

# Water Resources Technical Report

Kenney Fort Boulevard Segments 2 & 3 From Forest Creek Drive To SH 45 Williamson County, Texas CSJ: 0914-05-195 Austin District

July 2020

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 9, 2019, and executed by FHWA and TxDOT

## TABLE OF CONTENTS

1.		INTRODUCTION
2.		WATER RESOURCES
2	2.1.	Regulatory Context
	Execut	tive Order 11990 – Protection of Wetlands4
	Clean	Water Act4
	Rivers	and Harbors Act of 18994
	Gener	al Bridge Act of 19464
	Execut	tive Order 11988 – Floodplain Management4
	Fish a	nd Wildlife Coordination Act
2	2.2	Methodology5
2	2.3	Existing Conditions and Direct Effects of the Proposed Project
	Water	of the US, Including Wetlands6
	Water	Quality9
	Groun	dwater10
	Floodp	plains
	Indired	ct Effects of the Proposed Project10
3.		AGENCY COORDINATION, PERMITTING, AND MITIGATION REQUIREMENTS
З	8.1	Waters of the US, including Wetlands11
З	8.2	Floodplains11
З	8.3	Water Quality

## TABLE

Table 1. Impacts	to Water Features	······································	7

## APPENDICES

- A: Exhibits
- **B:** Photographs
- C: Wetland Determination Forms

## ACRONYMS

Best Management Practices	BMPs
Clean Water Act	CWA
Construction General Permit	CGP
Code of Federal Regulations	CFR
Executive Order	EO
Federal Emergency Management Agency	FEMA
Fish and Wildlife Coordination Act	FWCA
Municipal Separate Storm Sewer System	MS4
National Flood Insurance Program	NFIP
National Hydrography Dataset	NHD
Nationwide Permit	NWP
Notice of Intent	NOI
Notice of Termination	NOT
Ordinary High Water Mark	OHWM
Pre-Construction Notification	PCN
Right-of-Way	ROW
Storm Water Pollution Prevention Plan	SW3P
Texas Commission on Environmental Quality	TCEQ
Texas Department of Transportation	TxDOT
Texas Water Development Board	TWDB
Texas State Soil and Water Conservation Board	TSSWCB
United States	US
United States Army Corps of Engineers	USACE
United States Coast Guard	USCG
United States Fish and Wildlife Service	USFWS
Waters of the United States	WOUS
United States Geological Survey	USGS

## 1. INTRODUCTION

Kenney Fort Boulevard (Blvd) is a major arterial roadway in the City of Round Rock's Transportation Master Plan. It was included in the City's first Transportation Master Plan, published in 1994, but has been part of the planning process since 1988. The roadway is being constructed in phases. Phase 1, which extends between Joe DiMaggio Blvd and Forest Creek Drive, was completed during the summer of 2013. The City of Round Rock, in cooperation with the Texas Department of Transportation (TxDOT), now proposes to construct phases 2 and 3 which would extend Kenney Fort Blvd approximately 1.5 miles from its current terminus at Forest Creek Drive south to State Highway (SH) 45.

Kenney Fort Blvd (Segments 2 and 3) would be a 6-lane arterial roadway that will ultimately connect SH 45 to United States Highway (US) 79. The proposed project includes improvements to Gattis School Road in the vicinity of its intersection with Kenney Fort Blvd. The improvements to Gattis School Road would extend from Meister Lane to Rusk Road. The proposed project also includes improvements at the existing SH 45 grade-separation. The purpose of the proposed Kenney Fort Blvd project is to enhance mobility and provide an additional route for north/south traffic in this rapidly developing quadrant of the City of Round Rock.

The project area covers a total area of 35.9 acres, consisting of 12.6 acres of state-owned ROW and 23.3 acres of private lands. In addition, a 0.2-acre permanent drainage easement would be required. No temporary easements are required. This technical report documents the potential impacts to water resources associated with the proposed project. Maps of the project area, including a general location map (**Exhibit 1**) and topographic map (**Exhibit 2**), are included in **Appendix A**. Photographs of the project area are shown in **Appendix B**.

## 2. WATER RESOURCES

The project area covers a total area of 35.9 acres, as well as a 0.2-acre permanent easement (**Exhibit 3**). The area assessed for water resource impacts encompasses areas that could incur temporary and/or permanent impacts resulting from construction of the proposed project. The proposed project is located within the Brazos River Basin, which drains to the Brazos River.

## 2.1. Regulatory Context

This section contains a brief explanation of the regulatory requirements for activities that may impact water and wetland features, water quality, and floodplains. It also summarizes specific permitting activities or agency coordination for each regulatory requirement, if applicable.

#### Executive Order 11990 - Protection of Wetlands

The purpose of Executive Order (EO) 11990 is to "minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands." The EO requires federal agencies to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided. The proposed project would comply with EO 11990.

#### **Clean Water Act**

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into waters of the US and regulating quality standards for surface waters through Sections 404, 401, 402, and 303 of the Act. These regulations are administered by the United States Army Corps of Engineers (USACE), the United States Environmental Protection Agency, and the Texas Commission on Environmental Quality (TCEQ). The proposed project would comply with the CWA.

#### **Rivers and Harbors Act of 1899**

The Rivers and Harbors Act of 1899 generally prohibits the construction of structures over or in navigable waters of the US without Congressional approval. Congress has delegated its approval authority pertaining to this Act to the United States Coast Guard (USCG). The Rivers and Harbors Act of 1899 also prohibits excavation or fill within navigable waters of the US without the approval of the USACE. The proposed project would comply with the Rivers and Harbors Act of 1899 (no navigable waters are found in the project area).

#### General Bridge Act of 1946

The General Bridge Act of 1946 prohibits the construction of any bridge across navigable waters of the US unless first authorized by the USCG. The proposed project would comply with the General Bridge Act of 1946 (no navigable waters are found in the project area).

#### Executive Order 11988 – Floodplain Management

EO 11988 requires federal agencies to avoid to the extent possible the long- and shortterm adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. The proposed project would comply with EO 11988 and with 23 Code of Federal Regulations (CFR) 650 regarding location and hydraulic design of highway encroachments within floodplains.

#### Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA) (16 U.S.C. 661-666c), enacted in 1956, and amended several times since, calls for the USACE and other federal agencies involved in water resources to consult with the United States Fish and Wildlife Service (USFWS) and/or the National Oceanic and Atmospheric Administration when a project involves impounding, diverting, or deepening a stream channel or other body of water. Coordination with the

applicable state agency exercising administration over wildlife resources is necessary for a proposed project, with a view to the conservation of wildlife resources by preventing loss and damage to such resources as well as providing for the development and improvement thereof in connection with such water-resource development. The proposed project would comply with the FWCA.

