		of total cover:	20	<sup>1</sup> Indicators of hydric soi	il and wetland hyd	drology must
Woody Vine Stratum	(Plot size: 30-ft R )	<del></del>	_		be present, unless distr	•	٠,
1. <u>N/A</u> 2.							
۷۰		0 =	Total Cover		Hydrophytic		
	50% of total cover		of total cover:	0	Vegetation		
% Bare Ground in Herb Stra	ratum <u>5</u>		_		Present Yes	N	o <u>X</u>
Remarks: Does not mee	et the criteria for hydrophy	tic vegetation.					

Profile Desc Depth	ription: (Describe Matrix	•	th needed to doc		ndicator or con Features	firm the absen	ce of indicators.)	
(Inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-8	10YR 3/2	98	7.5YR 3/4	2	С	PL	sandy loam	
8-16	10YR 5/6	100					sand	
	oncentration, D = D						: PL = Pore Lining, N	
	Indicators: (App	icable to						matic Hydric Soils <sup>3</sup> :
	ol (A1)				d Matrix (S4)		m Muck (A9) (LRR	
	Epipedon (A2)			andy Redox				A16) (LRR F, G, H)
	Histic (A3)			ripped Matri			rk Surface (S7) <b>(LR</b>	
	gen Sulfide (A4)	3D E\			Mineral (F1)	HIG	h Plains Depressio	
	ed Layers (A5) <b>(LF</b> ⁄luck (A9) <b>(LRR F</b> ,			epleted Mati	d Matrix (F2)	Po	duced Vertic (F18)	le of MLRA 72 & 73)
	ed Below Dark Su			edox Dark S	, ,		duced vertic († 16) d Parent Material (1	Γ <b>F</b> 2\
	Dark Surface (A12				k Surface (F7)		ry Shallow Dark Su	
	Mucky Mineral (S			edox Depres			ner (Explain in Rem	
	Mucky Peat or Pe	•		•	epressions (F16			ytic vegetation and wetland
	Mucky Peat or Pea	. , .	· · · —	-	2 & 73 of LRR H			esent, unless disturbed or
	-			-		pro	blematic.	
Restrictive L	ayer (if present):							
Type:								
• •	(inches):					Hydric S	oil Present?	Yes X No
Ворит	(1101103).					- Tryuno o		100 <u>X</u> NO
Remarks:	Meets the crite	ria for hydi	ric soil.					
HYDROL	OGY							
	ydrology Indicato	rs:						
-	cators (minimum o		irod: abook all the	at apply)		Sacanda	n, Indicatora (minim	num of two required)
	e Water (A1)	i one requ		alt Crust (B1	11)	Seconda	Surface Soil Cracl	
	Vater Table (A2)			•	tebrates (B13)			ed Concave Surface (B8)
	ition (A3)				fide Odor (C1)		Drainage Patterns	• •
	Marks (B1)				Vater Table (C2		_	neres on Living Roots (C3)
	ent Deposits (B2)			-	ospheres on Liv		(where tilled)	• • • •
Drift D	eposits (B3)			3) <b>(where</b> r		J	Crayfish Burrows	(C8)
Algal N	Mat or Crust (B4)		Pr	esence of F	Reduced Iron (C	4)	Saturation Visible	on Aerial Imagery (C9)
Iron De	eposits (B5)		Tr	nin Muck Su	ırface (C7)	_	Geomorphic Posit	ion (D2)
Inunda	ation Visible on Ae	ial Imager	y (B7) O	ther (Explair	n in Remarks)		FAC-Neutral Test	` '
Water-	-Stained Leaves (E	39)					Frost-Heave Hum	mocks (D7) (LRR F)
Field Obse	rvations:							
Surface Wa	iter Present?	Yes	No X Dep	oth (inches):				
Water Table	e Present?	Yes	No X Dep	oth (inches):				
Saturation F	Present?	Yes	No X Dep	oth (inches):		Wetland Hyd	Irology Present?	Yes No X
(includes ca	apillary fringe)							
Describe Re	ecorded Data (stre	am gauge	, monitoring well,	aerial photo	os, previous insp	ections), if ava	ailable:	
Damesides	Dana wat 12	the englisher of	fannaher de l	-1				
Remarks:	Does not meet	.ne criteria	for wetland hydro	ology.				

Project/Site:	FM 2931	City/Co	unty: Den	ton	Sampling Date	e: 1 <sup>2</sup>	1/9/2020
Applicant/Owner:	TxD0	OT Dallas District			Sampling Poin	ıt:	SP 5
Investigator(s): J. LeC	lair, P. Van Zandt		Section, Town	ship, Range:		N/A	
Landform (hillslope, terrac	ce, etc.): Ter	race Local reli	ief (concave, convex	x, none):	None	Slope (%):	2-3%
Subregion (LRR):	LLR J Lat:	33.285882	Long:	-96.93743	3 E	atum:	NAD 1983
Soil Map Unit Name:	Callisburg fine				cation:		<del></del>
Are climatic/hydrologic co							in remarks)
Are vegetation No,	soil No , or hydro	logy No significan	tly disturbed? Are	"Normal Circu	ımstances" pres	ent? Yes	X No
Are vegetation No ,	soil No , or hydro	logy No naturally	problematic?	(If needed, ex	xplain any answ	ers in Remarks	s.)
SUMMARY OF FINE				int locatio	ns, transect	s, importar	nt features, et
Hydrophytic Vegetation P		s X No	1		,	· •	
Hydric Soil Present?		s No X	-				
Wetland Hydrology Prese		No X	_	ad Area within	n a Wetland?	Voe	No Y
Remarks: Though hydrop			_			<u> </u>	
	does not meet the cri		ne location, no nyun	C SOIIS OF WELL	and nydrology w	ere present. i	nereiore, trie
Upstream and	downstream pond. V	egetated swale with	no OHWM. A review	v of the Antec	edent Precipitati	ion Tool data ir	ndicates a typical
year.							
VEGETATION Use scie	entific names of plant	S.					
		Absolute	% Dominant	Indicator	Dominance Te	est worksheet	:
Tree Stratum	(Plot size: 30-		Species?	Status	Number of Don	ninant Species	
1. N/A					That Are OBL,	•	
_					(excluding FAC	:-):	(A)
3. 4.					Total Number of		3 (B)
4			= Total Cover		Species Across		<u> </u>
	50% of tot	al cover: 0	20% of total cover:	: 0	Percent of Dom That Are OBL,	•	: 67% (A/B)
Sapling/Shrub Stratum	(Plot size: 15				matric obe,	171011, 01 1710	. 0170 (708)
1. N/A	(1 101 0120	<u> </u>			Prevalence In	dex Workshe	et
2.					Total % Cover	of:	Multiply by:
3.					OBL species		1 =
4.					FACW species		2 =
5			= Total Cover		FAC species FACU species		3 =
	50% of to		20% of total cover:	. 0	UPL species		5 =
Herb Stratum	(Plot size: 5-f	tR )	_		Column Totals	(A)	(B)
1. Paspalum dilatatu		40	Yes	FAC	Prevalence Inc	dex = B/A =	
2. Persicaria pensyl	vanica	25	Yes	FACW	Hydrophytic \	_	
3. Setaria leucopila			Yes	UPL		est for Hydroph	, 0
4. Rumex crispus			No	FAC		nce Test is >50¹ nce Index is ≤3.	
6		-	<del></del>				
7.					· ·	ogical Adaptation	ons' (Provide s or on a separate
8.					sheet)		o on an a coparate
					Problemation	Hydrophytic V	egetation <sup>1</sup>
10		100	= Total Cover		(Explain)		
	50% of to		20% of total cover:	20	<sup>1</sup> Indicators of by	dric soil and wetla	and hydrology must
Woody Vine Stratum	(Plot size: 30-		_		be present, unles		
1. N/A							
2			= Total Cover		Hydrophytic		
	50% of to		20% of total cover:	. 0	Vegetation		
% Bare Ground in Herb			_		Present	Yes X	No
Remarks: Meets the	criteria for hydrophyt	ic vegetation.			1		

Profile Desc Depth	ription: (Describe Matrix	-	th needed to do		indicator or con Features	firm the abser	nce of indicators.)			
(Inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	- Texture	F	Remarks	
0-16	10YR 3/3	100					sandy loam			
							- <u> </u>			
						-	<del></del>			
				· —			<del></del>			
	oncentration, D = D						n: PL = Pore Lining,		3	
*	Indicators: (App	licable to	•		,		dicators for Prob	-	ric Solls":	
Histos	` '			Sandy Gleyed	, ,		cm Muck (A9) <b>(LR</b> bast Prairie Redox		E C U)	
	Epipedon (A2) Histic (A3)			Sandy Redox Stripped Matr			ark Surface (S7) <b>(L</b>		г, G, п)	
	gen Sulfide (A4)				/ Mineral (F1)		gh Plains Depress			
	ed Layers (A5) <b>(Li</b>	RR F)		Loamy Gleye			(LRR H outs		72 & 73)	
	Muck (A9) (LRR F,			Depleted Mat			educed Vertic (F18	,		
	ed Below Dark Su			Redox Dark S			ed Parent Material	` '	•	
	Dark Surface (A12 Mucky Mineral (S			Depleted Dari Redox Depres	k Surface (F7)		ery Shallow Dark S ther (Explain in Re		<u>'</u> )	
	Mucky Peat or Pe			•	epressions (F1		ndicators of hydrop		tion and we	tland
	Mucky Peat or Pea			-	2 & 73 of LRR H	•	drology must be p			
						pr	oblematic.			
Restrictive L	ayer (if present):									
Type:										
Depth	(inches):					Hydric S	Soil Present?	Yes	No _	X
Remarks:	Does not meet	the criteria	a for hydric soil.			<u> </u>				
HYDROL										
1	drology Indicato									
	cators (minimum c	of one requ	•	117	4.40	Seconda	ary Indicators (mini		required)	_
	e Water (A1) Vater Table (A2)			Salt Crust (B1	tebrates (B13)		Surface Soil Cra Sparsely Vegeta	, ,	Surface (E	201
	tion (A3)			•	lfide Odor (C1)		Drainage Patterr		Surface (D	30)
	Marks (B1)				Vater Table (C2	<u></u>	Oxidized Rhizos		ving Roots	(C3)
Sedim	ent Deposits (B2)			-	zospheres on Liv		(where tilled)		· ·	` ,
	eposits (B3)			(C3) <b>(where</b> r	•		_ Crayfish Burrows			
	Mat or Crust (B4)				Reduced Iron (C	<u> </u>	Saturation Visibl		nagery (C9	))
	eposits (B5)			Thin Muck Su	, ,		Geomorphic Pos			
	ition Visible on Ae -Stained Leaves (E	Ū	y (B7)(	Otner (Explair	n in Remarks)	-	FAC-Neutral Tes Frost-Heave Hur	` '	(I RR F)	
	`				<del></del>	_	-	mnooko (B7		
Field Obse		Yes	No X De	epth (inches):						
Water Table		Yes		epth (inches): epth (inches):						
Saturation F		Yes		epth (inches):		Wetland Hy	drology Present?	Yes	No	X
(includes ca	pillary fringe)		<u> </u>							
Describe Re	ecorded Data (stre	am gauge	, monitoring wel	II, aerial photo	os, previous ins	pections), if av	ailable:			
Domorko	Dags not most	the eriterie	for watland by	dralagy						
Remarks:	Does not meet	the chiena	ioi welland nyc	irology.						

Project/Site:	FM 293	31	City/Coun	ty: Dent	on	Sampling Dat	te: 11/	10/2020	
Applicant/Owner:		TxDOT Dallas		Sta	te: Texas	Sampling Poi	nt:	SP 6	
Investigator(s): J. Le0	Clair, P. Van Z	andt		Section, Town	ship, Range:		N/A		
Investigator(s): J. LeC Landform (hillslope, terra	ace, etc.):	Terrace	Local relief	 (concave, convex,	none):	None	Slope (%):	0-2%	6
Subregion (LRR):				Long:				NAD 1983	
Soil Map Unit Name:						cation:			
Are climatic/hydrologic c									)
				disturbed? Are					,
Are vegetation No ,			_			-	vers in Remarks		
SUMMARY OF FIN	DINGS - A	ttach site ma	p snowing	sampling po	int locatio	ns, transec	ts, importan	t reatures	s, et
Hydrophytic Vegetation I	Present?	Yes X	No						
Hydric Soil Present?		Yes	No X						
Wetland Hydrology Pres	ent?	Yes X		Is the Sample	d Area withir	n a Wetland?	Yes !	No X	
Remarks: Though hydro	phytic vegetati	on and wetland l	nydrology was	present at the sa	mple location	, no hydric soils	were present.	Γherefore, t	he
sampled area	does not meet	t the criteria for a	wetland.						
-			/M of intermit	tent stream and R	S4BC NWI fe	ature. A review	of the Antecede	ent Precipita	ation
l ool data indi	cates a typical	year.							
VEGETATION Use sc	entific names	of plants.							
			Absolute %	Dominant	Indicator	Dominance T	est worksheet:		
Tree Stratum	(Plot size	e: 30-ft R )	Cover	Species?	Status	Number of Do	minant Species		
Ulmus crassifolia	<del>}</del>		40	Yes	FAC		FACW, or FAC		
Quercus stellata			25	Yes	FACU	(excluding FAC	<b>⊃−)</b> :	5 (	(A)
3. Celtis laevigata			20	Yes	FAC	Total Number		0	<b>(D)</b>
4. <u>Juniperus virgini</u>	ana		10	No No	UPL	Species Acros	s Ali Strata:	8(	(B)
	F0.	0/	95	= Total Cover	40		minant Species	000/	(A (D)
0 11 101 1 01 1		% of total cover:	47.5	0% of total cover:	19	That Are OBL,	FACW, or FAC:	63% (	(A/B)
Sapling/Shrub Stratum	(Plot siz	ze: 15-ft R )	20	Vaa	FAC	Duninglamas I	n day Mankaha		
Celtis laevigata     Ulmus crassifolia			30 20	Yes Yes	FAC FAC	Total % Cover	ndex Workshee	Multiply by	v.
3. Quercus stellata			10	No	FACU	OBL species		1 =	<u>y .</u>
4.						FACW species		2 =	
5.						FAC species	x	3 =	
			60	= Total Cover		FACU species		4 =	
		% of total cover:	30 2	0% of total cover:	12	UPL species		5 =	
Herb Stratum		e: <u>5-ft R</u> )				Column Totals			(B)
1. Chasmanthium I				Yes	FACU	Prevalence In			
<ol> <li>Elymus virginicu</li> <li>3.</li> </ol>	S		5	Yes	FAC		Vegetation Indi		on
4.			-	<del></del>		I — '	ance Test is >50%	J	JII
5.				·			ence Index is ≤3.0		
6.				- <u> </u>		4 - Morpho	ological Adaptatio	ns <sup>1</sup> (Provide	_
7.							data in Remarks	,	
8				. <u> </u>		sheet)			
				- <del></del> -			c Hydrophytic Ve	getation1	
10			15	= Total Cover		(Explain)			
	50	% of total cover:		20% of total cover:	3	<sup>1</sup> Indicators of hy	dric soil and wetla	nd hydrology	must
Woody Vine Stratum	(Plot siz	ze: 30-ft R )		•			ess disturbed or pro		
1. Smilax bona-nox			30	Yes	FACU				
2			30	= Total Cover		Lludronhu#!-			
	500	% of total cover:		= rotal cover:	6	Hydrophytic Vegetation			
% Bare Ground in Herb		, o or total cover.		.c /o or total cover.		Present	Yes X	No	
		drophytic vegeta	tion.			<u> </u>			
		, , , , , , , , ,							