## 2.2 Methodology

Water resources occurring in the project area were researched by desktop review of web resources from the United States Geological Survey (USGS) National Hydrography Dataset (NHD) and 7.5-minute topographic data for the Pflugerville West and Round Rock quadrangles (**Exhibit 2**), TCEQ, Texas Water Development Board (TWDB), Federal Emergency Management Agency (FEMA), USFWS National Wetlands Inventory (NWI) mapping, Texas State Soil and Water Conservation Board (TSSWCB), and aerial photography. Desktop mapping of water resources was performed using Geographic Information System mapping, utilizing spatial data obtained from USGS, FEMA, TSSWCB, and USFWS.

Two manuals ,1987 Corps of Engineers Wetland Delineation Manual (Technical Report Y-87-1) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains, were used to identify potential waters of the US (WOUS) and to delineate ordinary high water marks (OHWM) in the project area. Potential wetlands were also identified with these manuals based on the presence of hydrophytic vegetation, hydric soils, and wetland hydrology.

According to the USACE, the federal agency having authority over WOUS, wetlands are those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

The OHWM is defined as that line on the shore or bank established by the fluctuations of water and by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the soil character, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Waters considered to be jurisdictional include traditional navigable waterways, relatively permanent non-navigable tributaries to traditional navigable waterways, and non-relatively permanent tributaries that have a significant nexus to traditional navigable waterways. The latter can be identified by the presence of an OHWM. Jurisdictional wetlands include those that are adjacent to traditional navigable waterways or have a continuous surface connection to a jurisdictional tributary. Based on the new WOUS rule which became effective in June 2020, ephemeral streams and their associated wetlands are no longer considered jurisdictional waters.

Field reconnaissance was performed on January 18, 2018, to examine and assess resources identified during desktop review and to identify and document the water and wetland resources present in the project area. Global Positioning System (GPS) data and photographs were recorded for each potentially jurisdictional water and wetland feature encountered during the field visit. At wetland features, two data points were taken to document the boundary of the wetland unless the first sampling point clearly shows a lack of the necessary criteria to be classified as a wetland. The wetland determination forms are included in **Appendix C**.

## 2.3 Existing Conditions and Direct Effects of the Proposed Project

#### Water of the US, Including Wetlands

Pursuant to EO 11990 (Protection of Wetlands), Section 404 of the CWA, and Section 10 of the Rivers and Harbors Act of 1899, an investigation was conducted to identify potential jurisdictional WOUS, including wetlands, within the project area. Results of the investigation determined that nine water features (including two wetland features) are located in the project area (see **Exhibits 4a-4d**).

Feature 1, an unnamed tributary to Dyer Branch near the southern limit of the project area, was mapped as flowing south-north. This differs from the corresponding stream segment displayed in the NHD (which flows east-west in that region of the project area) and is likely the result of fill material rerouting the channel.

Feature 2 was identified by the presence of an OHWM and determined to be an unmapped and unnamed ephemeral tributary of Dyer Branch running in a northeasterly direction.

Feature 3 had a small pool created by Dyer Branch crossing under Gattis School Road. This pool had a continuous OHWM with Dyer Branch and was therefore associated to be the same feature with Dyer Branch.

Feature 4 consists of two small channels that originate separately then converge into one channel downstream. Due to their proximity and their apparent direction of flow and downstream connectivity, these branches are considered one single and complete crossing by USACE guidelines. The same principle applies to Feature 5 as well. Though no obvious OHWM connected the two segments that are considered Feature 5, only a few feet separated them and it was assumed the water from the two forks would converge downstream of the regions delineated based on the direction of stream flow and the surrounding topography. For this reason, the two channels that make up Feature 5 would likely be considered one single and complete crossing to the USACE. Both Features 4 and 5 appear to be a result of drainage from the adjacent neighborhood. Both features are unmapped, unnamed ephemeral tributaries to Dyer Branch.

Feature 6 is a small impoundment that appears to be man-made. The impoundment is located along a mapped NHD flowline leading from an NWI wetland to the east of the project area. This indicates that a jurisdictional stream was likely present prior to the land alterations leading to the impoundment and means that Feature 6 would likely be considered jurisdictional as well and require necessary permitting for any permanent impacts. This impoundment created an adjacent wetland feature, Wetland Feature 1, which was delineated per USACE guidelines.

Feature 7 runs along the previously mapped NHD flowline and was determined to be another unnamed tributary to Dyer Branch. A second wetland, Wetland Feature 2, was delineated directly adjacent to Feature 7.

Dyer Branch (Feature 3) and Features 1, 6, and 7 are mapped as an intermittent streams by the USGS (**Exhibit 2**). Features 1, 6, and 7 were identified by the presence of an OHWM and are therefore considered non-relatively permanent jurisdictional waters. Feature 3 would be classified as a relatively permanent jurisdictional water. Wetland Features 1 and 2 were identified as potential wetland features and met all of the criteria to be classified as wetlands by USACE standards. Features 2, 4, and 5 were not mapped by USGS or NHD maps and appear to only carry flow during precipitation events making them ephemeral streams; therefore, these are likely non-jurisdictional features. Photographs of the project area and water/wetland features can be seen in **Appendix B**. Wetland determination forms can be found in **Appendix C**. No NWI-mapped features were identified within the project area.

A total of approximately 0.465 acres of WOUS, including wetlands, were identified in the project area. Other water features that were determined to be non-jurisdictional ephemeral streams were also identified within the project limits. A review of the schematic determined that proposed work would occur inside the boundaries of the jurisdictional waters; therefore, there would be permanent and temporary impacts (fill) into waterways within the project area (**Table 1**).

Feature ID	Name of Waterbody	Linear Feet/Acres of Water Features in Project Area	Linear Feet/Acres of Temporary Impacts to Features	Linear Feet/Acres of Permanent Impacts to Features	Likely Jurisdictional? (Y/N)	Anticipated Permit
1	Unnamed Tributary to Dyer Branch	754.35 linear feet/ 0.19 ac	0 linear feet/ 0 ac	754.35 linear feet/ 0.19 ac	Y	NWP 14, w/ PCN
2	Unnamed Tributary to Dyer Branch	391.92 linear feet/ 0.02 ac	176.43 linear feet/ 0.01	214.57 linear feet/ 0.011 ac	N	None

Table	1.	Impacts	to	Water	Features
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Feature ID	Name of Waterbody	Linear Feet/Acres of Water Features in Project Area	Linear Feet/Acres of Temporary Impacts to Features	Linear Feet/Acres of Permanent Impacts to Features	Likely Jurisdictional? (Y/N)	Anticipated Permit
3	Dyer Branch	178.82 linear feet/0.17 ac	128.8 linear feet/ 0.10 ac	50.02 linear feet/ 0.07 ac	Y	NWP 14, no PCN
4	Unnamed Tributary to Dyer Branch	1, 196.33 linear feet/ 0.16 ac	359.74 linear feet/ 0.06 ac	836.59 linear feet/ 0.10 ac	N	None
5	Unnamed tributary to Dyer Branch	389.65 linear feet/ 0.04 ac	152.36 linear feet/ 0.01 ac	237.29 linear feet/ 0.03 ac	N	None
6	Man-made impoundment	42.4 linear feet/ 0.083 ac	0 linear feet/ <0.01 ac	42.4 linear feet/ 0.08 ac	Y	NWP 14, no PCN
7	Unmapped tributary to Dyer Branch	106.98 linear feet/ 0.02 ac	15.26 linear feet/ <0.01ac	91.72 linear feet/ 0.02 ac	Y	NWP 14, no PCN
Wetland Feature 1	Potential Wetland adjacent to Feature 6	0.001 ac	0.0 ac	0.001 ac	Y	NWP 14, w/ PCN
Wetland Feature 2	Potential Wetland adjacent to Feature 7	0.001 ac	0.0 ac	0.001 ac	Y	NWP 14, w/ PCN
Tot	al WOUS	1,082.55 linear feet/ 0.465 ac	143.8 linear feet/ 0.103 ac	938.49 linear feet/ 0.362 acre		
Total	Non-WOUS	1,977.90 linear feet/ 0.22 ac	688.53 linear feet/ 0.08 ac	1,288.45 linear feet/ 0.14 ac		

Proposed improvements include the extension of the existing six-lane roadway from its current terminus at Forest Creek Drive south to SH 45. As shown in **Table 1**, permanent and

temporary impacts to both WOUS and non-jurisdictional water features would occur as a result of these improvements. Feature 1 impacts total more than 0.10 acre and will need to be authorized under a Section 404 CWA Nationwide Permit (NWP) 14 with Pre-Construction Notification (PCN) required. A NWP 14 – Linear Transportation Projects, has a threshold of 0.50 acres for non-tidal waters, and requires a PCN if greater than 0.10 acre of a WOUS are disturbed at any individual crossing, or if discharge is expected into a special aquatic feature. Wetland Features 1 and 2 are special aquatic sites and will also need to be authorized under a NWP 14 with PCN.

None of the water resources within the project area would be considered navigable waterways. Therefore, a navigational clearance under the General Bridge Act of 1946 and Section 9 of the Rivers and Harbors Act of 1899 (administered by the USCG), and Section 10 of the Rivers and Harbors Act of 1899 (administered by the USACE) would not be required as the proposed project would not construct a bridge across a navigable waterway.

Appropriate measures would be taken to maintain normal downstream flows and minimize flooding during construction within WOUS. Temporary fills would be placed in a manner that would not be eroded by expected high flows. Temporary fills would be removed in their entirety and the affected areas returned to pre-construction elevations and revegetated, as appropriate.

#### Water Quality

#### Section 401 of the Clean Water Act: Water Quality Certification

This project would result in permanent and temporary impacts to waters of the US, therefore at least one of the Best Management Practices (BMPs) from each category listed in the TCEQ Section 401 Water Quality Certification Conditions would be used. For this project, erosion control BMPs would consist of temporary seeding, mulching, blankets, and maintaining natural vegetation; sediment control BMPs would consist of sandbag berms, silt fences, rock berms, stabilized construction exits, sediment traps, and sediment basins; and post-construction total suspended solid control BMPs would consist of vegetative filter strips.

#### Section 303(d) of the Clean Water Act

Based on a review of the TCEQ 2014 Section 303(d) list, runoff from this project would discharge into a waterbody that is within five miles upstream of an impaired waterbody (**Exhibit 5**). Runoff from the proposed project would outfall into Dyer Branch and unnamed tributaries to Dyer Branch. Brushy Creek, an impaired waterbody, occurs approximately 0.75 miles downstream from the project area. Dyer Branch flows directly into Brushy Creek. The section of Brushy Creek that would be potentially affected by this project is classified as a Category 5c stream with the bacterial count not meeting the assigned water quality standards. Category 5c streams are those which may be suitable for development of a Total Maximum Daily Load (TDML) as issued under the TCEQ's Texas Pollutant Discharge Elimination System (TPDES), but additional data or information needs to be collected and/or evaluated for one or

more parameters before a management strategy is selected. Brushy Creek does not currently have an issued TDML and associated implementation plan, or I-Plan.

## Section 402 of the Clean Water Act: Texas Pollutant Discharge Elimination System, Construction General Permit

This project would result in five or more acres of earth disturbance. The City of Round Rock would comply with TPDES Construction General Permit (CGP). A Storm Water Pollution Prevention Plan (SW3P) would be implemented, and a construction site notice would be posted at the construction site. A Notice of Intent (NOI) and a Notice of Termination (NOT), and inspections of applied BMPs would be necessary.

## Section 402 of the Clean Water Act: Texas Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System

This project is located within the boundaries of a regulated Municipal Separate Storm Sewer System (MS4). Compliance with applicable MS4 regulations would be required.

#### Groundwater

This project is located within the Trinity Aquifer. The TWDB does not identify any water wells within the project area, but two wells are located approximately 0.10 miles from the project area. These wells are not expected to be impacted by proposed activities due to their distance and difference in topography from the project area.

#### Floodplains

The City of Round Rock is a participant in the FEMA National Flood Insurance Program (NFIP). Portions of the proposed project are located adjacent to the FEMA designated 100-year floodplain (Community Panel 48491C0495E and 48491C0635E, dated September 26, 2008). Exhibit 4b shows the extents of the 100-year floodplain in the project area.