Depth	<u>Matrix</u>			<u> </u>	Redox Features					
(Inches)	Color (moist)	%	Color (moi	st) %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks	
0-16	10YR 3/4	100					sandy loan			
			-		<u> </u>					
			-				<del></del>			
						_				
ivne: C = C	oncentration, D = De	anletion B	PM - Peducec	Matrix MS	- Masked Sand G	raine <sup>2</sup> Loc	ation: PL = Pore Lin	ing M – Matrix	,	
, .	Indicators: (Appl					iaiiis. Luc	Indicators for P	<u> </u>		
Histos			,		leyed Matrix (S4)		1 cm Muck (A9) (	-		
	Epipedon (A2)		_		ledox (S5)		Coast Prairie Re		RFGH)	
	Histic (A3)		_		Matrix (S6)		Dark Surface (S7		, O, 11,	
	gen Sulfide (A4)				Mucky Mineral (F1		High Plains Depr			
	ed Layers (A5) <b>(LR</b>	RF)	_		Sleyed Matrix (F2)		•	utside of MLF	RA 72 & 73)	
1 cm N	Muck (A9) (LRR F,	G, H)		Depleted	Matrix (F3)		Reduced Vertic (	F18)		
Deplet	ed Below Dark Sur	face (A11	1)		ark Surface (F6)		Red Parent Mate	` '		
	Dark Surface (A12)				d Dark Surface (F	<u> </u>	Very Shallow Da		12)	
	Mucky Mineral (S1				epressions (F8)		Other (Explain in			
	Mucky Peat or Pe				ins Depressions (		<sup>3</sup> Indicators of hyd			
5 cm N	lucky Peat or Peat	(S3) (LR	RF)	(MLI	RA 72 & 73 of LR	R H)	hydrology must b	e present, uni	ess disturbe	d or
							problematic.			
estrictive L	ayer (if present):									
Type:										
Depth	(inches): Does not meet	the criteri	a for hydric s	soil.		Hydi	ic Soil Present?	Yes _	No _	X
Depth (	Does not meet	the criteri	a for hydric s	oil.		Hydi	ric Soil Present?	Yes _	No _	X
Depth (Remarks:	Does not meet		a for hydric s	soil.		Hydi	ric Soil Present?	Yes _	No	X
Depth ( Remarks:  HYDROL Wetland Hy	Does not meet  OGY  /drology Indicator	s:			w)					<u> </u>
Depth ( Remarks:  HYDROL Wetland Hy	Does not meet  OGY  /drology Indicator cators (minimum of	s:		all that appl	,		ondary Indicators (i	ninimum of tw		x
Depth ( Remarks:  HYDROL Wetland Hy rimary India Surface	Does not meet  OGY  /drology Indicator cators (minimum of	s:		all that appl Salt Crus	st (B11)	Seco	ondary Indicators (i Surface Soil	ninimum of tw Cracks (B6)	o required)	
Depth ( Remarks:  HYDROL  Wetland Hy  rimary India  Surfac  High W	Does not meet  OGY  /drology Indicator cators (minimum of e Water (A1) Vater Table (A2)	s:		all that appl Salt Crus Aquatic	st (B11) Invertebrates (B1	Seconds)	ondary Indicators (i Surface Soil Sparsely Veg	ninimum of tw Cracks (B6) letated Conca	o required)	
Depth ( Remarks:  HYDROL  Wetland Hy rimary India Surfac High W Satura	Does not meet  OGY  /drology Indicator cators (minimum of	s:		all that appl Salt Crus Aquatic Hydroge	st (B11)	Seco.	ondary Indicators (i Surface Soil Sparsely Veç Drainage Pat	ninimum of tw Cracks (B6) letated Conca	o required) ve Surface (	— B8)
Depth ( Remarks:  HYDROL  Wetland Hy  rimary India  Surfac  High W  Satura  Water	Does not meet  OGY  Adrology Indicator Cators (minimum of e Water (A1) Vater Table (A2) tion (A3)	s:		all that appl Salt Crus Aquatic Hydroge Dry-Seas	st (B11) Invertebrates (B1: n Sulfide Odor (C	Secc 3) 1) C2)	ondary Indicators (i Surface Soil Sparsely Veç Drainage Pat	ninimum of tw Cracks (B6) letated Conca terns (B10) zospheres on	o required) ve Surface (	— B8)
Depth ( Remarks:  HYDROL  Wetland Hy Primary India Surfac High W Satura Water Sedim X Drift D	Does not meet  OGY  Adrology Indicator Cators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)	s:		all that appl Salt Crus Aquatic Hydroge Dry-Seas Oxidized (C3) (wh	January (B1) Invertebrates (B1) In Sulfide Odor (C son Water Table (I I Rhizospheres or Intere not tilled)	Seconds) 1) C2) Living Roots	ondary Indicators (i Surface Soil Sparsely Veg Drainage Pat Oxidized Rhi (where tilled Crayfish Buri	ninimum of tw Cracks (B6) letated Conca terns (B10) zospheres on ) ows (C8)	o required) ve Surface ( Living Roots	B8)
Depth ( Remarks:  HYDROL Wetland Hy Primary India Surfac High W Satura Water Sedim X Drift D Algal M	Does not meet  OGY  Adrology Indicator Cators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4)	s:		all that appl Salt Crus Aquatic Hydroge Dry-Seas Oxidized (C3) (wh	st (B11) Invertebrates (B1: n Sulfide Odor (C son Water Table I Rhizospheres or lere not tilled) e of Reduced Iror	Seconds) 1) C2) Living Roots	ondary Indicators (r Surface Soil Sparsely Veg Drainage Pat Oxidized Rhi (where tilled Crayfish Burr Saturation Vi	ninimum of tw Cracks (B6) letated Conca terns (B10) zospheres on ) ows (C8) sible on Aerial	o required) ve Surface ( Living Roots	, (C3)
Netland Hy Satura Water Sedim X Drift D Algal N Iron De	Does not meet  OGY  Adrology Indicator Cators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5)	s: f one requ	uired; check a	all that appl Salt Crus Aquatic Hydroge Dry-Seas Oxidized (C3) (wh Presenc	January (C.)	Seconds) 1) C2) Living Roots (C4)	ondary Indicators (I Surface Soil Sparsely Veg Drainage Pat Oxidized Rhi (where tilled Crayfish Burn Saturation Vi Geomorphic	ninimum of tw Cracks (B6) letated Conca terns (B10) zospheres on ) ows (C8) sible on Aerial Position (D2)	o required) ve Surface ( Living Roots	B8)
Depth ( Remarks:  HYDROL  Vetland Hy rimary India Surfac High W Satura Water Sedim X Drift D Algal M Iron Do Inunda	Does not meet  OGY  Adrology Indicator Cators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Alat or Crust (B4) eposits (B5) tion Visible on Aer	s: f one requ	uired; check a	all that appl Salt Crus Aquatic Hydroge Dry-Seas Oxidized (C3) (wh Presenc	st (B11) Invertebrates (B1: n Sulfide Odor (C son Water Table I Rhizospheres or lere not tilled) e of Reduced Iror	Seconds) 1) C2) Living Roots (C4)	ondary Indicators (I Surface Soil Sparsely Veg Drainage Pat Oxidized Rhi (where tilled Crayfish Burn Saturation Vi Geomorphic FAC-Neutral	ninimum of tw Cracks (B6) letated Conca terns (B10) zospheres on ) ows (C8) sible on Aerial Position (D2) Test (D5)	o required) ve Surface ( Living Roots	– B8)
Depth ( Remarks:  HYDROL  Vetland Hy rimary India Surfac High W Satura Water Sedim X Drift D Algal M Iron Do Inunda	Does not meet  OGY  Adrology Indicator Cators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5)	s: f one requ	uired; check a	all that appl Salt Crus Aquatic Hydroge Dry-Seas Oxidized (C3) (wh Presenc	January (C.)	Seconds) 1) C2) Living Roots (C4)	ondary Indicators (I Surface Soil Sparsely Veg Drainage Pat Oxidized Rhi (where tilled Crayfish Burn Saturation Vi Geomorphic FAC-Neutral	ninimum of tw Cracks (B6) letated Conca terns (B10) zospheres on ) ows (C8) sible on Aerial Position (D2)	o required) ve Surface ( Living Roots	– B8)
Depth ( Remarks:  HYDROL  Wetland Hy rimary India Surfac High W Satura Water Sedim Z Drift D Algal M Iron Do Inunda Water- Field Obse	Does not meet  OGY  Idrology Indicator Cators (minimum of e Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) Ition Visible on Aer Stained Leaves (B	s: f one requ ial Image 9)	uired; check a	all that appl Salt Crus Aquatic Hydroge Dry-Seas Oxidized (C3) (wh Presence Thin Muc	John March (Control of the Control of Contro	Seconds) 1) C2) Living Roots (C4)	ondary Indicators (I Surface Soil Sparsely Veg Drainage Pat Oxidized Rhi (where tilled Crayfish Burn Saturation Vi Geomorphic FAC-Neutral	ninimum of tw Cracks (B6) letated Conca terns (B10) zospheres on ) ows (C8) sible on Aerial Position (D2) Test (D5)	o required) ve Surface ( Living Roots	– B8)
Depth ( Remarks:  HYDROL  Wetland Hy  rimary India  Surfac  High V  Satura  Water  Sedim  Z Drift D  Algal N  Iron Do  Inunda  Water-  Field Obse  Surface Wa	Does not meet  OGY  Idrology Indicator Cators (minimum of e Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) Ition Visible on Aer Stained Leaves (B  Idrovations: Iter Present?	s: f one required in the second in the secon	ry (B7)	all that appl Salt Crus Aquatic Hydroge Dry-Seas Oxidized (C3) (wh Presenc Thin Mu Other (E	January Strict (1975)	Seconds) 1) C2) Living Roots (C4)	ondary Indicators (I Surface Soil Sparsely Veg Drainage Pat Oxidized Rhi (where tilled Crayfish Burn Saturation Vi Geomorphic FAC-Neutral	ninimum of tw Cracks (B6) letated Conca terns (B10) zospheres on ) ows (C8) sible on Aerial Position (D2) Test (D5)	o required) ve Surface ( Living Roots	– B8)
Depth ( Remarks:  HYDROL  Wetland Hy rimary India Surfac High V Satura Water Sedim Z Drift D Algal N Iron De Inunda Water- Field Obse Surface Wa Water Table	Does not meet  OGY  Idrology Indicator Cators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) ation Visible on Aer Stained Leaves (B  Idrovations: ter Present?	s: f one required in the requirement of the require	ry (B7)	all that appl Salt Crus Aquatic Hydroge Dry-Seas Oxidized (C3) (wh Presenc Thin Mu Other (E	January Strict (1975)	Second Signature Second Second Signature Second Second Signature Second Signature Second Signature Second Signature Second Signature Second Signature Second Second Second Second Signature Second Se	ondary Indicators (i Surface Soil Sparsely Veg Drainage Pat Oxidized Rhi (where tilled Crayfish Burn Saturation Vi Geomorphic FAC-Neutral Frost-Heave	ninimum of tw Cracks (B6) letated Conca terns (B10) zospheres on ) ows (C8) sible on Aerial Position (D2) Test (D5) Hummocks (D	o required) ve Surface ( Living Roots Imagery (C	B8)
Depth ( Remarks:  HYDROL  Wetland Hy rimary India Surfac High W Satura Water Sedim X Drift D Inunda Water- Field Obse Surface Wa Vater Table Saturation F	Does not meet  OGY  Adrology Indicator Cators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Alat or Crust (B4) eposits (B5) ation Visible on Aer Stained Leaves (B  Tryations: er Present? eresent?	s: f one required in the second in the secon	ry (B7)	all that appl Salt Crus Aquatic Hydroge Dry-Seas Oxidized (C3) (wh Presenc Thin Mu Other (E	January Strict (1975)	Second Signature Second Second Signature Second Second Signature Second Signature Second Signature Second Signature Second Signature Second Signature Second Second Second Second Signature Second Se	ondary Indicators (I Surface Soil Sparsely Veg Drainage Pat Oxidized Rhi (where tilled Crayfish Burn Saturation Vi Geomorphic FAC-Neutral	ninimum of tw Cracks (B6) letated Conca terns (B10) zospheres on ) ows (C8) sible on Aerial Position (D2) Test (D5) Hummocks (D	o required) ve Surface ( Living Roots	B8)
Depth ( Remarks:  HYDROL  Wetland Hy  Irimary India Surfac High W Satura Water Sedim X Drift D Algal N Iron Do Inunda Water- Field Obse Surface Wa Water Table Saturation F includes ca	Does not meet  OGY  Adrology Indicator Cators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Aat or Crust (B4) eposits (B5) tion Visible on Aer Stained Leaves (B  rvations: ter Present? Present? pillary fringe)	ial Image 9) Yes Yes	uired; check a	all that appl Salt Crus Aquatic Hydroge Dry-Seas Oxidized (C3) (wh Presence Thin Muc Other (E	Invertebrates (B1: Invertebrates (B1: In Sulfide Odor (C son Water Table of Reduced Iron ck Surface (C7) xplain in Remarks thes):	Second Signal Second Signal Signal Second Signal Signal Second Second Signal Second Second Signal Second Se	ondary Indicators (I Surface Soil Sparsely Veg Drainage Pat Oxidized Rhi (where tilled Crayfish Burr Saturation Vi Geomorphic FAC-Neutral Frost-Heave	ninimum of tw Cracks (B6) letated Conca terns (B10) zospheres on ) ows (C8) sible on Aerial Position (D2) Test (D5) Hummocks (D	o required) ve Surface ( Living Roots Imagery (C	B8)
Depth ( Remarks:  HYDROL  Wetland Hy  Irimary India Surfac High W Satura Water Sedim X Drift D Algal N Iron Do Inunda Water- Field Obse Surface Wa Water Table Saturation F includes ca	Does not meet  OGY  Adrology Indicator Cators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Alat or Crust (B4) eposits (B5) ation Visible on Aer Stained Leaves (B  Tryations: er Present? eresent?	ial Image 9) Yes Yes	uired; check a	all that appl Salt Crus Aquatic Hydroge Dry-Seas Oxidized (C3) (wh Presence Thin Muc Other (E	Invertebrates (B1: Invertebrates (B1: In Sulfide Odor (C son Water Table of Reduced Iron ck Surface (C7) xplain in Remarks thes):	Second Signal Second Signal Signal Second Signal Signal Second Second Signal Second Second Signal Second Se	ondary Indicators (I Surface Soil Sparsely Veg Drainage Pat Oxidized Rhi (where tilled Crayfish Burr Saturation Vi Geomorphic FAC-Neutral Frost-Heave	ninimum of tw Cracks (B6) letated Conca terns (B10) zospheres on ) ows (C8) sible on Aerial Position (D2) Test (D5) Hummocks (D	o required) ve Surface ( Living Roots Imagery (C	– B8)
Depth ( Remarks:  HYDROL  Vetland Hy rimary India Surfac High W Satura Water Sedim X Drift D Algal N Iron Do Inunda Water- Field Obse Surface Wa Vater Table Saturation F includes ca	Does not meet  OGY  Adrology Indicator Cators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Aat or Crust (B4) eposits (B5) tion Visible on Aer Stained Leaves (B  rvations: ter Present? Present? pillary fringe)	ial Image 9) Yes Yes	uired; check a	all that appl Salt Crus Aquatic Hydroge Dry-Seas Oxidized (C3) (wh Presence Thin Muc Other (E	Invertebrates (B1: Invertebrates (B1: In Sulfide Odor (C son Water Table of Reduced Iron ck Surface (C7) xplain in Remarks thes):	Second Signal Second Signal Signal Second Signal Signal Second Second Signal Second Second Signal Second Se	ondary Indicators (I Surface Soil Sparsely Veg Drainage Pat Oxidized Rhi (where tilled Crayfish Burr Saturation Vi Geomorphic FAC-Neutral Frost-Heave	ninimum of tw Cracks (B6) letated Conca terns (B10) zospheres on ) ows (C8) sible on Aerial Position (D2) Test (D5) Hummocks (D	o required) ve Surface ( Living Roots Imagery (C	– B8)
Depth ( Remarks:  HYDROL  Wetland Hy rimary India Surfac High W Satura Water Sedim X Drift D Algal N Iron Do Inunda Water- Field Obse Surface Wa Water Table Saturation F includes ca	Does not meet  OGY  Adrology Indicator Cators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Aat or Crust (B4) eposits (B5) tion Visible on Aer Stained Leaves (B  rvations: ter Present? Present? pillary fringe)	ial Image 9) Yes Yes Yes am gauge	ny (B7)  No X No	all that appl Salt Crue Aquatic Hydroge Dry-Sea: Oxidized (C3) (where Presence Thin Muc Other (E	Invertebrates (B1: Invertebrates (B1: In Sulfide Odor (C son Water Table of Reduced Iron ck Surface (C7) xplain in Remarks thes):	Second Signal Second Signal Signal Second Signal Signal Second Second Signal Second Second Signal Second Se	ondary Indicators (I Surface Soil Sparsely Veg Drainage Pat Oxidized Rhi (where tilled Crayfish Burr Saturation Vi Geomorphic FAC-Neutral Frost-Heave	ninimum of tw Cracks (B6) letated Conca terns (B10) zospheres on ) ows (C8) sible on Aerial Position (D2) Test (D5) Hummocks (D	o required) ve Surface ( Living Roots Imagery (C	– B8)
Depth ( Remarks:  HYDROL  Wetland Hy rimary India Surfac High W Satura Water Sedim Iron Do Inunda Water- Field Obse Surface Wa Water Table Saturation Fincludes ca	Does not meet  OGY  Idrology Indicator Cators (minimum of e Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) Ition Visible on Aer Stained Leaves (B  Invations: Iter Present?  Present?  Ipillary fringe) ecorded Data (streat	ial Image 9) Yes Yes Yes am gauge	ny (B7)  No X No	all that appl Salt Crue Aquatic Hydroge Dry-Sea: Oxidized (C3) (where Presence Thin Muc Other (E	Invertebrates (B1: Invertebrates (B1: In Sulfide Odor (C son Water Table of Reduced Iron ck Surface (C7) xplain in Remarks thes):	Second Signal Second Signal Signal Second Signal Signal Second Second Signal Second Second Signal Second Se	ondary Indicators (I Surface Soil Sparsely Veg Drainage Pat Oxidized Rhi (where tilled Crayfish Burr Saturation Vi Geomorphic FAC-Neutral Frost-Heave	ninimum of tw Cracks (B6) letated Conca terns (B10) zospheres on ) ows (C8) sible on Aerial Position (D2) Test (D5) Hummocks (D	o required) ve Surface ( Living Roots Imagery (C	– B8)
Depth ( Remarks:  HYDROL  Vetland Hy rimary India Surfac High W Satura Water Sedim Iron Do Inunda Water- Field Obse Surface Wa Vater Table Saturation F includes ca Describe Re	Does not meet  OGY  Idrology Indicator Cators (minimum of e Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) Ition Visible on Aer Stained Leaves (B  Invations: Iter Present?  Present?  Ipillary fringe) ecorded Data (streat	ial Image 9) Yes Yes Yes am gauge	ny (B7)  No X No	all that appl Salt Crue Aquatic Hydroge Dry-Sea: Oxidized (C3) (where Presence Thin Muc Other (E	Invertebrates (B1: Invertebrates (B1: In Sulfide Odor (C son Water Table of Reduced Iron ck Surface (C7) xplain in Remarks thes):	Second Signal Second Signal Signal Second Signal Signal Second Second Signal Second Second Signal Second Se	ondary Indicators (I Surface Soil Sparsely Veg Drainage Pat Oxidized Rhi (where tilled Crayfish Burr Saturation Vi Geomorphic FAC-Neutral Frost-Heave	ninimum of tw Cracks (B6) letated Conca terns (B10) zospheres on ) ows (C8) sible on Aerial Position (D2) Test (D5) Hummocks (D	o required) ve Surface ( Living Roots Imagery (C	– B8)

Project/Site:	FM 2931		City/Count	y: Dento	on	Sampling Date	e:	11/10/202	<u>2</u> 0
Applicant/Owner:		TxDOT Dallas	_	Stat	e: Texas	Sampling Poir	nt:	SP 7	
Investigator(s): J. LeCla	air, P. Van Zar	ndt		Section, Towns	ship, Range:		N/A		
Landform (hillslope, terrace		Terrace	Local relief	 (concave, convex,	none):	None	Slope (%)		0-2%
Subregion (LRR):				Long:					983
Soil Map Unit Name:					NWI Classifi			one	
Are climatic/hydrologic cor				•					arks)
				disturbed? Are "			_		
			_	blematic?					<u> </u>
									uroo ota
SUMMARY OF FIND	INGS – ALL	ach Sile ma	p snowing	sampling pol	ni iocalio	ns, transect	s, import	ant leat	ures, etc
Hydrophytic Vegetation Pro	esent?	Yes X	No						
Hydric Soil Present?		Yes	No X						
Wetland Hydrology Preser	it?	Yes	No X	Is the Sample	d Area within	n a Wetland?	Yes	No	X
Remarks: Does not meet t	he three criter	ia for a wetland	j.						
Sample location	above OHWI	M of perennial s	stream and PF	O1C NWI feature.	Sand and si	It substrate. A re	eview of the	Antecede	nt
Precipitation To									
VEGETATION Use scien	ntific names of	f plants.							
			A l l t - 0/	Danainant	la dia atau	Dominance Te	est workshe	et:	
Tree Stratum	(Plot size:	30-ft R )	Absolute % Cover	Dominant Species?	Indicator Status				
1. Ulmus americana	(1 101 3126.	<u> </u>	40	Yes	FAC	Number of Don			
2. Celtis laevigata			30	Yes	FAC	That Are OBL, (excluding FAC		5	(A)
3. Salix nigra			20	Yes	FACW	,	•		_ (^)
4. Juniperus virginiar			10	No	UPL	Total Number of Species Across		8	(B)
4. Juniperus virginiar	.a			. ———	- OI L				— <sup>(D)</sup>
	E00/	of total cover	100	= Total Cover	20	Percent of Don	•		/ (A/D)
		of total cover:	2	0% of total cover:	20	That Are OBL,	FACW, OF FA	AC: 63%	<u>(A/B)</u>
Sapling/Shrub Stratum		e: 15-ft R_)	4.0	.,					
1. Sambucus canade	nsis		10	Yes	UPL	Prevalence In			
2. Quercus falcata			5	Yes	FACU	Total % Cover	ot:		ply by:
3.			-	<del></del>		OBL species FACW species		x 1 =	
4. 5.			-			•		x 2 =	
J			15	= Total Cover		FAC species FACU species		x 3 =	
	50%	of total cover:		0% of total cover:	3	UPL species		x 5 =	
Herb Stratum		5-ft R )		• • • • • • • • • • • • • • • • • • • •		Column Totals		A)	(B)
1. Elymus virginicus	(FIOUSIZE.	<u> </u>	20	Yes	FAC	Prevalence Inc		´ —	
2. Carex cherokeens	is		15	Yes	FACW	Hydrophytic \		ndicators	
3.				163	IACW		est for Hydro		
4.						X 2 - Domina			Ctation
5.			-	<del></del>			nce Index is ≤		
6.				· <del></del> -					امر العام
7.				<u> </u>			logical Adapta data in Rema		
8.				<del></del> -		sheet)	aata iii rtoiria		a coparato
9.						Problemation	c Hydrophytic	: Vegetatic	n <sup>1</sup>
10.						(Explain)	, , , , , , , , ,	3	
			35	= Total Cover		] <del></del>			
Moody Vino Stratum		of total cover:	<u>17.5</u> 2	0% of total cover:	7	<sup>1</sup> Indicators of hyd			٠,
Woody Vine Stratum  1. Smilax bona-nox	(FIUL SIZE	e: <u>30-ft R</u> )	20	Yes	FACU	be present, unle	ss disturbed or	problemat	IC
2. Similax bona-nox				1 69	1 700				
			20	= Total Cover		Hydrophytic			
	50%	of total cover:		0% of total cover:	4	Vegetation			
% Bare Ground in Herb S				<u>-</u>		Present	Yes X	No	·
Remarks: Meets the c	riteria for hydr	ophytic vegetat	tion.						