The hydraulic design for this project would be in accordance with current Federal Highway Administration, TxDOT, and local design policies, laws, regulations, and standards. The proposed ROW encroaches on the floodplain; therefore, the proposed project would need to be in compliance with EO 11988 (Floodplain Management) and 23 CFR 650 regarding location and hydraulic design of highway encroachments within floodplains. Coordination with the Williamson County Floodplain Administrator would be required. The facility would permit the conveyance of the 100-year flood, inundation of the roadway being acceptable, without causing significant damage to the facility, stream, or other property. The project would not increase the base flood elevation to a level that would violate applicable floodplain regulations and ordinances.

#### Indirect Effects of the Proposed Project

Indirect effects (e.g., encroachment/alteration effects) may occur to water resources as a result of the proposed project. During construction, degradation of water quality could occur due to sedimentation of both surface water and groundwater. Construction has the highest

likelihood of creating pollutants and sediment that could impact waters downstream if storm water runoff enters surface water features prior to being treated.

Indirect hydrological impacts could occur during construction of the proposed improvements or due to accidental spills relating to vehicle collisions during normal use of the facility following project completion. Operation of the proposed project has the potential to create indirect effects from the roadway producing contamination sources for both surface and subsurface water.

The potential for these impacts from both project construction activities and from postconstruction maintenance and spills on the proposed roadway would be minimized by the implementation of BMPs. Because BMPs would be in place during and after construction, the potential for indirect effects from any changes in surface or ground waters caused by the proposed project are expected to be negligible.

## 3. AGENCY COORDINATION, PERMITTING, AND MITIGATION REQUIREMENTS

## 3.1 Waters of the US, including Wetlands

WOUS were identified within the project limits. NWP 14 for linear transportation projects allows for impacts of non-tidal waters up to 0.50 acre per WOUS and allows for temporary structures, fill, and work necessary to construct a linear transportation project if the original stream contours are restored. Approximately 0.12 acre of temporary impacts and 0.362 acre of permanent impacts are expected to occur to WOUS due to the proposed project. Any single and complete crossing that would incur 0.1 acre or greater of permanent impacts would require a PCN. Feature 1 exceeds this threshold and therefore require a PCN. In addition, two special aquatic sites (Wetland Features 1 and 2) will be impacted, also triggering the need for a PCN. A mitigation plan would need to be developed to off-set permanent stream impacts and coordination with the USACE would be required. During construction, care would be taken to ensure that temporary impacts are mitigated by restoring pre-construction contours and revegetation of disturbed areas. Additionally, mats would be placed over wetlands during construction in order to minimize soil disturbance.

## 3.2 Floodplains

The proposed project is located within approximately 0.94 acre of a FEMA designated 100-year floodplain within Williamson County; therefore, coordination with the local FEMA floodplain administrator would be required. In addition, the proposed project would need to be in compliance with EO 11988 (Floodplain Management) and 23 CFR 650 regarding location and hydraulic design of highway encroachments within floodplains.

## 3.3 Water Quality

According to the approved 2014 Texas Integrated Report for CWA Section 303(d) list, the project would not directly discharge into an impaired waterbody but is within five stream miles

upstream of an impaired waterbody; therefore, coordination with TCEQ would be required for TDML.

Impacts to storm water would be minimized as much as possible by utilizing approved temporary and permanent erosion and sediment control BMPs as specified by the TCEQ CGP (TXR 150000). The CGP requires that a SW3P, NOI, and NOT be prepared for the proposed project. The proposed project is located within the boundaries of an MS4; therefore, MS4 regulations will need to be followed.

The proposed project would require a Section 404 NWP; therefore at least one of the BMPs from each category listed in the TCEQ Section 401 Water Quality Certification Conditions would be used. For this project, erosion control BMPs would consist of temporary seeding, mulching, and blankets; sediment control BMPs would consist of sandbag berms, silt fences, rock berms, stabilized construction exits, sediment traps, and sediment basins; and post-construction total suspended solid control BMPs would consist of vegetative filter strips.

APPENDIX A Exhibits







## **Exhibit 2b: Aerial Map**

Proposed Kenney Fort Blvd Extension From Forest Creek Dr To SH 45 Williamson County, TX CSJ: 0914-05-195



Proposed ROW - Existing ROW Easement





Basemap: U	SGS 1	Topograp	ohic	Maps
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NORTH

125

Feet





TX.





Williamson County, TX CSJ: 0914-05-195 0 250

NORTH

500

Feet

750

**Existing ROW** 

**NHD Stream** 

100yr Floodplain

Field Verified OHWM

TX-45



## Exhibit 4d: Waters of the U.S.





## **APPENDIX B** Photographs



Photograph 1. View looking west of water Feature 1, an unnamed tributary to Dyer Branch, exiting project area through the western project limit.



Photograph 2. Old railroad support beams present within Feature 1. OHWM visible on beams and in surrounding vegetation.



Photograph 3. View of Feature 1 looking south.



Photograph 4. Feature 2 looking east.



Photograph 5. Dyer Branch, Feature 3, crossing at Gattis School Road. Southside of crossing pictured.



Photograph 6. Small pool on south side of Gattis School Road bridge crossing associated with Feature 3, Dyer Branch. The pool had a continuous OHWM with Dyer Branch.



Photograph 7. View of Dyer Branch, Feature 3, on north side of bridge crossing at Gattis School Road.



Photograph 8. View of project area looking north from Gattis School Road. Feature 4 enters project limits in tree line pictured to the left.



Photograph 9. Southern limit of Feature 4 looking north within the project area.



Photograph 10. View of Feature 4 looking north after northern split has joined.



Photograph 11. View of Feature 4 looking north where northern split occurs.



Photograph 12. Start of Feature 5.



Photograph 13. View of Feature 5 looking north.



Photograph 14. Manmade pond located directly adjacent to eastern edge of project area. Pond feeds impoundment labeled as Feature 6.



Photograph 15. Feature 6, impoundment created by pond pictured in Photograph 14.



Photograph 16. Wetland feature 1, adjacent to Feature 6 impoundment. Standing water was present and considered part of the wetland since no OHWM was visible.



Photograph 17. Wetland Point (WP) 1, wetland determination point taken to delineate Wetland Feature 1. WP 1 met all necessary criteria to be considered a jurisdictional wetland.



**Photograph 18.** WP 2, upland wetland determination point used to delineate Wetland Feature 1. WP 2 is located northwest from WP 1. The necessary criteria was not met for WP 2 to be classified as a wetland.



Photograph 19. Feature 7, OHWM resulting from impoundment in Photograph 15. Stream is adjacent to Wetland Feature 2.



**Photograph 20.** WP 3 taken to delineate Wetland Feature 2, the wetland associated with Feature 7. Saturation and water table visible within pit. All the necessary criteria were met for WP 3 to be classified as a wetland.



Photograph 21. WP 4, upland wetland delineation point taken when delineating Wetland Feature 2. The necessary criteria were not met for WP 4 to be considered a wetland.

**APPENDIX C** Wetland Determination Forms

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Kenney Fort Boulevard	Cit	ty/Count	y: Williamsor	n County, TX	Sampling	Date: 01/18/	18
Applicant/Owner: City of Round Rock			-	State: TX	Sampling	Point: WP 01	1
Investigator(s): Amy Esguerra, Melissa Griffith	Se	ection, To	ownship, Rang	le: N/A			
Landform (hillslope, terrace, etc.): Low area		Local re	lief (concave, o	convex, none): <u>none</u>		Slope (%)	) <u>:</u> 0
Subregion (LRR): LRR J Lat: 30.504918			Long: -97.6	36171	Datum	: WGS 1984	1
Soil Map Unit Name: Austin Silty clay				NWI classifica	ation: None		
Are climatic / hydrologic conditions on the site typical for this	time of year	? Yes	✓ No	(If no, explain in	Remarks.)		
Are Vegetation Soil or Hydrology s	significantly d	- listurbed	l? Are "N	ormal Circumstances"	present? Y	es 🗸 No	С
Are Vegetation Soil or Hydrology r	naturally prob	plematic	? (If nee	ded explain any answ	ers in Remar	:ks)	
SUMMARY OF FINDINGS – Attach site map	showing s	sampli	ng point lo	cations, transec	ts, importa	ant feature	es, etc.
Hydrophytic Vegetation Present?       Yes ✓         Hydric Soil Present?       Yes ✓         Wetland Hydrology Present?       Yes ✓	No No No	ls W	s the Samplec vithin a Wetla	l Area nd? Yes _	✓ No		
<sup>Remarks:</sup> Hydrophytic vegetation, hydric sampling point location is withir	soils, and n a wetla	d wetl nd.	land hydro	ology are prese	nt. There	efore, the	
<b>VEGETATION –</b> Use scientific names of plants.							
<u>Tree Stratum</u> (Plot size: <u>15 feet</u> ) 1. <u>Populus deltoides</u> 2.	Absolute <u>% Cover</u> 20	Domin <u>Specie</u> Yes	ant Indicator es? <u>Status</u> FAC	Dominance Test w Number of Dominar That Are OBL, FAC (excluding FAC-):	r <b>orksheet:</b> nt Species W, or FAC	5	(A)
3 4.				Total Number of Do Species Across All	minant Strata:	5	(B)
Sapling/Shrub Stratum (Plot size: 15 feet )	20	= Total	Cover	Percent of Dominar That Are OBL, FAC	nt Species W, or FAC:	100	(A/B)
1. Ulmus americana	5	Yes	FAC	Brovalonco Indox y	workshoot		
2				Total % Cover	of.	Multiply by:	
3		·		OBL species	<u>x</u>	1 =	
4				FACW species	x	2 =	
5	0	– Total	Cover	FAC species	X	3 =	
Herb Stratum (Plot size: 5 feet )	<u> </u>	- 10181	Cover	FACU species	X	4 =	
1. Eleocharis palustris	30	Yes	OBL	UPL species	X	5 =	
2. Ambrosia trifida	50	Yes	FAC	Column Totals:	(A	.)	(B)
3				Prevalence In	dex = B/A =		
4				Hydrophytic Vege	tation Indica	tors:	
5				1 – Rapid Test	for Hydrophic	ctic Vegetatior	n
6				✓ 2 - Dominance	Test is >50%	)	
<i>1</i>		·		3 - Prevalence	Index is ≤3.0	1	
8				4 - Morphologic	cal Adaptatior	ns <sup>1</sup> (Provide s	upporting
9		·		data in Rem	arks or on a	separate shee	∍t)
10	80	= Total (	Cover	Problematic Hy	drophytic Ve	getation ' (Exp	ilain)
Woody Vine Stratum         (Plot size:)           1.         Vitis rotundifolia	5	Yes	FAC	<sup>1</sup> Indicators of hydric be present, unless	soil and wet	land hydrolog problematic.	y must
2					F		
% Bare Ground in Herb Stratum 10	5	= Total C	Cover	Hydrophytic Vegetation Present?	Yes ✓	No	
Photographs 16 and 17. Hydrophytic v	<sup>e sheet.)</sup> vegetatio	on was	s present	at this samplin	g locatio	n.	

#### SOIL

Deptil	Matrix		Redo	x Featur	res		- <u>-</u> .		
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u> Remarks		
0-1	10 YR 3/1	100					loamy clay		
1-12	10 YR 4/1	98 1	0 YR 4/6	2	С	Μ	clay		
		·		<u> </u>			· ·		
Turno: 0-0		lation DM-D	aduard Matrix CS						
Hydric Soil	Indicators:		educed Matrix, Co			eu Sanu C	Indicators for Problematic Hydric Soils <sup>3</sup>		
Histoso	ol (A1)		Sandy (	Gleyed N	/latrix (S4)	1 cm Muck (A9) <b>(LRRI, J)</b>			
Histic E	Epipedon (A2)		Sandy Redox (S5)				Coast Prairie Redox (A16) (LRR F, G, H)		
Black H	listic (A3)		Stripped Matrix (S6)				Dark Surface (S7) (LRR G)		
Hydrog	en Sulfide (A4)		🖌 Loamy Mucky Mineral (F1)				High Plains Depressions (F16)		
Stratifie	ed Layers (A5) <b>(LRR F</b>	=)	Loamy Gleyed Matrix (F2)				(LRRH outside of MLRA 72 & 73)		
1 cm M	uck (A9) (LRR F, G, H	H)	Depleted Matrix (F3)				Reduced Vertic (F18)		
Deplete	ed Below Dark Surface	e (A11)	Redox [	Dark Sur	face (F6)	Red Parent Material (TF2)			
Thick D	ark Surface (A12)		Deplete	d Dark S	Surface (F7	Other (Explain in Remarks)			
Sandy	Mucky Mineral (S1)		Redox [	Depressi	ions (F8)	<sup>3</sup> Indicators of hydrophytic vegetation and			
2.5 cm	Mucky Peat or Peat (	S2) (LRR G,	H) High Pla	ains Dep	ressions (F	-16)	wetland hydrology must be present,		
5 cm M	ucky Peat or Peat (S3	3) (LRR F)	(MLRA	72 & 73	of LRR H)	,	unless disturbed or problematic.		
Restrictive	Layer (if observed):	,, ,							
Type:									
Depth (ir	nches):						Hydric Soil Present? Yes <u>✓</u> No _		