Profile Desci Depth	ription: (Describe Matrix	-	th needed to do		indicator or con Features	firm the absen	ce of indicators.)			
(Inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	F	Remarks	
0-16	10YR 4/4	100	General (mener)				sandy loam	<u>.</u>	1011101110	
							·			
							· <del></del>			
							· <del></del>			
_ ,.	oncentration, D = D	•					: PL = Pore Lining,		3	
_	Indicators: (App	icable to a			•		licators for Probl	-	ric Soils":	
Histoso	` '			Sandy Gleyed	, ,		m Muck (A9) (LR		- O III	
	Epipedon (A2) Histic (A3)			Sandy Redox Stripped Matr			ast Prairie Redox rk Surface (S7) <b>(L</b>		F, G, H)	
	gen Sulfide (A4)				/ Mineral (F1)		h Plains Depress			
	ed Layers (A5) <b>(Li</b>	RF)		oamy Gleye		`	(LRR H outs		72 & 73)	
	luck (A9) (LRR F,			Depleted Mat		Re	duced Vertic (F18	)		
	ed Below Dark Su			Redox Dark S			d Parent Material	` '		
	Dark Surface (A12 Mucky Mineral (S			Depleted Dari Redox Depres	k Surface (F7)		ry Shallow Dark S ner (Explain in Rei		!)	
	Mucky Peat or Pe	,		•	epressions (F16		dicators of hydrop		ion and we	tland
	lucky Peat or Pea			-	2 & 73 of LRR H	•	drology must be p			
		` , ,	,	`		•	blematic.	,		
Restrictive L	ayer (if present):									
Type:										
Depth (	inches):					Hydric S	oil Present?	Yes	No	X
Remarks:	Does not meet	the criteria	a for hydric soil.							
rtomanto.	Does not meet	the ontene	rior riyano con.							
HYDROL	OGY									
Wetland Hy	drology Indicato	rs:								
Primary Indic	cators (minimum c	of one requi	ired; check all th	nat apply)		Seconda	ry Indicators (mini	mum of two	required)	
Surface	e Water (A1)	<del></del>		Salt Crust (B1	11)		Surface Soil Cra	cks (B6)		-
	/ater Table (A2)			•	tebrates (B13)		Sparsely Vegeta		Surface (B	38)
	tion (A3)				Ifide Odor (C1)	<u> </u>	_ Drainage Patterr		da a Da ata	(00)
	Marks (B1) ent Deposits (B2)			-	Vater Table (C2		Oxidized Rhizos (where tilled)	oneres on Liv	/ing Roots (	(C3)
	eposits (B3)			C3) <b>(where</b> r	cospheres on Liv	ing Roots	Crayfish Burrows	s (C8)		
	Mat or Crust (B4)		•	, ,	Reduced Iron (C	4)	Saturation Visible		nagery (C9	9)
	eposits (B5)			Thin Muck Su	•	′ <u> </u>	Geomorphic Pos		3-7(	,
	tion Visible on Ae	rial Imager			n in Remarks)		FAC-Neutral Tes			
Water-	Stained Leaves (E	39)					Frost-Heave Hur	nmocks (D7)	(LRR F)	
Field Obser	rvations:									
Surface Wa	ter Present?	Yes		epth (inches):	:					
Water Table		Yes		epth (inches):				.,		.,
Saturation F		Yes	No X De	epth (inches):	·	Wetland Hyd	Irology Present?	Yes	No _	<u> </u>
	pillary fringe)			المصاحب المشمور			-:I-bl			
Describe Re	ecorded Data (stre	am gauge,	monitoring wei	i, aeriai prioto	os, previous irisi	bections), ii ava	aliable.			
Remarks:	Does not meet	the criteria	for wetland hyd	lrology.						

Project/Site:	FM 293	1	City/Cou	inty: Dent	on	Sampling Dat	e: 11	1/10/2020	
Applicant/Owner:		TxDOT Dallas				Sampling Poir		SP 8	
Investigator(s): J. Let	Clair, P. Van Za	andt		Section, Towns	ship, Range:		N/A		
Landform (hillslope, terra	ace, etc.):	Terrace	Local relie	ef (concave, convex,	none):	None	Slope (%):	1-3	2%
Subregion (LRR):	LLR J	Lat:	33.255419	Long:	-96.94074	·5 [	Datum:	NAD 1983	3
Soil Map Unit Name:	Callisbu	urg fine sandy loa	am, 1 to 3%	slopes	NWI Classif	cation:	Non	e	
Are climatic/hydrologic o	onditions of the	e site typical for t	this time of t	the year? Ye	s X	No	(If no, explair	n in remark	ks)
Are vegetation Yes	, soil <u>Yes</u> , c	or hydrology Yes	significant	ly disturbed? Are "	Normal Circu	ımstances" pres	ent? Yes	No	Χ
Are vegetation No	, soil No , c	or hydrology No	naturally p	roblematic?	(If needed, e	xplain any answ	ers in Remark	.s.)	
SUMMARY OF FIN	DINGS - AI	tach site ma	p showir	ng sampling po	int locatio	ns, transect	s, importa	nt featur	res, et
Hydrophytic Vegetation	Present?	Yes	No X						
Hydric Soil Present?		Yes							
Wetland Hydrology Pres	ent?	Yes X	No	Is the Sample	d Area withii	n a Wetland?	Yes	No X	
Remarks: Though wetla				•					
sampled area	does not meet	t the criteria for a	wetland. S	ampled area consist	ed of cleared	/disturbed land	from construct	tion activity	y.
Intermittent stream flow from construction of new								h disturbed	d land
TIOTH CONSTRUCTION OF HE	v subulvision e	asi di Toadway. <i>I</i>	A review or	ine Antecedent Fred	ipitation 100i	uata inuicates	з турісаі уваі.		
VEGETATION Use so	ientific names	of plants.				ı			
			Absolute 6	% Dominant	Indicator	Dominance To	est worksheef	t:	
Tree Stratum	(Plot size	e: <u>30-ft R</u> )	Cover	Species?	Status	Number of Dor	minant Species		
1. Celtis laevigata 2.			25	Yes	FAC	That Are OBL, (excluding FAC	FACW, or FAC	; 3	(A)
3.			-			Total Number	•		(A)
4.						Species Acros		6	(B)
			25	= Total Cover		Percent of Don	ninant Species		
	500	% of total cover:	12.5	20% of total cover:	5		FACW, or FAC	: 50%	(A/B)
Sapling/Shrub Stratum	(Plot siz	ze: 15-ft R )							
Celtis laevigata			10	Yes	FAC		ndex Workshe		
<ol> <li>Gleditsia triacan</li> <li>3.</li> </ol>	thos		10	Yes	FACU	Total % Cover		Multiply < 1 =	by:
4.						OBL species FACW species		(2 =	
5.				<del>_</del>		FAC species			120
			20	= Total Cover		FACU species			140
		% of total cover:	10	20% of total cover:	4	UPL species Column Totals		< 5 =	0 (B)
Herb Stratum		e: <u>5-ft R</u> )	15	Voc.	FACU	Prevalence In			О (В)
<ol> <li>Sorghum halepe</li> <li>Carex blanda</li> </ol>	1136		. <u>15</u> 5	Yes Yes	FAC		Vegetation Inc	3.47	
3.				103	TAO		est for Hydroph		ation
4.							nce Test is >50	-	
5						3 - Prevale	nce Index is ≤3	.0 <sup>1</sup>	
6. 7.							logical Adaptati		
			· <del></del>			supporting sheet)	data in Remark	s or on a s	eparate
8. 9.				<del>_</del>		<b>'</b>	c Hydrophytic V	/egetation <sup>1</sup>	
10.						(Explain)	) -p -y	J == 1.4	
	500	% of total cover:	20 10	= Total Cover 20% of total cover:	4	1			
Woody Vine Stratum		ze: 30-ft R )		20 /0 OI total cover.	4		dric soil and wetl ss disturbed or p		gy must
1. Rubus trivialis	<u> </u>		10	Yes	FACU	, , , , , ,			
2.			40			111 2 2			
	FO	% of total cover:	<u>10</u> 5	= Total Cover 20% of total cover:	2	Hydrophytic Vegetation			
% Bare Ground in Herb		% of total cover: 80		20% of total cover:	2	Present	Yes	No	X
		ia for hydrophyti	c vegetation	1.		<u>l</u>	-		
			-						

	ription: (Describe Matrix		oth needed to d		ndicator or cor Features	nfirm the a	absence o	of indicators.	)		
Depth (Inches)	Color (moist)	%	Color (moist)	`	Type <sup>1</sup>	Loc	c <sup>2</sup>	Texture		Remarks	
0-16	10YR 3/3	100	Color (moist)	70	.,,,,,			loam		Ciliaiks	
		100						iouiii			
									-		
			. ———								
									_		
<sup>1</sup> Type: C = Co	oncentration, D = D	epletion, R	M = Reduced M	Matrix, MS = Ma	sked Sand Grai	ns. <sup>2</sup> Loc	cation: PL	. = Pore Linin	g, M = Matrix		
Hydric Soil	Indicators: (App	licable to	all LRRs, unle	ess otherwise	noted.)		Indica	tors for Pro	blematic Hydi	ric Soils³:	
Histoso	ol (A1)			Sandy Gleyed	d Matrix (S4)		1 cm N	/luck (A9) <b>(L</b>	RR I, J)		
Histic E	Epipedon (A2)			Sandy Redox	(S5)		Coast	Prairie Redo	x (A16) (LRR	F, G, H)	
	Histic (A3)			Stripped Matr			Dark S	Surface (S7)	(LRR G)		
	jen Sulfide (A4)			Loamy Mucky			_ High P	lains Depres	` ,		
	ed Layers (A5) <b>(LF</b>	•		Loamy Gleye				•	side of MLRA	72 & 73)	
	fluck (A9) (LRR F,			Depleted Mati	, ,		_	ed Vertic (F1	,		
	ed Below Dark Su			Redox Dark S	k Surface (F6)			arent Materia			
	Dark Surface (A12 Mucky Mineral (S			Redox Depres	, ,		_	Explain in R	Surface (TF12	.)	
	Mucky Peat or Pe	•			epressions (F1	6)	_		phytic vegetat	ion and wo	tland
	lucky Peat or Pea	. , .			2 & 73 of LRR I	•			present, unles		
	identy i dut en i du	(00) (=: 1	,	(		-,	problei		procent, amou	o diotarboo	. 0.
Restrictive I	ayer (if present):										
	ayor (ii procont).										
Type:	inches):					Llve	dria Cail I	Drocont?	Yes	No	~
реріп (	inches):					пус	unc son	Present?	Tes	No _	<u> </u>
HYDROL											
•	drology Indicato										
	cators (minimum o	f one requ				Sec			nimum of two	required)	_
	e Water (A1)			Salt Crust (B1	,			ırface Soil Cı	` '	Cumface (F	20)
	/ater Table (A2) tion (A3)			Aquatic Invert	fide Odor (C1)			arsely vege ainage Patte	tated Concave	Surface (E	38)
	Marks (B1)			. , .	Vater Table (C2	2)		•	spheres on Liv	ina Roots	(C3)
	ent Deposits (B2)				ospheres on Li	•		here tilled)	opiloroo on En	mg rtooto	(00)
	eposits (B3)			(C3) (where r				ayfish Burrov	ws (C8)		
	flat or Crust (B4)			Presence of F	Reduced Iron (C	24)	Sa	aturation Visi	ble on Aerial Ir	nagery (C9	9)
Iron De	eposits (B5)			Thin Muck Su	ırface (C7)		Ge	eomorphic Po	osition (D2)		
Inunda	tion Visible on Ae	rial Imager	ry (B7)	Other (Explain	n in Remarks)			C-Neutral To	` '		
Water-	Stained Leaves (E	39)					Fro	ost-Heave H	ummocks (D7)	(LRR F)	
Field Obser	vations:										
Surface Wat	ter Present?	Yes	No X	Depth (inches):							
Water Table		Yes		Depth (inches):							
Saturation P		Yes	No X	Depth (inches):		Wetland	d Hydrol	ogy Present	:? Yes <u>X</u>	No _	
(includes ca	pillary fringe)										
Describe Re	corded Data (stre	am gauge	, monitoring we	ell, aerial photo	os, previous ins	pections),	, if availab	ole:			
Remarks:	Meets the criter	ia for wetle	and hydrology								
. tomanto.	Mooto the offer	ia ioi wolle	and nyarology.								

Project/Site:	FM 2931		City/Count	y: Dent	on	Sampling Da	te:	11/10/	/2020
Applicant/Owner:		TxDOT Dallas	_			Sampling Poi	nt:	SP	, 9
Investigator(s): J. LeC	lair, P. Van Zaı	ndt		Section, Towns	ship, Range:		N/A		
Landform (hillslope, terra	ce, etc.):	Terrace	Local relief	<del>_</del> (concave, convex,				%):	2-3%
Subregion (LRR):	LLR J		_	Long:				_	D 1983
Soil Map Unit Name:						cation:		None	
Are climatic/hydrologic co	-							plain in	remarks)
				disturbed? Are "					
						xplain any ansv			
SUMMARY OF FIN			_			-			eatures, e
Hydrophytic Vegetation F		Yes X	No No			•			
Hydric Soil Present?	rocont.	Yes	No X						
Wetland Hydrology Pres	ent?	Yes	No X	Is the Sample	d Area within	n a Wetland?	Yes	No	X
Remarks: Though hydro				_					
	does not meet			location, no nyuno	Solis of Well	and nydrology v	were preser	it. There	siore, trie
Sample location	on above OHWI	M of perennial s	tream (Runnii	ng Branch) and Pf	O1C NWI fe	ature. Sand, sil	t, and grav	el subst	rate. A reviev
of the Anteced	lent Precipitatio	n Tool data indi	cates a typica	l year.					
VEGETATION Use sci	entific names o	f plants.							
			Absolute %	Dominant	Indicator	Dominance T	est works	neet:	
Tree Stratum	(Plot size:	30-ft R )	Cover	Species?	Status	Number of Do	minant Spe	cies	
1. Salix nigra			20	Yes	FACW	That Are OBL,		FAC	
2.						(excluding FAC	•	_	4 (A)
3. 4.				· ——		Total Number Species Acros			7 (B)
			20	= Total Cover				_	
	50%	of total cover:		0% of total cover:	4	Percent of Dor That Are OBL,	•		57% (A/B
Sapling/Shrub Stratum		e: 15-ft R )			<u> </u>		, , , , , , , , , , , , , , , , , , , ,	_	0.70
Platanus occider		). <u>10 it it</u> )	5	Yes	FAC	Prevalence I	ndex Work	sheet	
2. Ulmus americana	Э		5	Yes	FAC	Total % Cover	of:	N	Multiply by:
3.						OBL species		x 1 =	
4.						FACW species	s	x 2 =	
5			10	= Total Cover		FAC species FACU species		x3= x4=	
	50%	of total cover:		0% of total cover:	2	UPL species		- x5=	
Herb Stratum		5-ft R )		· · · · · · · · · · · · · · ·		Column Totals		(A)	(i
Cynodon dactylo			65	Yes	FACU	Prevalence In	ndex = B/A	=	
2. Dichanthelium so	coparium		20	Yes	FACW	Hydrophytic	Vegetation	ı Indica	itors:
3. Ambrosia trifida			15	No	FAC		Test for Hyd		Vegetation
4						X 2 - Domina			
5. 6.			-	·		_	ence Index is		1
7				·			logical Ada		ˈ (Provide · on a separate
8.						sheet)	data iii i toi	naiks oi	on a separate
9.						Problemati	ic Hydrophy	tic Vege	tation <sup>1</sup>
10.						(Explain)			
	50%	of total cover:	100 50 2	= Total Cover 0% of total cover:	20	1	42	. 0 1	h dada a a
Woody Vine Stratum		e: 30-ft R )				be present, unle			hydrology must ematic
1. Smilax bona-nox			10	Yes	FACU				
2. Campsis radican	S		10	Yes	FACU				
	F00/	of total action	20	= Total Cover	4	Hydrophytic Vegetation			
% Bare Ground in Herb		of total cover:	2	0% of total cover:	4	Present	Yes	X	No
	criteria for hydi	ophytic vegetal	tion.			<u>I</u>			
		· •							