wettand hydrology indicators.	
Primary Indicators (minimum of one is required; check all that apply)	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 (B8)
✓ Saturation (A3)	Drainage Patterns (B10)
Water Marks (B1) Dry-Season Water Table (C2)	Oxidized Rhizospheres on Living Roots (C3)
Sediment Deposits (B2) Oxidized Rhizospheres on Living	Roots (C3) (where tilled)
Drift Deposits (B3) (where not tilled)	Crayfish Burrows (C8)
Algal Mat or Crust (B4) Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5) Thin Muck Surface (C7)	Geomorphic Position (D2)
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 Depth (inches): 1	
Water Table Present? Yes <u>✓</u> No Depth (inches): 0	
Saturation Present? Yes <u>V</u> No Depth (inches): <u>0-16</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>√</u> No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspec	ctions), if available:
Remarks: Other indicator includes an oily sheep was present	on the water surface. Wetland hydrology
is present at the compling location	on the water surface. Wettand hydrology
is present at the sampling location.	

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Kenney Fort Boulevard	Cit	ty/County:	Williamsor	n County	Sampling Date: 01/	18/18
Applicant/Owner: City of Round Rock				State: TX	Sampling Point: WF	<b>,</b> 02
Investigator(s): Amy Esguerra, Melissa Griffith	Se	ection, Tow	nship, Rang	<sub>je:</sub> N/A		
Landform (hillslope, terrace, etc.): Upland		Local relie	f (concave, o	convex, none): <u>None</u>	Slope	(%): 0
Subregion (LRR): LRR J Lat: 30.504938			Long: -97.6	3619	Datum: WGS 1	984
Soil Map Unit Name: Houston Black Clay			0	NWI classificat	ion: None	
Are climatic / hydrologic conditions on the site typical for this	s time of year	?Yes 🖌	No	(If no, explain in F	Remarks.)	
Are Vegetation Soil or Hydrology	significantly d	listurbed?	Are "N	ormal Circumstances"	present? Yes 🗸	Νο
Are Vegetation Soil or Hydrology	naturally prob	lematic?	(If need	ded explain any answe	ers in Remarks )	
SUMMARY OF FINDINGS – Attach site map	showina s	sampling	a point lo	cations. transect	s. important feat	ures. etc.
Hydrophytic Vocatation Procent?	No		<u> </u>		<u> </u>	,
Hydric Soil Present? Yes	No ✓	ls t	he Sampled	d Area		
Wetland Hydrology Present? Yes	No 🗸	wit	hin a Wetla	nd? Yes_	No <u>♥</u>	
Remarks: Hydric soils and wetland hydro	logy are	not pre	sent. Th	erefore, the sar	npling point loc	ation is
not within a wetland.						
<b>VEGETATION –</b> Use scientific names of plants.						
Tree Stratum (Plot size: 30 feet	Absolute % Cover	Dominan Species?	t Indicator Status	Dominance Test wo	orksheet:	
1. Ulmus crassifolia	20	Yes	FAC	Number of Dominant	t Species V. or FAC	
2.				(excluding FAC-):	2	(A)
3				Total Number of Dor	ninant	
4				Species Across All S	strata: <u>3</u>	(B)
	20	= Total Co	over	Percent of Dominant	Species	
Sapling/Shrub Stratum (Plot size:)				That Are OBL, FACV	V, or FAC: 66	(A/B)
2				Prevalence Index w	vorksheet:	
3				Total % Cover o	f: Multiply	by:
4.				OBL species	x 1 =	
5.				FACW species	x 2 =	
45 6	0	= Total Co	over	FAC species	x 3 =	
Herb Stratum (Plot size: 15 leet )	50	Voc	EAC	FACU species	x 4 =	
		165	FAC	UPL species	X 5 =	(D)
2			170		(A)	(D)
3				Prevalence Ind	lex = B/A = <u>3.125</u>	
4				Hydrophytic Vegeta	ation Indicators:	
6				1 – Rapid Test f	or Hydrophictic Vegeta	ation
7				✓ 2 - Dominance 1	īest is >50%	
8.				3 - Prevalence I	ndex is ≤3.0 <sup>1</sup>	
9.				4 - Morphologica	al Adaptations <sup>1</sup> (Provid	e supporting
10				Problematic Hyd	trophytic Vegetation <sup>1</sup> (	Explain)
20	50	= Total Co	ver			_,,p.o)
Woody Vine Stratum (Plot size: 50 )	10	Vec	EACU	<sup>1</sup> Indicators of hydric	soil and wetland hydro	logy must
		165	1700	be present, unless d	isturbed or problematic	). ).
Z	10	- Total Ori		Hydrophytic		
		- Total Co	ver	Vegetation	1	
% Bare Ground in Herb Stratum <u>60</u>				Present?	Yes _ ✔ No	
Remarks: (Include photo numbers here or on a separate	e sheet.)			1		
Photograph 18. Hydrophytic vegetation	n was ob	served	at this s	ampling point.		

#### SOIL

Depth	Matrix		Redo	ox Feature	s				
(inches)	Color (moist)	% Co	lor (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-12	10 YR 2/1	100					Clay		
		<u> </u>							
							·		
							·		
		<u> </u>			·		·		
Type: C=0	Concentration, D=Deple	tion, RM=Redu	ced Matrix, C	S=Covered	d or Coate	d Sand G	Grains. <sup>2</sup> Location	1: PL=Pore Lining, M=Matrix.	
History			Sandy	Gloved Ma	riv (S1)		1 cm Muck		
Histic F	Fninedon (A2)		Sandy Redox (S5)				Coast Prairie Redox (A16) (I RR F G H)		
Black H	Histic (A3)		Stripped Matrix (S6)				Dark Surface (S7) (LRR G)		
Hvdroc	ien Sulfide (A4)		Loamy Mucky Mineral (F1)				High Plains Depressions (F16)		
Stratifie	ed Layers (A5) (LRR F)	1	Loamy	Gleyed Ma	atrix (F2)		(LRRH out	tside of MLRA 72 & 73)	
1 cm N	luck (A9) (LRR F, G, H	)	Deplete	ed Matrix (I	F3) (		Reduced V	ertic (F18)	
Deplete	ed Below Dark Surface	(A11)	Redox	Dark Surfa	ace (F6)		Red Parent	Material (TF2)	
Thick E	Dark Surface (A12)		Depleted Dark Surface (F7)				Other (Explain in Remarks)		
Sandy	Mucky Mineral (S1)		Redox Depressions (F8)				<sup>3</sup> Indicators of hydrophytic vegetation and		
2.5 cm	Mucky Peat or Peat (S	2) (LRR G, H)	High Pl	ains Depre	essions (F	16)	wetland hyd	Irology must be present,	
5 cm N	lucky Peat or Peat (S3)	(LRR F)	(MLRA	72 & 73 0	of LRR H)		unless distu	urbed or problematic.	
Restrictive	Layer (if observed):								
Type:									
Depth (i	nches):						Hydric Soil Pres	sent? Yes No _✔	
Remarks:							1		
-lvdric s	oils are not pre	sent at the	sampling	a point l	ocatior	า.			
5			1 0	, ,					