Depth	<u>Matrix</u>			Redo	x Features		_			
(Inches)	Color (moist)	%	Color (moist	) %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks	
0-16	10YR 4/6	100					sand			
								-		
								-		
						-				
Type: C = C	oncentration, D = De	anletion B	M = Peduced N	Matrix MS = M	asked Sand Grain	ne <sup>2</sup> l ocatio	n: PL = Pore Lining	M – Matrix		
, .	Indicators: (Appl						dicators for Pro		dric Soils <sup>3</sup> :	
Histos			,	Sandy Gleye	•		cm Muck (A9) (LI	-		
	Epipedon (A2)			Sandy Redox			oast Prairie Redo		F G H)	
	Histic (A3)			Stripped Mat			ark Surface (S7) (		, 0,,	
	gen Sulfide (A4)				y Mineral (F1)		igh Plains Depres			
	ed Layers (A5) <b>(LR</b>	RF)		Loamy Gleye			•	side of MLR	A 72 & 73)	
1 cm N	fluck (A9) (LRR F,	G, H)		Depleted Mat	trix (F3)	R	educed Vertic (F1	8)		
Deplet	ed Below Dark Sur	face (A11	)	Redox Dark S			ed Parent Materia	` '		
	Dark Surface (A12)			-	k Surface (F7)		ery Shallow Dark		2)	
	Mucky Mineral (S1			Redox Depre			ther (Explain in R	,		
	Mucky Peat or Pe				Depressions (F16	•	ndicators of hydro			
5 cm N	lucky Peat or Peat	(S3) (LR	RF)	(MLRA 7	2 & 73 of LRR H		drology must be oblematic.	present, unle	ss disturbed	d or
						T pr	obiematic.			
estrictive L	ayer (if present):									
-										
Type:	-									
Depth	Does not meet	the criteri	a for hydric soi	il.		Hydric	Soil Present?	Yes	No _	X
Depth (	Does not meet	the criteri	a for hydric soi	11.		Hydric	Soil Present?	Yes _	No _	X
Depth (Remarks:	Does not meet		a for hydric soi	il.		Hydric	Soil Present?	Yes	No _	x
Depth ( Remarks:  HYDROL Wetland Hy	Does not meet  OGY  vdrology Indicator	s:								X
Depth ( Remarks:  HYDROL Wetland Hy	OGY vdrology Indicator	s:		that apply)	11)		ary Indicators (mi	nimum of two		<u>x</u>
Depth ( Remarks:  HYDROL Wetland Hy Primary India Surface	OGY /drology Indicator cators (minimum of	s:		that apply) Salt Crust (B	•		ary Indicators (mi Surface Soil Cr	nimum of two acks (B6)	o required)	_
Depth ( Remarks:  HYDROL Wetland Hy Primary India Surfac High V	OGY vdrology Indicator cators (minimum of e Water (A1) Vater Table (A2)	s:		that apply) Salt Crust (B Aquatic Inver	tebrates (B13)		ary Indicators (mi Surface Soil Cr Sparsely Veget	nimum of two acks (B6) ated Concav	o required)	_
Depth ( Remarks:  HYDROL Wetland Hy Primary India Surfac High V Satura	Does not meet  OGY  rarology Indicator cators (minimum of e Water (A1) Vater Table (A2) tion (A3)	s:		that apply) Salt Crust (B Aquatic Inver Hydrogen Su	tebrates (B13) Ifide Odor (C1)	Second	ary Indicators (mi Surface Soil Cr Sparsely Veget Drainage Patte	nimum of two acks (B6) ated Concav rns (B10)	o required) e Surface (l	<b>-</b>
Depth ( Remarks:  HYDROL Wetland Hy rimary India Surfac High W Satura Water	OGY vdrology Indicator cators (minimum of e Water (A1) Vater Table (A2)	s:		that apply) Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season \	tebrates (B13)	Second	ary Indicators (mi Surface Soil Cr Sparsely Veget	nimum of two acks (B6) ated Concav rns (B10)	o required) e Surface (l	<b>-</b>
Depth ( Remarks:  HYDROL Wetland Hy Primary India Surfac High V Satura Water Sedim	Does not meet  OGY  rdrology Indicator cators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1)	s:		that apply) Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season \	tebrates (B13) Ifide Odor (C1) Water Table (C2 zospheres on Liv	Second	ary Indicators (mi Surface Soil Cr Sparsely Vegel Drainage Patte Oxidized Rhizo	nimum of two acks (B6) ated Concav rns (B10) spheres on L	o required) e Surface (l	<b>-</b>
Depth ( Remarks:  HYDROL Wetland Hy Primary India Surfac High W Satura Water Sedim Drift D Algal N	Does not meet  OGY  Indrology Indicator Cators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4)	s:		that apply) Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season \ Oxidized Rhiz (C3) (where Presence of	tebrates (B13) Ifide Odor (C1) Water Table (C2 zospheres on Liv not tilled) Reduced Iron (C	Second	ary Indicators (mi Surface Soil Cr Sparsely Vegel Drainage Patte Oxidized Rhizo (where tilled) Crayfish Burrov Saturation Visil	nimum of two acks (B6) ated Concav rns (B10) spheres on L ws (C8) ble on Aerial	o required) e Surface (l iving Roots	<b>-</b> 338) (C3)
Primary India Surfac High W Satura Water Sedim Drift D Algal M	Does not meet  OGY  Indrology Indicator Cators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5)	<b>s:</b> f one requ	uired; check all	that apply) Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season V Oxidized Rhiz (C3) (where Presence of I Thin Muck St	tebrates (B13) Ifide Odor (C1) Water Table (C2 zospheres on Liv not tilled) Reduced Iron (C urface (C7)	Second	ary Indicators (mi Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo (where tilled) Crayfish Burrov Saturation Visit Geomorphic Po	nimum of two facks (B6) fated Concav rns (B10) spheres on L vs (C8) ole on Aerial osition (D2)	o required) e Surface (l iving Roots	_ 38) (C3)
Netland Hy Primary India Surface High V Satura Water Sedim Drift D Algal N Iron De Inunda	Does not meet  OGY  vdrology Indicator cators (minimum of e Water (A1) vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) vlat or Crust (B4) eposits (B5) tion Visible on Aer	s: f one requ	uired; check all	that apply) Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season V Oxidized Rhiz (C3) (where Presence of I Thin Muck St	tebrates (B13) Ifide Odor (C1) Water Table (C2 zospheres on Liv not tilled) Reduced Iron (C	Second	ary Indicators (mi Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo (where tilled) Crayfish Burrov Saturation Visit Geomorphic Po	nimum of two facks (B6) fated Concaverns (B10) spheres on Lever (C8) object on Aerial osition (D2) est (D5)	e Surface (li iving Roots	_ 338) (C3)
Netland Hy Primary India Surface High V Satura Water Sedim Drift D Algal N Iron De Inunda	Does not meet  OGY  Indrology Indicator Cators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5)	s: f one requ	uired; check all	that apply) Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season V Oxidized Rhiz (C3) (where Presence of I Thin Muck St	tebrates (B13) Ifide Odor (C1) Water Table (C2 zospheres on Liv not tilled) Reduced Iron (C urface (C7)	Second	ary Indicators (mi Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo (where tilled) Crayfish Burrov Saturation Visit Geomorphic Po	nimum of two facks (B6) fated Concaverns (B10) spheres on Lever (C8) object on Aerial osition (D2) est (D5)	e Surface (li iving Roots	_ 338) (C3)
Depth ( Remarks:  HYDROL Wetland Hy Primary India Surfac High W Satura Water Sedim Drift D Algal M Iron Do Inunda Water- Field Obse	Does not meet  OGY  Indrology Indicator Cators (minimum of e Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) Ition Visible on Aer Stained Leaves (B	s: f one requ ial Image 9)	ry (B7)	that apply) Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season (Oxidized Rhiz) (C3) (where Presence of I Thin Muck Si Other (Explain	tebrates (B13) Ifide Odor (C1) Water Table (C2 zospheres on Liv not tilled) Reduced Iron (C urface (C7) n in Remarks)	Second	ary Indicators (mi Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo (where tilled) Crayfish Burrov Saturation Visit Geomorphic Po	nimum of two facks (B6) fated Concaverns (B10) spheres on Lever (C8) object on Aerial osition (D2) est (D5)	e Surface (li iving Roots	- 388) ((C3)
Depth ( Remarks:  HYDROL Wetland Hy Primary India Surfac High W Satura Water Sedim Drift D Algal M Iron Do Inunda Water- Field Obse Surface Wa	Does not meet  OGY  Indrology Indicator Cators (minimum of e Water (A1) Vater Table (A2) Ition (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) Ition Visible on Aer Stained Leaves (B  Invations: Iter Present?	s: f one required in the second in the secon	ry (B7)	that apply) Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season (Oxidized Rhiz) (C3) (where Presence of I Thin Muck St Other (Explai)	tebrates (B13) Ifide Odor (C1) Water Table (C2 zospheres on Liv not tilled) Reduced Iron (C urface (C7) n in Remarks)	Second	ary Indicators (mi Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo (where tilled) Crayfish Burrov Saturation Visit Geomorphic Po	nimum of two facks (B6) fated Concaverns (B10) spheres on Lever (C8) object on Aerial osition (D2) est (D5)	e Surface (li iving Roots	_ 338) (C3)
Depth ( Remarks:  HYDROL  Wetland Hy  rimary India  Surfac  High V  Satura  Water  Sedim  Drift D  Algal N  Iron De  Inunda  Water-  Field Obse  Surface Wa  Water Table	Does not meet  OGY  Indrology Indicator Cators (minimum of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) Indro Crust (B4) Indro Crust (B4) Indro Crust (B4) Indro Crust (B5) Intion Visible on Aer Installed Leaves (B Ins	s: f one required in the requirement of the require	ry (B7)	that apply) Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season (Oxidized Rhiz) (C3) (where Presence of I Thin Muck St Other (Explai) Depth (inches)	tebrates (B13) Ifide Odor (C1) Water Table (C2 zospheres on Liv not tilled) Reduced Iron (C urface (C7) n in Remarks)	Second	ary Indicators (mi Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo (where tilled) Crayfish Burrov Saturation Visit Geomorphic Po FAC-Neutral Te Frost-Heave Hu	nimum of two acks (B6) ated Concav rns (B10) spheres on L vs (C8) ble on Aerial osition (D2) est (D5) ummocks (D7	e Surface (I iving Roots Imagery (CS	 388) ((C3)
Depth ( Remarks:  HYDROL  Wetland Hy  rimary India  Surfac  High W  Satura  Water  Sedim  Drift D  Algal M  Iron De  Inunda  Water-  Field Obse  Surface Wa  Water Table  Saturation F	Does not meet  OGY  Indrology Indicator Cators (minimum of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) Indrologists (B2) Indrologists (B3) Indrologists (B5) Intrologists (B5) Introlo	s: f one required in the second in the secon	ry (B7)	that apply) Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season (Oxidized Rhiz) (C3) (where Presence of I Thin Muck St Other (Explai)	tebrates (B13) Ifide Odor (C1) Water Table (C2 zospheres on Liv not tilled) Reduced Iron (C urface (C7) n in Remarks)	Second	ary Indicators (mi Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo (where tilled) Crayfish Burrov Saturation Visit Geomorphic Po	nimum of two acks (B6) ated Concav rns (B10) spheres on L vs (C8) ble on Aerial osition (D2) est (D5) ummocks (D7	e Surface (li iving Roots	_ 38) (C3)
Depth ( Remarks:  HYDROL  Wetland Hy Primary India Surfac High W Satura Water Sedim Drift D Algal N Iron Do Inunda Water- Field Obse Surface Wa Water Table Saturation F includes ca	Does not meet  OGY  Indrology Indicator Cators (minimum of the Water (A1) Index Table (A2) Ition (A3) Marks (B1) Indro Crust (B4) Indro Crust	ial Image 9) Yes Yes	ry (B7)	that apply) Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season \ Oxidized Rhiz (C3) (where Presence of I Thin Muck St Other (Explai	tebrates (B13) Iffide Odor (C1) Water Table (C2 zospheres on Liv not tilled) Reduced Iron (C urface (C7) n in Remarks)	Secondary  Secondary  Ving Roots  Wetland Hy	ary Indicators (mi Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo (where tilled) Crayfish Burrov Saturation Visit Geomorphic Po FAC-Neutral Te Frost-Heave Hu	nimum of two acks (B6) ated Concav rns (B10) spheres on L vs (C8) ble on Aerial osition (D2) est (D5) ummocks (D7	e Surface (I iving Roots Imagery (CS	 388) ((C3)
Depth ( Remarks:  HYDROL Wetland Hy Primary India Surfac High W Satura Water Sedim Drift D Algal N Iron Do Inunda Water- Field Obse Surface Wa Water Table Saturation F (includes ca	Does not meet  OGY  Indrology Indicator Cators (minimum of the Water (A1) Vater Table (A2) Ition (A3) Marks (B1) Indrologists (B2) Indrologists (B3) Indrologists (B5) Intrologists (B5) Introlo	ial Image 9) Yes Yes	ry (B7)	that apply) Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season \ Oxidized Rhiz (C3) (where Presence of I Thin Muck St Other (Explai	tebrates (B13) Iffide Odor (C1) Water Table (C2 zospheres on Liv not tilled) Reduced Iron (C urface (C7) n in Remarks)	Secondary  Secondary  Ving Roots  Wetland Hy	ary Indicators (mi Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo (where tilled) Crayfish Burrov Saturation Visit Geomorphic Po FAC-Neutral Te Frost-Heave Hu	nimum of two acks (B6) ated Concav rns (B10) spheres on L vs (C8) ble on Aerial osition (D2) est (D5) ummocks (D7	e Surface (I iving Roots Imagery (CS	 388) ((C3)
Depth ( Remarks:  HYDROL  Wetland Hy Primary India Surfac High W Satura Water Sedim Drift D Algal N Iron Do Inunda Water- Field Obse Surface Wa Water Table Saturation F includes ca	Does not meet  OGY  Indrology Indicator Cators (minimum of the Water (A1) Index Table (A2) Ition (A3) Marks (B1) Indro Crust (B4) Indro Crust	ial Image 9) Yes Yes	ry (B7)	that apply) Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season \ Oxidized Rhiz (C3) (where Presence of I Thin Muck St Other (Explai	tebrates (B13) Iffide Odor (C1) Water Table (C2 zospheres on Liv not tilled) Reduced Iron (C urface (C7) n in Remarks)	Secondary  Secondary  Ving Roots  Wetland Hy	ary Indicators (mi Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo (where tilled) Crayfish Burrov Saturation Visit Geomorphic Po FAC-Neutral Te Frost-Heave Hu	nimum of two acks (B6) ated Concav rns (B10) spheres on L vs (C8) ble on Aerial osition (D2) est (D5) ummocks (D7	e Surface (I iving Roots Imagery (CS	- 38) (C3)
Depth ( Remarks:  HYDROL Wetland Hy Primary India Surfac High W Satura Water Sedim Drift D Algal N Iron Do Inunda Water- Field Obse Surface Wa Water Table Saturation F (includes ca	Does not meet  OGY  Indrology Indicator Cators (minimum of the Water (A1) Index Table (A2) Ition (A3) Marks (B1) Indro Crust (B4) Indro Crust	s: f one required in the second in the secon	ry (B7)  No X E No X C	that apply) Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season \ Oxidized Rhiz (C3) (where Presence of I Thin Muck St Other (Explai	tebrates (B13) Iffide Odor (C1) Water Table (C2 zospheres on Liv not tilled) Reduced Iron (C urface (C7) n in Remarks)	Secondary  Secondary  Ving Roots  Wetland Hy	ary Indicators (mi Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo (where tilled) Crayfish Burrov Saturation Visit Geomorphic Po FAC-Neutral Te Frost-Heave Hu	nimum of two acks (B6) ated Concav rns (B10) spheres on L vs (C8) ble on Aerial osition (D2) est (D5) ummocks (D7	e Surface (I iving Roots Imagery (CS	 388) ((C3)
Depth ( Remarks:  HYDROL  Wetland Hy rimary India Surfac High W Satura Water Sedim Drift D Algal M Iron Do Inunda Water- Field Obse Surface Wa Water Table Saturation F includes ca	Does not meet  OGY  Idrology Indicator Cators (minimum of e Water (A1) Idea Table (A2) Ition (A3) Marks (B1) Indicator (B4) In	s: f one required in the second in the secon	ry (B7)  No X E No X C	that apply) Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season \ Oxidized Rhiz (C3) (where Presence of I Thin Muck St Other (Explai	tebrates (B13) Iffide Odor (C1) Water Table (C2 zospheres on Liv not tilled) Reduced Iron (C urface (C7) n in Remarks)	Secondary  Secondary  Ving Roots  Wetland Hy	ary Indicators (mi Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo (where tilled) Crayfish Burrov Saturation Visit Geomorphic Po FAC-Neutral Te Frost-Heave Hu	nimum of two acks (B6) ated Concav rns (B10) spheres on L vs (C8) ble on Aerial osition (D2) est (D5) ummocks (D7	e Surface (I iving Roots Imagery (CS	- 38) (C3)
Depth ( Remarks:  HYDROL  Wetland Hy rimary India Surfac High W Satura Water Sedim Drift D Algal M Iron Do Inunda Water- Field Obse Surface Wa Water Table Saturation F includes ca	Does not meet  OGY  Idrology Indicator Cators (minimum of e Water (A1) Idea Table (A2) Ition (A3) Marks (B1) Indicator (B4) In	s: f one required in the second in the secon	ry (B7)  No X E No X C	that apply) Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season \ Oxidized Rhiz (C3) (where Presence of I Thin Muck St Other (Explai	tebrates (B13) Iffide Odor (C1) Water Table (C2 zospheres on Liv not tilled) Reduced Iron (C urface (C7) n in Remarks)	Secondary  Secondary  Ving Roots  Wetland Hy	ary Indicators (mi Surface Soil Cr Sparsely Veget Drainage Patte Oxidized Rhizo (where tilled) Crayfish Burrov Saturation Visit Geomorphic Po FAC-Neutral Te Frost-Heave Hu	nimum of two acks (B6) ated Concav rns (B10) spheres on L vs (C8) ble on Aerial osition (D2) est (D5) ummocks (D7	e Surface (I iving Roots Imagery (CS	 388) ((C3)

Project/Site:	FM 2931		City/Count	y: Dento	on	Sampling Da	ate:	11/10/20	20
Applicant/Owner:		TxDOT Dallas	District	Stat	e: Texas	Sampling Po	int:	SP 10	1
Investigator(s): J. LeCla	ir, P. Van Zar	ndt		Section, Towns	ship, Range:		N/A		
Landform (hillslope, terrace	e, etc.):	Swale	Local relief	 (concave, convex,	none):	Concave	Slope (%	%):	0-1%
Subregion (LRR):	LLR J	Lat:	33.247836	Long:	-96.95072	9	Datum:	NAD 1	1983
Soil Map Unit Name:	Na				NWI Classifi		1	None	
Are climatic/hydrologic con							(If no, ex	plain in rer	narks)
				disturbed? Are "					
			_			xplain any ans			
SUMMARY OF FIND									itures, etc
Г						,			
Hydrophytic Vegetation Pre	esent?	Yes X	No						
Hydric Soil Present?	40	Yes X	No	l- 4b- 0l-		14/-4/10	V V	, N.	
Wetland Hydrology Presen		Yes X	No	Is the Sample	a Area Withir	i a wetiand?	Yes X	NO	
Remarks: Meets the three									
A review of the Antecedent	Precipitation	Tool data indic	ates a typical	year.					
VEGETATION Use scien	tific names o	f plants.				•			
			Absolute %	Dominant	Indicator	Dominance 1	Test worksh	neet:	
Tree Stratum	(Plot size:	30-ft R )	Cover	Species?	Status	Number of Do	ominant Spec	cies	
1. N/A						That Are OBL		_	
2. 3.						(excluding FA	•	-	(A)
3. 4			· <del>· · · · · · · · · · · · · · · · · · </del>	· <del></del>		Total Number Species Acro			B (B)
			0	= Total Cover					<u>, (D)</u>
	50%	of total cover:		0% of total cover:	0	Percent of Do That Are OBL	•		% (A/B)
Sapling/Shrub Stratum		e: 15-ft R )		270 01 10101 00101.		THAT THE OBE	., . , . , . ,	7.0. <u>01</u>	<u>//</u> (/ (/ U.D.)
1. Salix nigra	(1 101 5120	<u>101111</u> )	3	Yes	FACW	Prevalence	Index Work	sheet	
2.			C	· -		Total % Cove			tiply by:
3.				·		OBL species		x 1 =	
4						FACW specie		x 2 =	
5			3	= Total Cover		FAC species FACU species		x3= x4=	
	50%	of total cover:		0% of total cover:	0.6	UPL species		- ^ <del>-</del> _	
Herb Stratum		5-ft R )		-		Column Total		(A)	(B)
1. Cynodon dactylon	(	<u> </u>	50	Yes	FACU	Prevalence I	ndex = B/A	:	
2. Eleocharis montevi	idensis		45	Yes	FACW	Hydrophytic	Vegetation	ı Indicato	rs:
3. Symphyotrichum s			10	No	OBL	· ·	Test for Hydi	. ,	getation
4. Cyperus esculentu	S		5	No No	FACW	X 2 - Domin			
5.			· <del>· · · · · · · · · · · · · · · · · · </del>	·			ence Index is		
6. 7.							ological Adar g data in Ren		
8.						supporting sheet)	j uala ili Keli	laiks of off	a separate
9.						Problema	tic Hydrophyt	tic Vegetati	ion <sup>1</sup>
10.						(Explain)		· ·	
	E00/	of total cover:		= Total Cover	22	1			
Woody Vine Stratum		e: 30-ft R )		0% of total cover:		<sup>1</sup> Indicators of h be present, unl	•		٠,
1. N/A	<u> </u>			. <u></u>		,			
2.							·	· · · · · ·	·
	E00/		0	= Total Cover	•	Hydrophytic	;		
% Bare Ground in Herb S		of total cover:	0 2	0% of total cover:	0	Vegetation Present	Yes	X N	0
		rophytic vegeta	tion					<u> </u>	<del></del>
Thousand the o									

Profile Descr	iption: (Describe	to the dept	th needed to doo	cument the	indicator or con	firm the ab	sence of indicators.)	<del></del>
Depth	Matrix				x Features			
(Inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-8	10YR 4/2	95	7.5YR 3/4	5	С	М	clay loam	
8-16	10YR 3/2	100					sandy loam	
<u> </u>	<del></del>							
-								
-								
<sup>1</sup> Type: C = Co	oncentration, D = D	epletion, RN	√I = Reduced Mat	trix, MS = Ma	asked Sand Grain	ns. <sup>2</sup> Loca	tion: PL = Pore Lining,	, M = Matrix
Hydric Soil	Indicators: (Appl	licable to a	II LRRs, unless	otherwise	noted.)			lematic Hydric Soils <sup>3</sup> :
Histoso	ol (A1)		Si	andy Gleye	d Matrix (S4)		1 cm Muck (A9) (LR	RI, J)
	Epipedon (A2)		Sa	andy Redox	x (S5)		Coast Prairie Redox	(A16) (LRR F, G, H)
	Histic (A3)			tripped Matr			Dark Surface (S7) (L	
	en Sulfide (A4)	- <b>-</b>			y Mineral (F1)		High Plains Depress	
	ed Layers (A5) <b>(LF</b>				ed Matrix (F2)		•	side of MLRA 72 & 73)
	luck (A9) <b>(LRR F,</b> ed Below Dark Sui			epleted Mat	trix (F3) Surface (F6)		Reduced Vertic (F18 Red Parent Material	
I——	oark Surface (A12	` ,			rk Surface (F7)		Very Shallow Dark S	
	Mucky Mineral (S	,		edox Depre			Other (Explain in Re	
	Mucky Peat or Pe			•	Depressions (F16	3)		phytic vegetation and wetland
5 cm M	lucky Peat or Pea	t (S3) (LRR	t F)	(MLRA 72	2 & 73 of LRR H	1)	• •	present, unless disturbed or
Restrictive La	ayer (if present):							
Type:								
Depth (ii	inches):					Hydri	c Soil Present?	Yes X No
	•	* C b ala'						<del></del>
Remarks:	Meets the crite	ria for nyun	C SOII.					
HYDROLO	OGY							
	drology Indicator	re.						
_				-4		Soco	Indicatora (mini	terror of two nominad)
	ators (minimum o Water (A1)	t one requi		at appiy) alt Crust (B1	11)	Seco	ndary Indicators (mini Surface Soil Cra	imum of two required)
	ater Table (A2)			•	rtebrates (B13)			ated Concave Surface (B8)
I— _ `	tion (A3)			•	Ilfide Odor (C1)		Drainage Patterr	·- · · · ·
	Marks (B1)				Water Table (C2	<u>'</u> .)		pheres on Living Roots (C3)
Sedime	ent Deposits (B2)		O:	xidized Rhiz	zospheres on Liv	•	(where tilled)	
	eposits (B3)		•	C3) (where i	•		Crayfish Burrows	
	lat or Crust (B4)				Reduced Iron (C	4)		le on Aerial Imagery (C9)
	eposits (B5)			hin Muck Su			Geomorphic Pos	` ,
	tion Visible on Aer Stained Leaves (E		/(B/)O	ther (Explain	in in Remarks)		FAC-Neutral Tes	st (D5) mmocks (D7) <b>(LRR F)</b>
	`	19)						IIIIIOCKS (D1) (EIXIX I )
Field Observ		V V	N- Day	u- (bashoo)				
Surface Water Table		Yes X Yes X		pth (inches): pth (inches):				
Saturation Pr		Yes X		pth (inches): pth (inches):		Wetland	Hydrology Present?	Yes X No
(includes cap				, , , , , , , , , , , , , , , , , , , ,		••••	,	
	corded Data (stre	am dauge.	monitoring well.	aerial phot	os previous insi	nections), if	available:	
D0001100	201404 2412 (21.2.	am gaage,	mornioning,	dona p	33, provided	Journe,,	available.	
Remarks:	Meets the criter	ia for wetlar	nd hydrology.					

Project/Site:	FM 29	931	City/Cour	nty: Dente	on	Sampling Da	te:	11/10/20	)20	
Applicant/Owner:		TxDOT Dallas	District	Stat	e: Texas	Sampling Poi	nt:	SP 11	1	
Investigator(s): J. LeCla	air, P. Van	Zandt		Section, Towns	ship, Range:		N/A			
Landform (hillslope, terrac	e etc.):	Ditch	Local relie	f (concave convex			Slope (%	).	2-3	5%
	LLR J			Long:			Datum:			
Soil Map Unit Name:						ication:		one		
Are climatic/hydrologic cor						<u>-</u>			marke	c)
					'					
Are vegetation No, s									_	
Are vegetation No, s						xplain any ansv				
SUMMARY OF FIND	INGS –	Attach site ma	ip snowin	g sampling poi	int locatio	ns, transec	ts, import	ant fea	ature	es, et
Hydrophytic Vegetation Pr	esent?	Yes	No X							
Hydric Soil Present?		Yes	No X							
Wetland Hydrology Preser	nt?	Yes	No X	Is the Sample	d Area withi	n a Wetland?	Yes	No	X	_
Remarks: Does not meet	the three c	riteria for a wetland	 d.							
A review of the Anteceden	t Precipitat	ion Tool data indic	ates a typica	al year.						
	·		,	•						
VEGETATION Use scie	ntific name	s of plants								
VEGETATION 03c 3cic	Titillo Harric	o or planto.				Dominance 1	oot worksh	not:		
Tree Stratum	(Dlot o	izo: 20 ft D \	Absolute %		Indicator Status	Dominance	est worksin	eet.		
1. N/A	(PIOLS	ize: 30-ft R )	Cover	Species?	Status	Number of Do	•			
2.						That Are OBL (excluding FA			0	(A)
2						Total Number	•			( )
4.						Species Acros			1	(B)
			0	= Total Cover		Percent of Do	minant Specie	 es		
	5	50% of total cover:	0	20% of total cover:	0	That Are OBL	•		%	(A/B)
Sapling/Shrub Stratum	(Plot	size: 15-ft R )								
1. N/A						Prevalence I		heet		
2.						Total % Cove	r of:		ltiply l	by:
3.						OBL species FACW specie		x1= x2=		
4. 5.						FACW species	s	x 2		
J			0	= Total Cover		FACU species		x 4 =		
	5	50% of total cover:	0	20% of total cover:	0	UPL species		x 5 =		
Herb Stratum	(Plot s	ize: 5-ft R )		_		Column Totals	s(	(A)		(B)
Cynodon dactylon			100	Yes	FACU	Prevalence In	ndex = B/A =			
2						Hydrophytic	•			
						· ·	Test for Hydro		egetat	tion
4. 5.						l——	ance Test is > ence Index is			
6.						_				
7.							ological Adapt data in Rema			
8.						sheet)	adia iii rioiiii	unto 01 01		parato
9.						Problemat	ic Hydrophytic	c Vegetat	ion <sup>1</sup>	
10						(Explain)				
	5	50% of total cover:	100 50	= Total Cover 20% of total cover:	20	11	42 9 4	. 0 1 1		1
Woody Vine Stratum		size: 30-ft R )	- 30	2070 Of total cover.	20	<sup>1</sup> Indicators of hybe present, unli	•	•	_	y must
	<u> </u>									
1. N/A										
1. N/A 2.			· —	<b>-</b>						
		700/ <b>af</b> t-t-1	0	= Total Cover	^	Hydrophytic				
		50% of total cover:		= Total Cover 20% of total cover:	0	Hydrophytic Vegetation Present	Yes	N	lo	X

Profile Desc Depth	ription: (Describe <u>Matrix</u>	-	oth needed to do		ndicator or con Features	nfirm the absend	ce of indicators.)			
(Inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Re	emarks	
0-3	10YR 3/3	100					sandy loam			
3-16	7.5YR4/4	100			,		sandy loam	road b	ase mixing	J
							· <del></del>			
	oncentration, D = D Indicators: (Appl						: PL = Pore Lining, licators for Proble		c Soils <sup>3</sup> :	
		ilcable to						-	c Jons .	
	ol (A1)			Sandy Gleyed			m Muck (A9) (LRR		. C III	
	Epipedon (A2) Histic (A3)			Sandy Redox Stripped Matri			ast Prairie Redox ( rk Surface (S7) <b>(Lf</b>		, G, H)	
	gen Sulfide (A4)				Mineral (F1)		th Surface (37) <b>(Er</b> th Plains Depression			
	ied Layers (A5) <b>(LF</b>	RR F)		oamy Gleyed	, ,		(LRR H outsi		72 & 73)	
	Muck (A9) (LRR F,	•		epleted Matr		Re	duced Vertic (F18)		,	
	ted Below Dark Su			Redox Dark S	` '		d Parent Material (			
	Dark Surface (A12				Surface (F7)		ry Shallow Dark Sເ		l	
Sandy	Mucky Mineral (S	1)	R	Redox Depres	ssions (F8)	Oth	ner (Explain in Ren	narks)		
2.5 cm	n Mucky Peat or Pe	eat (S2) <b>(L</b>	.RR G, H) H	ligh Plains D	epressions (F1	6) <sup>3</sup> Inc	dicators of hydroph	ytic vegetation	on and wef	tland
5 cm N	Mucky Peat or Pea	t (S3) <b>(LR</b>	R F)	(MLRA 72	2 & 73 of LRR I		drology must be pre	esent, unless	disturbed	or
						pro	blematic.			
Restrictive L	_ayer (if present):									
Type:										
Depth	(inches):					Hydric S	oil Present?	Yes	No	X
Remarks:			a for hydric soil.	<u> </u>						
HYDROL										
Wetland Hy	ydrology Indicato	rs:								
	cators (minimum o	f one requ				Seconda	ry Indicators (minir		equired)	_
	e Water (A1)			Salt Crust (B1			Surface Soil Crac			
	Vater Table (A2)				ebrates (B13)		Sparsely Vegetate		Surface (B	·8)
	ation (A3)			, ,	fide Odor (C1) Vater Table (C2	<u> </u>	Drainage Patterns	` '	na Poots (	(C3)
	Marks (B1) ent Deposits (B2)			•	ospheres on Li	·	Oxidized Rhizosp (where tilled)	HEIES OH LIVI	ng Roots (	(03)
	eposits (B3)			C3) (where n		VIIIg Roots	Crayfish Burrows	(C8)		
	Mat or Crust (B4)		•	, .	Reduced Iron (C	<del></del>	Saturation Visible		agery (C9	)
	eposits (B5)			hin Muck Su	•		Geomorphic Posi		3-7()	,
	ation Visible on Aeı	rial Imagei			n in Remarks)		FAC-Neutral Test	` '		
Water-	-Stained Leaves (E	39)					Frost-Heave Hum	mocks (D7)	(LRR F)	
Field Obse	rvations:									
		Yes	No X De	pth (inches):						
Water Table	e Present?	Yes	No X De	pth (inches):						
Saturation F	Present?	Yes	No X De	pth (inches):		Wetland Hyd	Irology Present?	Yes	No _	Χ
(includes ca	apillary fringe)									
Describe Re	ecorded Data (stre	am gauge	, monitoring well	, aerial photo	s, previous ins	pections), if ava	ailable:			
Domarka	Doos not most t	the criteri-	for wotland bud	rology						
Remarks:	Poes not meet	ine criteria	a for wetland hyd	iology.						

Project/Site:	FM 2931		City/County	y: Dento	on	Sampling Da	Date: 11/10/2020		:020
Applicant/Owner:		TxDOT Dallas	_		e: Texas	Sampling Po	int:	SP 1	2
Investigator(s): J. LeC	lair, P. Van Zar	ndt		Section, Towns	ship, Range:		N/A		
Landform (hillslope, terrad	ce, etc.):			concave, convex,	-			%):	0-1%
Subregion (LRR):	LLR J	Lat:	33.247997	Long:	-96.95074	1	Datum:	NAD	1983
Soil Map Unit Name:	Nav				NWI Classifi			None	
Are climatic/hydrologic co							(If no, ex	plain in re	emarks)
				disturbed? Are "					
				blematic?		•			
SUMMARY OF FINE			_						atures, etc
			1			,			
Hydrophytic Vegetation P	resent?	Yes X	No						
Hydric Soil Present?	<del></del>	Yes X	No	la tha Campla	d Araa within	a Watland?	Vaa V	/ No	
Wetland Hydrology Prese		Yes X	No	Is the Sample	a Area withir	i a wetiand?	Yes X	NO NO	
Remarks: Meets the three									
A review of the Anteceder	nt Precipitation	Tool data indic	ates a typical	year.					
VEGETATION Use scie	entific names of	plants.				1			
			Absolute %	Dominant	Indicator	Dominance 1	Test worksl	neet:	
Tree Stratum	(Plot size:	30-ft R )	Cover	Species?	Status	Number of Do	ominant Spe	cies	
1. N/A			. ———			That Are OBL			4 (4)
2. 3.			· <del></del>			(excluding FA	•		<u>1</u> (A)
3. 4			· <del></del>			Total Number Species Acro			1 (B)
··· -			0	= Total Cover					<u>.</u> (2)
	50%	of total cover:		0% of total cover:	0	Percent of Do That Are OBL	•		00% (A/B)
Sapling/Shrub Stratum		e: 15-ft R )		-			, - ,-		
1. N/A	(, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, , , , , , , , , , , , , , , , , , , ,				Prevalence	Index Work	sheet	
2.						Total % Cove	r of:	Mι	ultiply by:
3						OBL species		x 1 =	
4.			· <del></del>			FACW specie		_ x2=	
5			0	= Total Cover		FAC species FACU species		x 3 = x 4 =	
	50%	of total cover:		0% of total cover:	0	UPL species		x 5 =	
Herb Stratum	(Plot size:	5-ft R )		-		Column Total	s	(A)	(B)
Eleocharis monte	,		100	Yes	FACW	Prevalence I	ndex = B/A	=	
2.						Hydrophytic	Vegetation	1 Indicato	ors:
3.							Test for Hydi		egetation
4.						X 2 - Domin	ance Test is ence Index is		
5. 6.			. ———						
7.			. ———				ological Ada <sub>l</sub> a data in Ren		(Provide on a separate
8.						sheet)	,		a coparato
9.						Problema	tic Hydrophy	tic Vegeta	ıtion <sup>1</sup>
10			400	Tatal Oassa		(Explain)			
	50%	of total cover:		= Total Cover 0% of total cover:	20	<sup>1</sup> Indicators of h	wdric soil and	wetland by	vdrology must
Woody Vine Stratum		e: 30-ft R )				be present, unl	•	•	
1. N/A									
2			0	= Total Cover		Lludronbut!-			
	50%	of total cover:		= rotal Cover  % of total cover:	0	Hydrophytic Vegetation	,		
% Bare Ground in Herb		or total cover.		7,0 OI total cover.		Present	Yes	x N	No
	criteria for hydr	ophytic vegeta	tion.			1			

Profile Descr Depth	ription: (Describe Matrix	•	th needed to doo		ndicator or cor Features	nfirm the abser	nce of indicators.)	
(Inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	 Texture	Remarks
0-8	10YR 5/2	90	7.5YR 5/4	10	С	PL	sand	
8-16	10YR 4/2	100				-	sandy loam	
	oncentration, D = D						n: PL = Pore Lining, N	
	Indicators: (Appl	icable to						matic Hydric Soils <sup>3</sup> :
Histoso	` '				Matrix (S4)		cm Muck (A9) (LRR	
	Epipedon (A2)			andy Redox			oast Prairie Redox (A	
	Histic (A3) Jen Sulfide (A4)			tripped Matri	x (So) Mineral (F1)		ark Surface (S7) <b>(LR</b>	
	ed Layers (A5) <b>(LF</b>	DD E/			Matrix (F2)	<u> </u>	igh Plains Depressio	e of MLRA 72 & 73)
	fuck (A9) <b>(LRR F</b> ,			epleted Matr		R	educed Vertic (F18)	e of william 12 at 13)
	ed Below Dark Sur			edox Dark S	, ,		ed Parent Material (1	TF2)
	Dark Surface (A12)				Surface (F7)		ery Shallow Dark Su	
	Mucky Mineral (S			edox Depres			ther (Explain in Rem	. ,
2.5 cm	Mucky Peat or Pe	at (S2) <b>(L</b>	<b>RR G, H)</b> Hi	igh Plains D	epressions (F1			ytic vegetation and wetland
5 cm M	lucky Peat or Peat	t (S3) <b>(LRI</b>	R F)	(MLRA 72	& 73 of LRR	<b>H)</b> hy	drology must be pre	sent, unless disturbed or
						pr	oblematic.	
Restrictive L	ayer (if present):							
Type:								
• •	inches):					Hydric S	Soil Present?	Yes X No
Remarks:	Meets the criter	na for riyor	TC SOII.					
HYDROL	OGY							
Wetland Hy	drology Indicator	rs:						
Primary Indic	cators (minimum o	f one requ	ired; check all tha	at apply)		Seconda	ary Indicators (minim	num of two required)
	e Water (A1)			alt Crust (B1	1)		Surface Soil Cracl	(s (B6)
High W	/ater Table (A2)		A	quatic Invert	ebrates (B13)	<u> </u>	Sparsely Vegetate	ed Concave Surface (B8)
	tion (A3)			, ,	fide Odor (C1)		Drainage Patterns	` '
	Marks (B1)			-	Vater Table (C2			neres on Living Roots (C3)
	ent Deposits (B2)				ospheres on Li	iving Roots	(where tilled)	(00)
	eposits (B3)		•	3) (where n	•		Crayfish Burrows	• •
	Mat or Crust (B4) eposits (B5)				Reduced Iron (C		Geomorphic Posit	on Aerial Imagery (C9)
	tion Visible on Aer	ial Imager		nin Muck Su ther (Explain	in Remarks)	_	FAC-Neutral Test	` '
	Stained Leaves (B	J	y (B7)O	iliei (Explaii	i iii iteiliaiks)			mocks (D7) (LRR F)
	`	,			ı			
Field Obser		V V	Na Dav	-th (:h).	2			
Surface Wat Water Table		Yes X Yes X		oth (inches): oth (inches):	3 surface			
Saturation P		Yes X		oth (inches):	surface	Wetland Hv	drology Present?	Yes X No
	pillary fringe)	7 X		our (moneo).	<u> </u>	Wedana Hy	arology r reseme.	165 <u>X</u> 160
,	ecorded Data (stream	am dalide	monitoring well	aerial nhoto	s previous ins	nections) if av	railable <sup>.</sup>	
Describe No	coraca Data (Stret	am gauge,	, monitoring well,	acriai prioto	os, previous iris	pections), ii av	anabic.	
Remarks:	Meets the criteri	a for wetla	and hydrology.					

### WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site:	FM 2931		City/Count	y: Dent	on	Sampling Dat	:e:1	11/10/2020	
Applicant/Owner:		TxDOT Dallas		Stat	te: Texas	Sampling Poir	nt:	SP 13	
Investigator(s): J. LeCla	air, P. Van Zai	ndt		Section, Towns	ship, Range:		N/A		
Landform (hillslope, terrace		Plain	Local relief	<del></del> (concave, convex,	none):	None	Slope (%)	: 0-	1%
Subregion (LRR):	LLR J			Long:					3
Soil Map Unit Name:	Na				NWI Classifi		No		
Are climatic/hydrologic cor	nditions of the	site typical for t	this time of the	_			(If no, expla	in in remarl	ks)
				disturbed? Are '			_		
				blematic?					
SUMMARY OF FIND									res. etc
Hydrophytic Vegetation Pro			No X	1 01					
Hydric Soil Present?	esent:	Yes Yes	No X						
Wetland Hydrology Preser	nt?	Yes	No X	Is the Sample	d Δroa withir	n a Wetland?	Yes	No X	
				is the cample	a Alea Witilii	ra Wettana:		<u> </u>	
Remarks: Does not meet t A review of the Anteceden				voor					
A review of the Afficedent	i Frecipitation	1001 data ilidic	ales a typical	year.					
VECETATION	. t.C	fl.							
VEGETATION Use scien	ntific names o	r piants.							
Tre a Chrestova	(Diet eine	. 20 <del>f</del> D \	Absolute %	Dominant	Indicator	Dominance T	est worksne	et:	
Tree Stratum  1. N/A	(Plot size:	: <u>30-ft R</u> )	Cover	Species?	Status	Number of Dor			
2.				· <del></del> -		That Are OBL, (excluding FAC		0	(A)
3.						Total Number	•		` '
4.				. <u></u>		Species Acros	s All Strata:	1	(B)
			0	= Total Cover		Percent of Dor	ninant Species	S	
	50%	of total cover:	0 2	0% of total cover:	0	That Are OBL,	FACW, or FA	C: 0%	(A/B)
Sapling/Shrub Stratum	(Plot size	e: 15-ft R )							
1. N/A						Prevalence II			. 6
2. 3.				· <del></del> -		Total % Cover OBL species		Multiply x 1 =	by:
4.			·	· <del></del> -		FACW species		x 2 =	
5.						FAC species		x 3 =	
	<b>500</b>			= Total Cover	•	FACU species		x 4 =	
		of total cover:	0 2	0% of total cover:	0	UPL species Column Totals	(A	x 5 =	(B)
Herb Stratum  1. Cynodon dactylon	(Plot size:	: <u>5-ft R</u> )	90	Voc.	FACU				(D)
Cynodon dactylon     Paspalum dilatatui	m		10	Yes No	FAC	Prevalence In Hydrophytic		ndicators:	
3.	<u> </u>			110	1710		est for Hydrop		ation
4.							nce Test is >5	-	
5.						3 - Prevale	nce Index is ≤	3.0 <sup>1</sup>	
6.						•	logical Adapta	,	
7. 8.				· <del></del> ·		supporting sheet)	data in Rema	rks or on a s	eparate
9.				· <del></del> -		,	c Hydrophytic	Vegetation <sup>1</sup>	
10.				· <del></del> -		(Explain)	5 i iyaropiiyac	vegetation	
				= Total Cover					
Woody Vine Stratum		of total cover: e: 30-ft R )	2	0% of total cover:	20	<sup>1</sup> Indicators of hy be present, unle		•	gy must
1. N/A	(5. 5.2					So prosont, unit	os disturbed U	Problematic	
2.									
				= Total Cover	•	Hydrophytic			
% Bare Ground in Herb S		of total cover:	0 2	0% of total cover:	0	Vegetation Present	Yes	No	X
		a for hydrophyti	c vegetation						<del></del>
2000 1100 111									

Profile Descri	iption: (Describe	-	needed to docu		ndicator or conf	irm the abs	sence of indicators.)	
Depth (Inches)	Color (moist)		Color (moist)	<u>  Kedox</u> %	Type <sup>1</sup>	Loc <sup>2</sup>	—– Texture	Remarks
0-16	10YR 4/4	100	Color (moist)		.,,,,		sandy loam	Remarks
						-	<u> </u>	
<sup>1</sup> Type: C = Co	ncentration, D = D	Depletion, RM	= Reduced Matri	x, MS = Ma	sked Sand Grain	s. <sup>2</sup> Locat	tion: PL = Pore Lining,	M = Matrix
	Indicators: (App							ematic Hydric Soils <sup>3</sup> :
Histoso	l (A1)		Sar	ndy Gleyed	l Matrix (S4)		1 cm Muck (A9) (LRI	₹ I, J)
Histic E	pipedon (A2)		Sar	ndy Redox	(S5)		Coast Prairie Redox	(A16) <b>(LRR F, G, H)</b>
	listic (A3)			ipped Matri			Dark Surface (S7) (L	
	en Sulfide (A4)				Mineral (F1)		High Plains Depressi	
	ed Layers (A5) <b>(L</b> l				d Matrix (F2)		•	de of MLRA 72 & 73)
	luck (A9) <b>(LRR F,</b> ed Below Dark Su			pleted Matr	urface (F6)		Reduced Vertic (F18 Red Parent Material	,
	ark Surface (A12				Surface (F7)		Very Shallow Dark S	` '
	Mucky Mineral (S			dox Depres			Other (Explain in Rer	
	Mucky Peat or Pe				epressions (F16			hytic vegetation and wetland
5 cm M	ucky Peat or Pea	at (S3) <b>(LRR</b>	F)	(MLRA 72	2 & 73 of LRR H	•	hydrology must be pr problematic.	resent, unless disturbed or
Restrictive La	ayer (if present):							
Type:								
Depth (ii	nches):			<del></del>		Hydri	c Soil Present?	Yes No X
Remarks:	Does not meet	; tne criteria f	or nyaric soil.					
HYDROLO	DGY							
Wetland Hyd	drology Indicato	rs:						
Primary Indic	ators (minimum o	of one require	ed: check all that	apply)		Secor	ndary Indicators (mini	mum of two required)
	Water (A1)			t Crust (B1	1)		Surface Soil Cra	
	ater Table (A2)				ebrates (B13)	•		ted Concave Surface (B8)
	ion (A3)			_	fide Odor (C1)		Drainage Pattern	
	Marks (B1)				Vater Table (C2)			oheres on Living Roots (C3)
	ent Deposits (B2)				ospheres on Liv	ing Roots	(where tilled)	(C9)
	eposits (B3) lat or Crust (B4)			B) <b>(where n</b>	Reduced Iron (C4	1)	Crayfish Burrows	e on Aerial Imagery (C9)
	posits (B5)			n Muck Su	•	<del>'</del> '	Geomorphic Pos	
	ion Visible on Ae	rial Imagery			n in Remarks)		FAC-Neutral Tes	` '
	Stained Leaves (F	0,	· /	- (	,	•		nmocks (D7) (LRR F)
Field Observ	vations:					•		
Surface Water		Yes	No X Dept	h (inches):				
Water Table				h (inches):				
Saturation Pr	resent?	Yes	No X Dept	h (inches):		Wetland I	Hydrology Present?	Yes NoX
(includes cap	oillary fringe)							
Describe Red	corded Data (stre	am gauge, n	nonitoring well, a	erial photo	s, previous insp	ections), if	available:	
Remarks:	Does not meet	the criteria fo	or wetland hydrol	logy.				
			•	•				

### WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site:	FM 2931		City/Count	y: Dento	on	Sampling Da	ite:	11/10/202	20
Applicant/Owner:		TxDOT Dallas	<del></del> '		e: Texas	Sampling Poi	int:	SP 14	
Investigator(s): J. LeCla	ir, P. Van Zan	ndt		Section, Towns	ship, Range:		N/A		
Landform (hillslope, terrace	, etc.):			 (concave, convex,	_			<b>%)</b> :	0-2%
Subregion (LRR):	LLR J			Long:			Datum:	NAD 1	983
Soil Map Unit Name:	Callisbur				NWI Classifi		N	lone	
Are climatic/hydrologic cond						No	(If no, exp	olain in rem	narks)
				disturbed? Are "					
						κplain any ansv			
SUMMARY OF FINDI					•	•		,	tures, etc
<b></b>				g po					
Hydrophytic Vegetation Pre	sent?	Yes X	No						
Hydric Soil Present?	in.	Yes X	No	la tha Campla	d Araa widhin	a Watland?	Vaa V	No	
Wetland Hydrology Present		Yes X	No	Is the Sampled	a Area Withir	i a vvetiand?	Yes X	NO _	
Remarks: Meets the three									
Ongoing development and an upstream manmade lake								from overf	low from
•		•	orcated as arr	acstrictic arriently	TOT & TOCCTILITY	CONSTRUCTED 3	ubaivision.		
VEGETATION Use scien	tific names of	plants.							
			Absolute %	Dominant	Indicator	Dominance 1	est worksh	eet:	
Tree Stratum	(Plot size:	30-ft R )	Cover	Species?	Status	Number of Do	minant Spec	ies	
1. N/A				· <u> </u>		That Are OBL			(4)
2. 3.				· <del></del> -		(excluding FA	•	1	(A)
3. 4			-	· ·		Total Number Species Acros			(B)
··· <del></del>			0	= Total Cover		•			(5)
	50%	of total cover:		0% of total cover:	0	Percent of Do That Are OBL	•		% (A/B)
Sapling/Shrub Stratum		e: 15-ft R )		-					_ ` ′
1. N/A	(					Prevalence I	ndex Work	sheet	
2.						Total % Cove	r of:	Mult	iply by:
3						OBL species		x 1 =	
4.				· -		FACW specie	s	x 2 = _	
5			0	= Total Cover		FAC species FACU species		x 3 =	
	50%	of total cover:		0% of total cover:	0	UPL species		x 5 =	
Herb Stratum	(Plot size:	5-ft R )		<del>-</del>		Column Totals	3	(A)	(B)
Eleocharis montevi			75	Yes	FACW	Prevalence In	ndex = B/A =		
Cynodon dactylon			20	No	FACU	Hydrophytic	Vegetation	Indicator	s:
3. Rumex crispus			5	No No	FAC		Test for Hydr		getation
4. Juncus effusus 5.			5	No No	OBL	X 2 - Domina	ance Test is a ence Index is		
6.									
7.				· ———			ological Adap ı data in Rem	,	
8.						sheet)	,		
9.				·		Problemat	ic Hydrophyt	ic Vegetation	on <sup>1</sup>
10			405	Tatal Oassa		(Explain)			
	50%	of total cover:		= Total Cover 0% of total cover:	21	<sup>1</sup> Indicators of h	vdric soil and	wetland byd	rology must
Woody Vine Stratum		e: 30-ft R )				be present, unl	•	•	٠,
1. N/A									
2			0	= Total Cover		Lludronbu#!-			
	50%	of total cover:		9% of total cover:	0	Hydrophytic Vegetation			
% Bare Ground in Herb St		or total cover.		o /o or total cover.		Present	Yes	X No	)
		ophytic vegeta	tion.			1			

Profile Descr	intion: (Describe	to the den	th needed to doc	ument the	indicator or con	firm the ah	sence of indicators.)	
	iption: (Describe Matrix	-	in needed to doo.		x Features	IIIIIII uie ab	Selice of indicators.,	
Depth (Inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-10	10YR 4/2	90	7.5YR 4/6	10	C	PL	clay loam	remand
10-16	10YR 3/1	95	7.5YR 5/4	5	C	M	loamy clay	
<u> </u>								
							<u> </u>	
1 <sub>Type</sub> : C = Cc	oncentration, D = D	enletion RI	M - Reduced Matr	riv MS = M:	acked Sand Grai	ne <sup>2</sup> l oca	ation: PL = Pore Lining,	M - Matriy
	Indicators: (Appl					115		lematic Hydric Soils <sup>3</sup> :
Histoso					d Matrix (S4)		1 cm Muck (A9) <b>(LR</b> )	-
	Epipedon (A2)			andy Gleyed andy Redox			Coast Prairie Redox	
	listic (A3)			ripped Matr			Dark Surface (S7) (L	RR G)
	en Sulfide (A4)				y Mineral (F1)		High Plains Depress	
	ed Layers (A5) (LF				ed Matrix (F2)		•	ide of MLRA 72 & 73)
	luck (A9) (LRR F,			epleted Mat	, ,		Reduced Vertic (F18	•
	ed Below Dark Sur Park Surface (A12)	` ,			Surface (F6) rk Surface (F7)		Red Parent Material Very Shallow Dark S	
	Mucky Mineral (S	,			essions (F8)		Other (Explain in Re	
	Mucky Peat or Pe				Depressions (F1	6)		hytic vegetation and wetland
	lucky Peat or Peat			-	2 & 73 of LRR I	•	• •	resent, unless disturbed or
Restrictive La	ayer (if present):				<del></del>		•	
Type:								
Depth (i	nches):					Hydr	ic Soil Present?	Yes X No
						-		
Remarks:	Meets the criter	ria tor nyarı	C SOII.					
HYDROL								
	drology Indicator	re.						
-			· · · · · · · · · · · · · · · · · · ·			0	t disetana (maini	51
	ators (minimum o Water (A1)	f one requi		at apply) alt Crust (B	11\	Seco	ndary Indicators (mini Surface Soil Cra	mum of two required)
	ater (A1) ater Table (A2)			•	rtebrates (B13)			ted Concave Surface (B8)
I— _ ī	ion (A3)			•	Ifide Odor (C1)		X Drainage Pattern	
	Marks (B1)			-	Water Table (C2	2)		pheres on Living Roots (C3)
	ent Deposits (B2)		Ox	kidized Rhiz	zospheres on Liv	•	(where tilled)	-
	eposits (B3)		•	3) <b>(where</b> i	•		Crayfish Burrows	• •
	lat or Crust (B4)				Reduced Iron (C	24)		e on Aerial Imagery (C9)
	posits (B5)	rial Imagon			urface (C7)		Geomorphic Pos	` ,
	tion Visible on Aer Stained Leaves (B		/(B/)Oii	ner (⊏xpiaii	in in Remarks)		FAC-Neutral Tes	nmocks (D7) <b>(LRR F)</b>
	`	,9,						, ( <u></u> ,
Field Obser Surface Wat		Yoo Y	No Den	oth (inches):	2			
Water Table		Yes X Yes X		oth (inches): oth (inches):				
Saturation P		Yes X		th (inches):		Wetland	Hydrology Present?	Yes X No
(includes car			<u> </u>	`				
	corded Data (stream	am gauge,	monitoring well,	aerial photo	os, previous ins	pections), if	available:	
	•	<b>G</b> -	-	•	•			
Remarks:	Meets the criteri	ia for wetla	nd hydrology.					

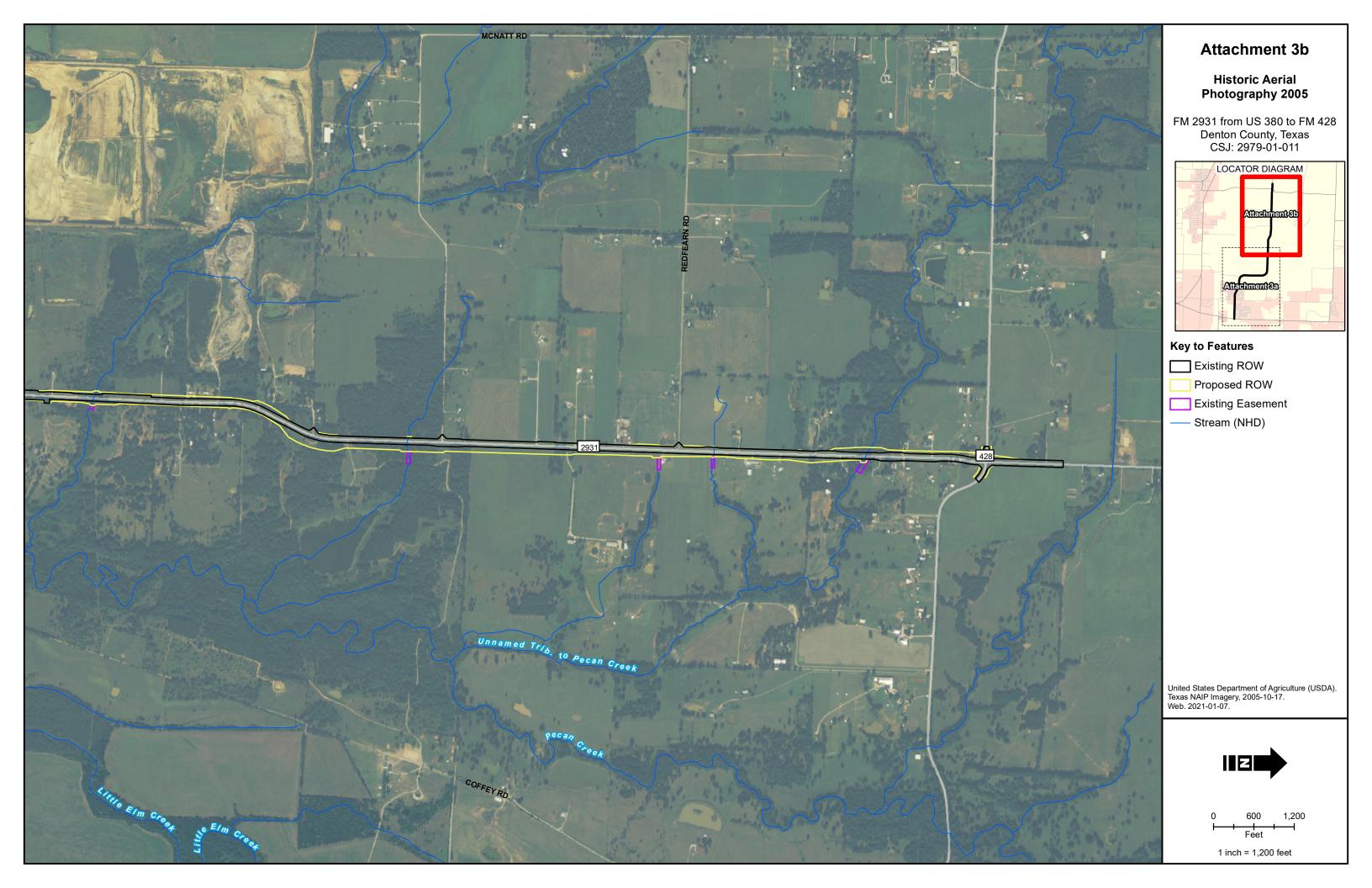
### WETLAND DETERMINATION DATA FORM – Great Plains Region