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one is required; check all that apply)	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 (B8)
Saturation (A3) Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Water Marks (B1) Dry-Season Water Table (C2)	Oxidized Rhizospheres on Living Roots (C3)
Sediment Deposits (B2) Oxidized Rhizospheres on Living	Roots (C3) (where tilled)
Drift Deposits (B3) (where not tilled)	Crayfish Burrows (C8)
Algal Mat or Crust (B4) Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5) Thin Muck Surface (C7)	Geomorphic Position (D2)
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 Depth (inches):	
Water Table Present? Yes No 🗸 Depth (inches):	
Saturation Present?       Yes No _ ✓ _ Depth (inches):         (includes capillary fringe)	Wetland Hydrology Present? Yes No _✓
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspec	tions), if available:
Remarks: Wetland hydrology is not present at the sampling po	nint location

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Kenney Fort Boulevard	Ci	ty/County:	Williamsor	1	Sampling Date: 1/1	8/18
Applicant/Owner: City of Round Rock				State: TX	Sampling Point: WF	⊃ 03
Investigator(s): Amy Esguerra, Melissa Griffith	Se	ection, Tov	wnship, Rang	e: N/A		
Landform (hillslope, terrace, etc.): Low area		Local relie	ef (concave, o	convex, none): None	Slope	(%): 0
Subregion (LRR): LRR J Lat: 30.50485			Long: -97.6	36291	Datum: WGS 1	984
Soil Map Unit Name: Houston Black Clay			5	NWI classifica	ation: None	
Are climatic / hvdrologic conditions on the site typical for this	s time of vea	r? Yes	✓ No	(If no. explain in	Remarks.)	
Are Vegetation Soil or Hydrology	significantly of			ormal Circumstances"	nresent? Ves	No
Are Vegetation Soil, or Hydrology	naturally prot	alematic?	(If need	ded explain any answ	vers in Remarks )	
SUMMARY OF FINDINGS – Attach site map	showing s	samolin	a point lo	cations, transect	ts. important feat	ures, etc.
			. <u>9 point io</u>			
Hydrophytic Vegetation Present? Yes <u>Ves</u>	No	ls	the Sampled	l Area	/	
Wetland Hydrology Present?	No	wi	thin a Wetlaı	nd? Yes_	✓ No	
Remarks: Hvdrophytic vegetation, hvdric	soil. and	wetlar	nd hvdrol	ogv were all pr	esent at the sa	mplina
location. Therefore, the area is	a wetlar	nd.	,	55 1		1 0
VEGETATION – Use scientific names of plants.						
The second secon	Absolute	Domina	nt Indicator	Dominance Test w	orksheet:	
Tree Stratum (Plot size: 10 leet )	<u>% Cover</u> 5	Species Ves	<u>Status</u>	Number of Dominar	nt Species	
		103		(excluding FAC-):	vv, or FAC 3	(A)
3				Total Number of De	minant	
4				Species Across All	Strata: <u>3</u>	(B)
	5	= Total C	over	Percent of Dominar	nt Species	
Sapling/Shrub Stratum (Plot size:)				That Are OBL, FAC	W, or FAC: 100	(A/B)
1				Prevalence Index y	worksheet:	
2				Total % Cover	of Multiply	by:
3				OBL species	x 1 =	<u>by</u> .
4		·		FACW species	x 2 =	
5		- Tetal 0		FAC species	x 3 =	
Herb Stratum (Plot size: 5 feet )	0		over	FACU species	x 4 =	
1. Eleocharis palustris	45	Yes	OBL	UPL species	x 5 =	
2. Ludwigia repens	5	No	FAC	Column Totals:	(A)	(B)
3. Samolus ebracteatus	25	Yes	FACW			
4. Ambrosia trifida	15	No	FAC	Prevalence In	dex = B/A =	
5				Hydropnytic Veger	ation indicators:	ation
6				I - Rapid Test		allon
7				2 - Dominance     2 - Dominance	Test is $>50\%$	
8		. <u> </u>		3 - Prevalence	Index is $\leq 3.0^{\circ}$	
9				data in Rem	arks or on a separate s	sheet)
10				Problematic Hy	drophytic Vegetation <sup>1</sup> (	(Explain)
Weedy Vine Stratum (Plot eize:	90	= Total Co	over			
				<sup>1</sup> Indicators of hydric	soil and wetland hydro	ology must
2		·		be present, unless of	disturbed or problemation	С.
<u></u>		= Total Co	over	Hydrophytic		
				Vegetation	Non al ri	
% Bare Ground in Herb Stratum				Present?	res <u>v</u> No	
Remarks: (Include photo numbers here or on a separate	e sheet.)					
Photographs 19 and 20. Hydrophytic v	egetatio	n was	present a	at the sampling	location.	