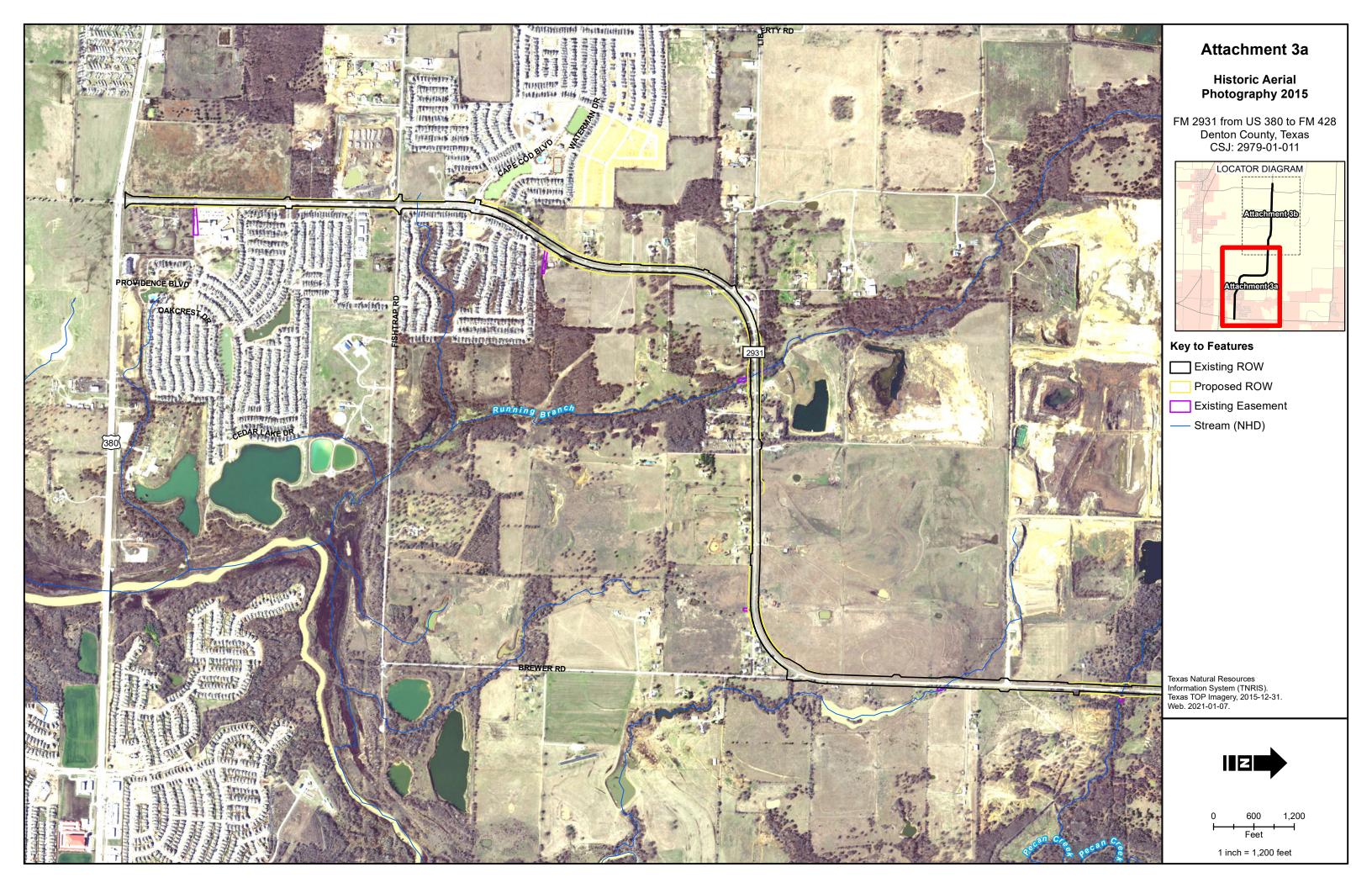
Project/Site:	FM 2931		City/County	y: Dento	on	Sampling Dat	e:	11/10/2020	
Applicant/Owner:	-	TxDOT Dallas	<del>-</del> '	Stat	e: Texas	Sampling Poir	nt:	SP 15	
Investigator(s): J. LeCla	air, P. Van Zand	dt		Section, Towns	ship, Range:		N/A		
Landform (hillslope, terrace	e, etc.):	Plain	Local relief	 (concave, convex,	none):	None	Slope (%)	: 0-	1%
Subregion (LRR):	LLR J	Lat:		Long:	-96.94454	8 [	Datum:	NAD 198	3
Soil Map Unit Name:	Callisburg				NWI Classifi			ne	
Are climatic/hydrologic con							(If no, expla	ain in remarl	ks)
				disturbed? Are "			_		
			-	blematic?					
SUMMARY OF FIND		-	_						res. etc
Γ				gampang pan			,		
Hydrophytic Vegetation Pro	esent?	Yes	No X						
Hydric Soil Present? Wetland Hydrology Presen	+2	Yes	No X No X	le the Sample	d Aroo withir	a Watland?	Voc	No X	
		Yes		Is the Sample	u Area Willin	i a wellaliu?	Yes	No X	
Remarks: Does not meet t						mta a a da mt Dua a	initation Tool		4
Sample location above OH typical year.	WWW OF PFOTO	invvi ieature.	Sand and gra	vei substrate. A re	eview of the A	ntecedent Pred	ipitation 100i	data indica	tes a
VEGETATION Use scier	ntific names of	plants.							
			Absolute %	Dominant	Indicator	Dominance To	est workshe	et:	
Tree Stratum	(Plot size:	30-ft R )	Cover	Species?	Status	Number of Dor	•		
1. N/A			-	<del></del>		That Are OBL, (excluding FAC		AC 0	(A)
2. 3.						Total Number	•		(人)
4.						Species Acros		1	(B)
			0	= Total Cover		Percent of Dor			` ,
	50%	of total cover:	0 20	0% of total cover:	0	That Are OBL,	•		(A/B)
Sapling/Shrub Stratum	(Plot size:	15-ft R )		-					
1. N/A						Prevalence In	ndex Worksh	neet	
2.						Total % Cover	of:	Multiply	by:
3.				· <del></del> -		OBL species		x 1 =	
4. 5.				· <del></del> -		FACW species FAC species	<u> </u>	x 2 =	
J			0	= Total Cover		FACU species		x 4 =	
	50%	of total cover:	0 20	0% of total cover:	0	UPL species		x 5 =	
Herb Stratum	(Plot size:	5-ft R )		_		Column Totals	(/	۹)	(B)
Cynodon dactylon			100	Yes	FACU	Prevalence In	dex = B/A =		
2				. <u> </u>		Hydrophytic '	•		
3.							est for Hydrop	-	ation
4. 5.				· <del></del> -			nce Test is >5 nce Index is ≤		
6.				-					ida.
7.			-	-			logical Adapta data in Rema		
8.						sheet)			
9				. <u> </u>		Problemati	c Hydrophytic	Vegetation <sup>1</sup>	
10.			100	= Total Cover		(Explain)			
	50%	of total cover:		0% of total cover:	20	<sup>1</sup> Indicators of hy	dric soil and we	etland hydrolo	av must
Woody Vine Stratum	(Plot size:	30-ft R )		-		be present, unle		•	gy maor
1. N/A									
2			0	= Total Cover		Hydrophytic			
	50%	of total cover:		0% of total cover:	0	Vegetation			
% Bare Ground in Herb S						Present	Yes	No	Х
Remarks: Does not m	eet the criteria	for hydrophytic	c vegetation.					<u> </u>	

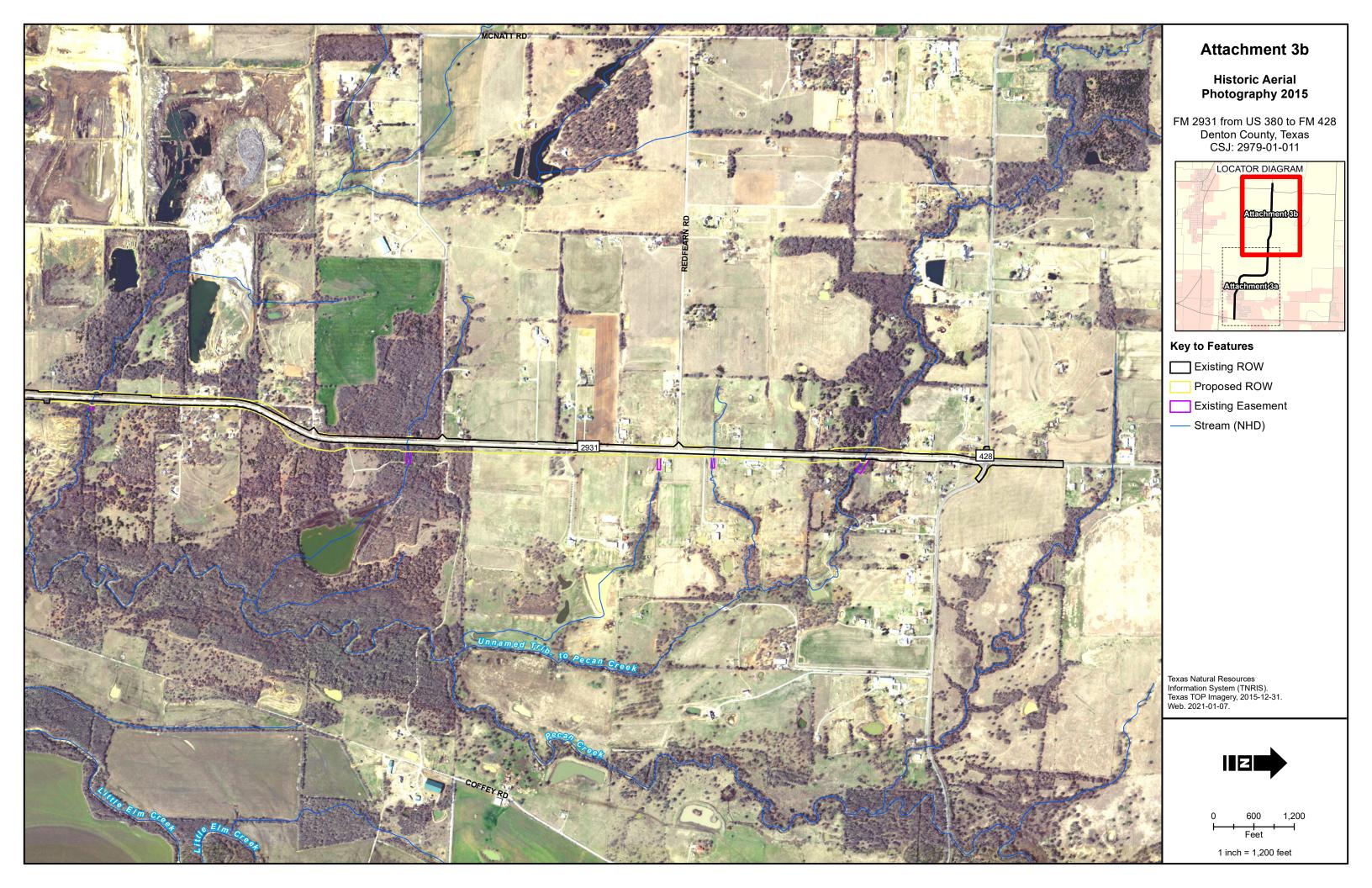
Technology   Tec	(Inches)	<u>Matrix</u>			Redox	x Features		_	
yper C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.  lydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosoi (A1)	0-16	Color (moist)	%	Color (moi	ist) %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
Histosol (A1) Sandy Gleyed Matrix (S4) Indicators for Problematic Hydric Soils* Histosol (A1) Sandy Gleyed Matrix (S5) Coast Prairie Redox (A16) (LRR I, J) Hydrogen Sulfide (A4) Stripped Matrix (S6) Dark Surface (S7) (LRR G, H) Hydrogen Sulfide (A4) Loamy Mukcky Mineral (F1) Loamy Gleyed Matrix (F2) Stratified Layers (A5) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LR F, G, H) 1 cm Muck (A9) (LR F, G, H		10YR 3/3	100	- ·	<u> </u>			clay loam	road base mixing
ricic Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoscal (A1) Sandy Cleyed Matrix (S4) Histoscal (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR F, G, H) Hydrogen Sulfide (A4) Hydrogen Sulfide (A4) Stripped Matrix (S6) Hydrogen Sulfide (A5) Stratified Layers (A5) (LRR F, G, H) Stratified Layers (A5) (LRR F, G, H) Depleted Belw Dark Surface (A11) Thick Dark Surface (A12) Sandy Medy Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Some Mucky Peat or Peat (S2) (LRR G, H) Some Mucky Peat or Peat (S2) (LRR G, H) Depleted Depleted Depressions (F8) Some Mucky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F16) Strictive Layer (If present): Type: Deplete (Gardy Cardy									
Histosol (A1) Sandy Gleyed Matrix (S4) Indicators for Problematic Hydric Soils*  Histosol (A1) Sandy Gleyed Matrix (S6) Coast Prairie Redox (A16) (LRR I, J)  Histosol (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR I, G, H)  Hydrogen Sulfide (A4) Stripped Matrix (S6) Dark Surface (S7) (LRR G, H)  Hydrogen Sulfide (A4) Loamy Mukcky Mineral (F1) Hydrogen Sulfide (A4) Depleted Matrix (F2)  Depleted Matrix (F3) Redox Dark Surface (F1)  Thick Dark Surface (A12) Depleted Dark Surface (F6) Red Parent Material (TF2)  2 5 cm Mukcky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F8)  5 cm Mukcky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F8)  5 cm Mukcky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F16)  5 cm Mukcky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F16)  5 cm Mukcky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H)  Type:  Depth (inches):  Type:  Depth (inches):  Paramy: Does not meet the criteria for hydric soil.   YPROLOGY  PARAMETER (A1) Salt Crust (B11) Surface Water (A1)  High Water Table (A2) Applications (minimum of two required):  Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6)  Paramy: Indicators (minimum of one required; check all that apply) Secundary Indicators (minimum of two required):  Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6)  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not me				_					
Histosol (A1) Sandy Gleyed Matrix (S4) Indicators for Problematic Hydric Soils*  Histosol (A1) Sandy Gleyed Matrix (S6) Coast Prairie Redox (A16) (LRR I, J)  Histosol (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR I, G, H)  Hydrogen Sulfide (A4) Stripped Matrix (S6) Dark Surface (S7) (LRR G, H)  Hydrogen Sulfide (A4) Loamy Mukcky Mineral (F1) Hydrogen Sulfide (A4) Depleted Matrix (F2)  Depleted Matrix (F3) Redox Dark Surface (F1)  Thick Dark Surface (A12) Depleted Dark Surface (F6) Red Parent Material (TF2)  2 5 cm Mukcky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F8)  5 cm Mukcky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F8)  5 cm Mukcky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F16)  5 cm Mukcky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F16)  5 cm Mukcky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H)  Type:  Depth (inches):  Type:  Depth (inches):  Paramy: Does not meet the criteria for hydric soil.   YPROLOGY  PARAMETER (A1) Salt Crust (B11) Surface Water (A1)  High Water Table (A2) Applications (minimum of two required):  Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6)  Paramy: Indicators (minimum of one required; check all that apply) Secundary Indicators (minimum of two required):  Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6)  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not meet the criteria for hydric soil.  Paramy: Does not me									
Histosol (A1) Sandy Gleyed Matrix (S4) Indicators for Problematic Hydric Soils* Histosol (A1) Sandy Gleyed Matrix (S5) Coast Prairie Redox (A16) (LRR I, J) Hydrogen Sulfide (A4) Stripped Matrix (S6) Dark Surface (S7) (LRR G, H) Hydrogen Sulfide (A4) Loamy Mukcky Mineral (F1) Loamy Gleyed Matrix (F2) Stratified Layers (A5) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LRR F, G, H) Dark Surface (F6) 1 cm Muck (A9) (LR F, G, H) 1 cm Muck (A9) (LR F, G, H									
Indicators: (Applicable to all LRRs, unless otherwise noted.)   Histoscol (A1)									
Histosol (A1) Sandy Gleyed Matrix (S4) Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1) Sandy Gleyed Matrix (S4) I cm Muck (A9) (LRR I, J)  Histosol (A1) Sandy Medox (S5) Coast Prairie Redox (A16) (LRR I, G, H)  Hydrogen Sulfide (A4) Stripped Matrix (S8) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR G, H)  Stratified Layers (A5) (LRR F, G, H) Depleted Matrix (F2) Depleted Bow Dark Surface (A11) Depleted Bow Dark Surface (A11) Depleted Bow Dark Surface (A11) Depleted Dark Surface (F6) Red Parent Material (TF2) Wery Shallow Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Depressions (F8) Other (Explain nemarks)  5 cm Mucky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F8) Other (Explain nemarks)  5 cm Mucky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F8) Other (Explain nemarks)  5 cm Mucky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F8) Other (Explain nemarks)  5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H)  Findicators (minimum of one required; check all that apply)  Findicators (minimum of one required; check all that apply)  Findicators (minimum of two required)  Findicators (minimum of two required)  Surface Water (A1) Salt Crust (B11) Surface (B13)  Hydric Soil Present? Yes No  Findicators (minimum of two required)  Surface Water (A1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots  Sediment Deposits (B3) (C3) (Where not tilled)  Find Observations:  Urace Water Fersent? Yes No X Depth (inches):  Find Observations:  Urace Water Fersent? Yes No X Depth (inches):  Find Observations, if available:									
Histosol (A1) Sandy Gleyed Matrix (S4) Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1) Sandy Gleyed Matrix (S4) I cm Muck (A9) (LRR I, J) Casardy Mucky Mineral (F1) Loarny Gleyed Matrix (F2) Depleted Bolo Wark Surface (A11) Depleted Bolo Wark Surface (A12) Depleted Dark Surface (F6) Red Parent Material (TF2) Very Shallow Dark Surface (A12) Depleted Dark Surface (F6) Red Parent Material (TF2) Very Shallow Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Depressions (F8) Other (Explain in Memarks) And Constructive Layer (if present):  Type:  Depth (inches):  Wetland Hydrology Indicators:  Immay Indicators (minimum of one required; check all that apply)  Surface Water (A1) Salt Crust (B11) Salt Crust (B11) Surface (B13) Hydrology must be present, unless disturbe problematic.  Wetland Hydrology Indicators:  Immay Indicators (minimum of two required):  Surface Water (A1) Salt Crust (B11) Surface (B13) Hydrology must be present, unless disturbe problematic.  Water Marks (B1) Surface (B1) Surface (B13) Surfac				-					
Histosol (A1)  Histo Epipedon (A2)  Histo Epipedon (A2)  Sandy Redox (S5)  Sandy Redox (S5)  Sandy Markix (S6)  Hydrogen Sulfide (A4)  Loamy Mucky Mineral (F1)  Stratified Layers (A5) (LRR F, G, H)  Depleted Matrix (F3)  1 cm Muck (A9) (LRR F, G, H)  Depleted Below Dark Surface (A11)  Redox Dark Surface (F2)  Loamy Gleyed Matrix (F2)  1 cm Muck (A9) (LRR F, G, H)  Depleted Below Dark Surface (A11)  Redox Dark Surface (F1)  Sandy Mucky Mineral (F1)  Redox Dark Surface (F7)  Red Parent Material (F2)  Very Shallow Dark Surface (F12)  Very Shallow Dark Surface (F12)  Other (Explain in Remarks)  And Surface (F12)  Other (Explain in Remarks)  Mydrology must be present, unless disturbe problematic.  Problemarks:  Does not meet the criteria for hydric soil.  Depleted Hydrology Indicators  Image: Part Table (A2)  Saturation (A3)  Water Marks (B1)  Surface Water (A1)  Saturation (A3)  Water Marks (B1)  Surface Water (A1)  Saturation (A3)  Water Marks (B1)  Surface Water (A1)  Saturation (A3)  Water Marks (B1)  Saturation (A3)  Water Marks (B1)  Oralizage Patterns (B10)  Oxidized Rhizospheres on Living Roots  (where utilitied)  Carylish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Inundation Visible on Aerial Imagery (B7)  Unundation Visible on Aerial Imagery (C9)  John Craylish Burrows (C9)  Frost-Heave Hummocks (D7) (LRR F)  Water-Stained Leaves (B9)  Water-Stained Leaves (B9)  Water-Stained Leaves (B9)  Water-Stained Leaves (B9)  Water Table (PCP)  Wetland Hydrology Present? Yes No X Depth (inches):  Vest No.  Wetland Hydrology Present? Yes No X Depth (inches):  Vest No.  Wetland Hydrology Present? Yes No X Depth (inches):  Vest No.  Wetland Hydrology Present? Yes No X Depth (inches):  Vest No.  Wetland Hydrology Present? Yes No X Depth (inches):  Vest No.  Wetland Hydrology Present? Yes No.	, .	·						0,	
Histic Epipedon (A2) Black Histic (A3) Stripped Matrix (S6) Dark Surface (S7) (LRR G) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F2) High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F2) Depleted Balow Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Balow Dark Surface (A11) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F8) Sandy Mucky Mineral (S1) Redox Depressions (F8) Sorn Mucky Peat or Peat (S2) (LRR G, H) Sorn Mucky Peat or Peat (S2) (LRR G, H) Sorn Mucky Peat or Peat (S3) (LRR F) High Plains Depressions (F8) Other (Explain in Remarks)  Indicators of hydrophytic vegetation and whydrology must be present, unless disturbe problematic.  Proper Depth (inches): Destrictive Layer (If present): Type: Depth (inches): Depth (inches): Depth (inches): Depth (inches): Destrictive Layer (If present): All Hydrogen Sulfide Odor (C1) Dry-Season Water Table (A2) Saturation (A3) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (Where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Frost-Heave Hummocks (D7) (LRR F) Frost-Heave Hummocks (D7) (LRR F) Frost-Heave Hummocks (D7) (LRR F) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Frost-Heave Hummocks (D7) (LRR F) Wetland Hydrology Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Depth	-		icable to	all LRRs, ui					-
Black Histic (A3)				_					
Hydrogen Sulfide (A4)				_					
Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) Reduced Vertic (F18) Reduced Vertic (				_					
1 cm Muck (A9) (LRR F, G, H)			D E)	_			н	-	
Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Red Parent Material (TF2) Thick Dark Surface (A12) Depleted Dark Surface (F7) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F8) Other (Explain in Remarks)  2.5 cm Mucky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F16) High Plains Depressions (F16) High Plains Depressions (F16) Hydrology must be present, unless disturbe problematic.  **Bestrictive Layer (if present):**  Type: Depth (inches):**  Depth (inches):**  Depth (inches):**  **Does not meet the criteria for hydric soil.  **PYDROLOGY**  **Vetland Hydrology Indicators:**  **imary Indicators (minimum of one required: check all that apply) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10)  Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (Cast) (B2) Drift Deposits (B3) (C3) (where not tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) (LRR F) Indid Observations:**  **urface Water Present?** Yes No X Depth (inches):**  **urface Water Present?**  **urface				_			В	•	•
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)  (MLRA 72 & 73 of LRR H)  Setrictive Layer (if present):  Type: Depth (inches): Depth (inches):  Image: Depth (inches): Depth (inches): Destrictive Layer (If present):  Type: Depth (inches): Depth			•	'' <u> </u>		, ,			
2.5 cm Mucky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F16) (MLRA 72 & 73 of LRR H) shydrology must be present, unless disturbe problematic.  setrictive Layer (if present):  Type: Depth (inches): Depth (inches)				_					
S cm Mucky Peat or Peat (S3) (LRR F)		,	,	RR G, H)		, ,			
estrictive Layer (if present):  Type: Depth (inches): Does not meet the criteria for hydric soil.  HYDROLOGY  Wetland Hydrology Indicators: rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Saturation (A3) Hydrogen Sulfide Odor (C1) Dris-Season Water Table (C2) Oxidized Rhizospheres on Living Roots Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Thin Muck Surface (C7) Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) Water Table Present? Water Table Present? Water Table Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		•	. , .		<u> </u>		,		
Type:		•	` , `	•	•				,
Type: Depth (inches):	estrictive L	aver (if present):							
Depth (inches):		, , ,							
AYDROLOGY  Vetland Hydrology Indicators: rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots Sediment Deposits (B2) Drift Deposits (B3) (C3) (where not tilled) Drift Deposits (B3) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Iron Deposits (B5) Iron Deposits (B5) Water-Stained Leaves (B9) Water-Stained Leaves (B9)  Water-Stained Leaves (B9)  Water-Stained Leaves (B9)  Wetland Hydrology Present? Yes No X Depth (inches): Water Table Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	• •	inches):					Hydric	Soil Present?	Vac No
MyDROLOGY   Wetland Hydrology Indicators:	Вориі (						11,741.10		
Vetland Hydrology Indicators:  rimary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  Sulf Crust (B11)  Surface Soil Cracks (B6)  High Water Table (A2)  Aquatic Invertebrates (B13)  Sparsely Vegetated Concave Surface (C1)  Water Marks (B1)  Dry-Season Water Table (C2)  Sediment Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Water Stained Present?  Yes  No  X  Depth (inches):  Water Jable (C2)  Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (C2)  Oxidized Rhizospheres on Living Roots  (where tilled)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C4)  Iron Deposits (B5)  Thin Muck Surface (C7)  Geomorphic Position (D2)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Thin Muck Surface (C7)  Water-Stained Leaves (B9)  Wetland Hydrology Present? Yes  No  Roots  Wetland Hydrology Present? Yes  No  No  Roots  Wetland Hydrology Present? Yes  No  Roots  Wetland Hydrology Present? Yes  No  Roots  Wetland Hydrology Present? Yes  No  Roots  Roots  Roots  Wetland Hydrology Present? Yes  No  Roots  R	IVDDOL	007							
Secondary Indicators (minimum of two required) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (C1) Saturation (A3) Hydrogen Sulfide Odor (C1) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)  Seldoner Present?  Self Observations: Water Present?  Yes No X Depth (inches): Saturation Present?  Yes No X Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			's:						
Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Dry-Season Water Table (C2)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Saturation Present?  Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (C2)  Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots  (where tilled)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C7)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Self Cast (B1)  Sparsely Vegetated Concave Surface (C2)  Oxidized Rhizospheres on Living Roots  (where tilled)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  FAC-Neutral Test (D5)  Frost-Heave Hummocks (D7) (LRR F)  Self Observations:  Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (C2)  Oxidized Rhizospheres on Living Roots  (where tilled)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  FAC-Neutral Test (D5)  Frost-Heave Hummocks (D7) (LRR F)  Self Observations:  Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (C2)  Oxidized Rhizospheres on Living Roots  (where tilled)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  FAC-Neutral Test (D5)  Frost-Heave Hummocks (D7) (LRR F)  Wetland Hydrology Present? Yes No  No  includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	•			uirad: abaak i	all that apply)		Cocond	on Indicators (min	imum of two required)
High Water Table (A2) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Dry-Season Water Table (C2) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)  Field Observations: Surface Water Present? Water Table Present? Ves No X Depth (inches): Seaturation Present? Ves No X Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (C1) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C3) Saturation Visible on Aerial Imagery (C4) Saturation Visible on Aerial Imagery (C7) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F)  Wetland Hydrology Present? Yes No includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			one requ	ulrea, check a		11)	Second	•	
Saturation (A3)  Water Marks (B1)  Dry-Season Water Table (C2)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Field Observations:  Surface Water Present?  Water Table Present?  Yes  No  X  Depth (inches):  Water Table Present?  Yes  No  X  Depth (inches):  Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots  (where tilled)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C4)  Saturation Visible on Aerial Imagery (C7)  Geomorphic Position (D2)  FAC-Neutral Test (D5)  Frost-Heave Hummocks (D7) (LRR F)  Wetland Hydrology Present? Yes  No  No  includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		` ,		_		,			
Water Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (where tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C1) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)  Thin Muck Surface (C7) Other (Explain in Remarks) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F)  Field Observations: Water Table Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No				_					•
Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes No X Depth (inches):  Water Table Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Secribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		` '		_	′ ′	` ,	_	_ ~	` '
Drift Deposits (B3)  Algal Mat or Crust (B4)  Presence of Reduced Iron (C4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes No X Depth (inches):  Water Table Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Securation Pre		` '		_		,			p
Iron Deposits (B5)	Seaime	eposits (B3)		_			9	,	s (C8)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F)  Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Staturation Present? Yes No X Depth (inches): Security of the present							4)	Saturation Visibl	e on Aerial Imagery (C9
Water-Stained Leaves (B9)  Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Depth (inches): Cincludes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Drift De	enosits (B5)			Thin Muck Su	urface (C7)		Geomorphic Pos	sition (D2)
Field Observations:  Surface Water Present? Yes No X Depth (inches):  Water Table Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Saturation Present? Yes No X Depth (inches):  Concludes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Drift De	posito (Do)							
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Vater Table Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Uncludes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Drift De Algal M Iron De Inunda Water-	tion Visible on Aer Stained Leaves (B		ry (B7)	Other (Explai	n in Remarks)	_	FAC-Neutral Tes	` '
includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Drift De Algal M Iron De Inunda Water-	tion Visible on Aer Stained Leaves (B rvations:	9)					FAC-Neutral Tes	` '
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Drift De Algal M Iron De Inunda Water- Field Obser Surface Water Table	tion Visible on Aer Stained Leaves (B rvations: ter Present?	9) Yes	No X	Depth (inches)	:		FAC-Neutral Tes Frost-Heave Hui	mmocks (D7) (LRR F)
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Remarks: Does not meet the criteria for wetland hydrology.	Drift De Algal M Iron De Inunda Water- Field Obser Surface Water Table Saturation P	tion Visible on Aer Stained Leaves (B rvations: ter Present?	9) Yes	No X No X	Depth (inches)	:	Wetland Hy	FAC-Neutral Tes Frost-Heave Hui	mmocks (D7) (LRR F)
Remarks: Does not meet the criteria for wetland hydrology.	Drift De Algal M Iron De Inunda Water-Field Obser Gurface Water Table Saturation Pincludes ca	tion Visible on Aer Stained Leaves (B rvations: ter Present? Present? pillary fringe)	9) Yes Yes Yes	No X No X No X	Depth (inches) Depth (inches) Depth (inches)			FAC-Neutral Tes Frost-Heave Hui	mmocks (D7) (LRR F)
	Drift De Algal M Iron De Inunda Water-Field Obser Gurface Water Table Saturation Pincludes ca	tion Visible on Aer Stained Leaves (B rvations: ter Present? Present? pillary fringe)	9) Yes Yes Yes	No X No X No X	Depth (inches) Depth (inches) Depth (inches)			FAC-Neutral Tes Frost-Heave Hui	mmocks (D7) (LRR F)
	Drift De Algal M Iron De Inunda Water-Gurface Water Table Saturation P Includes ca	tion Visible on Aer Stained Leaves (B rvations: ter Present? Present? Present? pillary fringe)	Yes Yes Yes am gauge	No X No X No X	Depth (inches) Depth (inches) Depth (inches) well, aerial photo			FAC-Neutral Tes Frost-Heave Hui	mmocks (D7) (LRR F)
	Drift De Algal M Iron De Inunda Water-Gurface Water Table Saturation P Includes ca	tion Visible on Aer Stained Leaves (B rvations: ter Present? Present? Present? pillary fringe)	Yes Yes Yes am gauge	No X No X No X	Depth (inches) Depth (inches) Depth (inches) well, aerial photo			FAC-Neutral Tes Frost-Heave Hui	mmocks (D7) (LRR F)

## **Attachment 3 - Historical Aerial Photography**

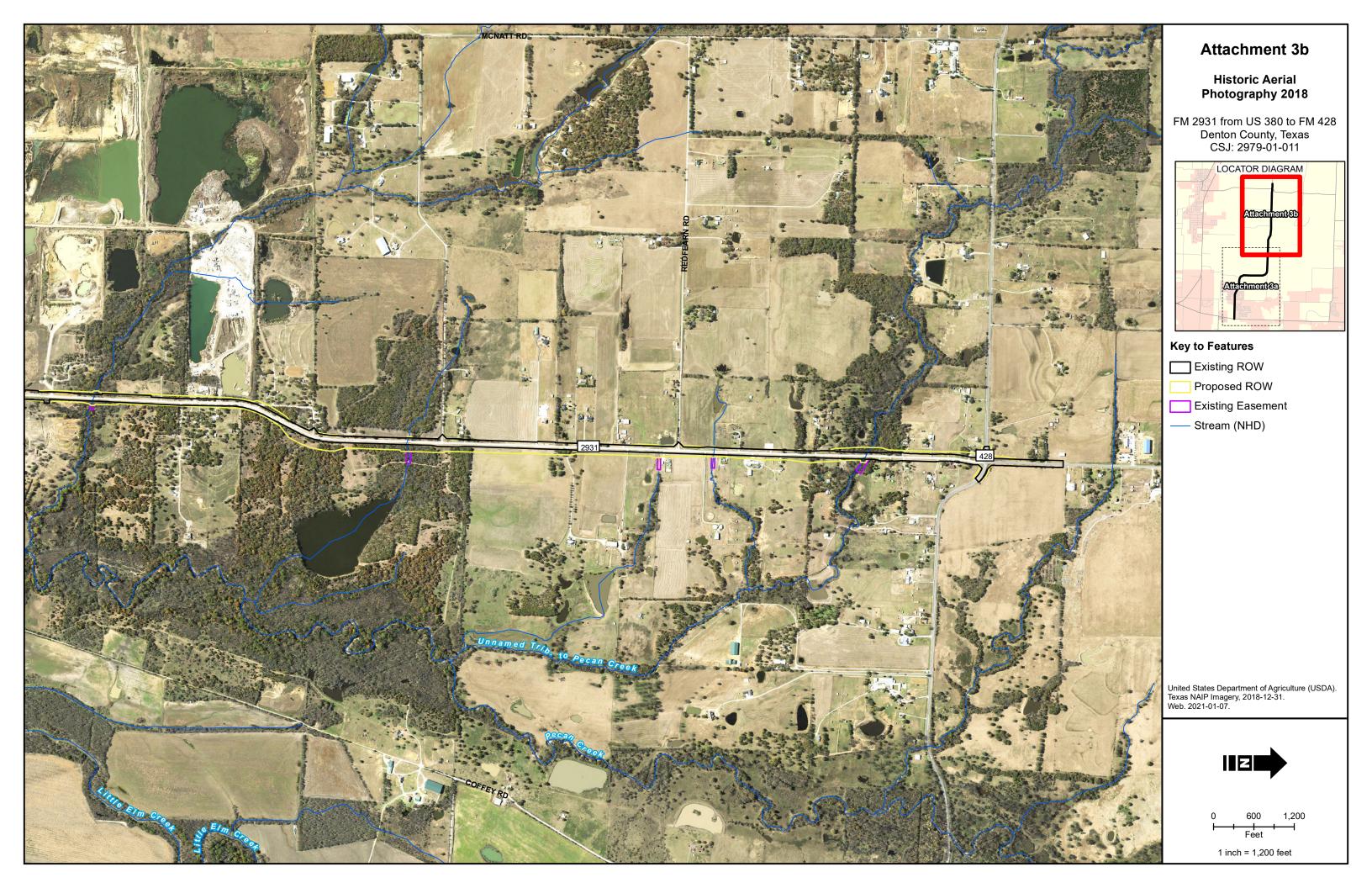
















# **Attachment 4 - Site Photographs**



**Photo 1**: General view of project limits at north end. Facing north from the south side of FM 428. (November 9, 2020)



**Photo 2**: General view of project limits at north end. Facing south from the south side of FM 428. (November 9, 2020)



Photo 3: General view of DD-1, facing west. (November 10, 2020)



Photo 4: General view of DD-1, facing north. (November 10, 2020)



**Photo 5**: General view of the location where topographic maps indicate an unnamed tributary to Running Branch crosses FM 2931, facing south from the northbound lane. (November 10, 2020)



**Photo 6**: SP 4, upland point within a vegetated swale and general view of existing easement on the east side of FM 2931. Facing west. (November 9, 2020)



**Photo 7**: General view of Running Branch and bridge on the south and downstream side of FM 2931. Facing northwest. (November 10, 2020)



Photo 8: General view of Running Branch. Facing south and downstream. (November 10, 2020)



Photo 9: SP 9, upland point east of FM 2931 near Running Branch. Facing west. (November 10, 2020)



**Photo 10:** General view of W-1 (emergent wetland) and culvert on the north side of FM 2931. Facing south. (November 10, 2020)



**Photo 11**: SP 12 at W-1, north of FM 2931. Facing west. (November 10, 2020)



Photo 12: SP 13, upland point near W-1 on the north side of FM 2931. Facing west. (November 10, 2020)



**Photo 13**: General view of W-2 (emergent wetland) and culvert on the south side of FM 2931. Facing north. (November 10, 2020)



Photo 14: SP 10 at W-2, south of FM 2931. Facing west. (November 10, 2020)



Photo 15: SP 11, upland point near W-2 on the south side of FM 2931. Facing west. (November 10, 2020)



**Photo 16**: General view of W-3 (emergent wetland) within and abutting the channel of ES-1 (Unnamed Tributary to Little Elm Creek) on the north side of FM 2931. Facing south and downstream. (November 10, 2020)



**Photo 17:** Additional view of W-3 (emergent wetland) within and abutting the channel of ES-1 (Unnamed Tributary to Little Elm Creek) on the north side of FM 2931. Facing north and upstream. (November 10, 2020)



Photo 18: SP 14 at W-3, north of FM 2931. Facing south. (November 10, 2020)



Photo 19: SP 15, upland point near W-3 on the north side of FM 2931. Facing west. (November 10, 2020)



**Photo 20**: General view of ES-1 (Unnamed Tributary to Little Elm Creek) and culvert on the south and downstream side of FM 2931. Facing northeast. (November 10, 2020)



**Photo 21:** General view of ES-1 (Unnamed Tributary to Little Elm Creek) on the south side of FM 2931. Facing south and downstream. (November 10, 2020)



**Photo 22**: General view of concrete-lined channel portion of IS-1 (Unnamed Tributary to Pecan Creek) on the west side of FM 2931. Facing northwest and upstream. (November 10, 2020)



**Photo 23:** General view of IS-1 (Unnamed Tributary to Pecan Creek) on the east side of FM 2931. Facing southeast and downstream. (November 10, 2020)



**Photo 24**: General view of OW-1 in the disturbed area on the east and downstream side of FM 2931. Facing north. (November 10, 2020)



Photo 25: SP 8, upland point east of FM 2931 near IS-1. Facing northwest. (November 10, 2020)



**Photo 26:** General view of IS-2 (Unnamed Tributary to Pecan Creek) and culvert on the west and upstream side of FM 2931. Facing east. (November 10, 2020)



**Photo 27:** General view of IS-2 (Unnamed Tributary to Pecan Creek) on the east and downstream side of FM 2931. Facing west and upstream. (November 10, 2020)



Photo 28: SP 7, upland point east of FM 2931 near IS-2. Facing north. (November 10, 2020)



Photo 29: SP 5 upland point within a vegetated swale on the east side of FM 2931. Facing west. (November 9, 2020)



Photo 30: General view of swale at SP5 on the east side and downstream of FM 2931. Facing east. (November 9, 2020)



Photo 31: General view of swale located on east side and downstream of FM 2931. Facing west. (November 9, 2020)



Photo 32: SP 3, upland point east of FM 2931 and within a vegetated swale. Facing east. (November 9, 2020)



Photo 33: SP 2, upland point west of FM 2931 and upstream of vegetated swale at SP 3. Facing south. (November 9, 2020)



**Photo 34:** General view of IS-3 (Unnamed Tributary to Pecan Creek) and culvert on the west and upstream side of FM 2931. Facing southeast. (November 10, 2020)



**Photo 35:** General view of IS-3 (Unnamed Tributary to Pecan Creek) on the west side of FM 2931. Facing east and downstream. (November 10, 2020)



Photo 36: SP 6, upland point east of FM 2931 near IS-3. Facing southeast. (November 10, 2020)



**Photo 37**: General view of PS-1 (Unnamed Tributary to Pecan Creek) on the west side of FM 2931. Facing west and upstream. (November 9, 2020)



**Photo 38:** General view of PS-1 (Unnamed Tributary to Pecan Creek) and culvert on the east and downstream side of FM 2931. Facing west and upstream. (November 9, 2020)



Photo 39: SP 1, upland point east of FM 2931 near PS-1. Facing northeast. (November 9, 2020)