#### SOIL

iolor (moist)	<u>%</u> <u>Cc</u> 95 7.5 \ 	<u>ced Matrix, C</u>	5     	<u>Type1</u> C	M	Grains. <sup>2</sup> Loca Indicators f 1 cm Mu 2 Coast P Dark Su	Ation: PL=Pore Lining, M=Matrix. ation: PL=Pore Lining, M=Matrix. or Problematic Hydric Soils <sup>3</sup> : uck (A9) (LRRI, J) 'rairie Redox (A16) (LRR F, G, H) urface (S7) (LRR G)
<pre>/R 3/1 //R 3/1 // // // // // // // // // // // // /</pre>	95 7.5 \	rced Matrix, C: SandySandySandySandySandySandyStrippeLoamy	5 S=Cover Gleyed M Redox (S d Matrix Mucky M	C	M	Clay Clay Grains. <sup>2</sup> Loca Indicators f 1 cm Mi Coast P Dark Su	ation: PL=Pore Lining, M=Matrix. or Problematic Hydric Soils <sup>3</sup> : uck (A9) (LRRI, J) 'rairie Redox (A16) (LRR F, G, H) urface (S7) (LRR G)
tration, D=Deplet itors: n (A2) \3) fide (A4) rs (A5) (LRR F) 9) (LRR F, G, H)	tion, RM=Redu	Iced Matrix, Co Sandy Sandy Sandy Loamy	S=Cover Gleyed N Redox (S d Matrix Mucky M	ed or Coat Matrix (S4) (S5) (S6)	ed Sand C	Grains. <sup>2</sup> Loca Indicators f 1 cm Mu Coast P Dark Su	ation: PL=Pore Lining, M=Matrix. <b>or Problematic Hydric Soils</b> <sup>3</sup> : uck (A9) <b>(LRRI, J)</b> Prairie Redox (A16) <b>(LRR F, G, H)</b> Irface (S7) <b>(LRR G)</b>
ators: ators: \3) fide (A4) rrs (A5) (LRR F) 9) (LRR F, G, H)	alon, <del>Kivi-Kedu</del>	Sandy Sandy Strippe Loamy	Gleyed N Redox (S d Matrix	4atrix (S4) 55) (S6)	ed Sand G	Indicators f 1 cm Mi Coast P Dark Su	for Problematic Hydric Soils <sup>3</sup> : uck (A9) (LRRI, J) Prairie Redox (A16) (LRR F, G, H) Irface (S7) (LRR G)
on (A2) \3) fide (A4) rrs (A5) <b>(LRR F)</b> 9) <b>(LRR F, G, H)</b>		Sandy Sandy Strippe Loamy	Gleyed N Redox (S d Matrix Mucky M	Matrix (S4) 55) (S6)		1 cm Mi Coast P Dark Su	uck (A9) <b>(LRRI, J)</b> 'rairie Redox (A16) <b>(LRR F, G, H</b> ) ırface (S7) <b>(LRR G)</b>
w Dark Surface ( rface (A12) Mineral (S1) Peat or Peat (S2 reat or Peat (S3) (if observed):	(A11) 2) (LRR G, H) (LRR F)	Loamy Deplete _ Redox Deplete Redox High Pl (MLRA	Gleyed N ed Matrix Dark Sur ed Dark S Depress lains Dep	Matrix (F2) (F3) face (F6) Surface (F6) ons (F8) ressions ( of LRR H	) 7) F16) <b>)</b>	High Pla (LRRH Reduce Red Pai Other (E <sup>3</sup> Indicators o wetland unless o	ains Depressions (F16) outside of MLRA 72 & 73) ed Vertic (F18) rent Material (TF2) Explain in Remarks) of hydrophytic vegetation and hydrology must be present, disturbed or problematic.
						Hydric Soil F	Present? Yes <u>√</u> No
was preser	nt at the sa	ampling p	oint.				
	lineral (S1) Peat or Peat (S3) f observed): /AS preser	lineral (S1) Peat or Peat (S2) (LRR G, H) at or Peat (S3) (LRR F) f observed): /as present at the sa	lineral (S1) Redox Peat or Peat (S2) (LRR G, H) High Pl at or Peat (S3) (LRR F) (MLRA f observed):  /as present at the sampling p	lineral (S1) Redox Depressi Peat or Peat (S2) (LRR G, H) High Plains Dep at or Peat (S3) (LRR F) (MLRA 72 & 73 f observed): //as present at the sampling point.	Ineral (S1) Redox Depressions (F8) Peat or Peat (S2) (LRR G, H) High Plains Depressions (I at or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) f observed): //as present at the sampling point.	lineral (S1)	lineral (S1)       Redox Depressions (F8)       3Indicators of the sampling point.         Peat or Peat (S2) (LRR G, H)       High Plains Depressions (F16)       wetland unless of the sampling point.         If observed):

wettand Hydrology indicators:		
Primary Indicators (minimum of one is re	equired; check all that apply)	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 (B8)
✓ Saturation (A3)	Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Water Marks (B1)	Dry-Season Water Table (C2)	Oxidized Rhizospheres on Living Roots (C3)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roo	ts (C3) (where tilled)
Drift Deposits (B3)	(where not tilled)	✓ Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)	Thin Muck Surface (C7)	Geomorphic Position (D2)
Inundation Visible on Aerial Imager	y (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 Depth (inches): 0	
Water Table Present? Yes 🗸	No Depth (inches): <u>5</u>	
Saturation Present? Yes <u>✓</u> (includes capillary fringe)	✓ No Depth (inches): 0 Wo	etland Hydrology Present? Yes _ ✓ _ No
Describe Recorded Data (stream gauge	e, monitoring well, aerial photos, previous inspections	s), if available:
Remarks: Motland bydralagy	was present at the sampling point	
wettand hydrology v	was present at the sampling point.	

#### WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Kenney Fort Boulevard	Cit	ty/Count	y: Williamson	County	Sampling Date: 1/18/18	3
Applicant/Owner: City of Round Rock				State: <u>TX</u> Sampling Point: <u>WP 04</u>		
Investigator(s): Amy Esguerra, Melissa Griffith	Se	ection, To	ownship, Rang	e: N/A		
Landform (hillslope, terrace, etc.): <u>hillslope</u>		Local re	lief (concave, c	convex, none): <u>None</u>	Slope (%):	0
Subregion (LRR): LRR J Lat: 30.504822			Long: -97.6	36293	Datum: WGS 1984	
Soil Map Unit Name: Houston Black Clay				NWI classificati	ion: None	
Are climatic / hydrologic conditions on the site typical for this t	ime of year	? Yes	✓ No	(If no, explain in R	Remarks.)	
Are Vegetation Soil or Hydrology sid	nificantly d	- listurbed	l? Are "No	 ormal Circumstances" r	oresent? Yes 🗸 No	
Are Vegetation Soil or Hydrology	iturally prob		2 (If need	led evolain any answe	rs in Remarks )	·
SUMMARY OF FINDINGS – Attach site man si	howing s	samoli	na point lo		s important feature	s etc
						.,
Hydrophytic Vegetation Present? Yes N		ls	s the Sampled	Area		
Wetland Hydrology Present? Yes No		v	vithin a Wetlar	nd? Yes	No _✓	
Remarks: Hydrophytic vegetation hydric s	oils and	d wetl	land hydro	loav were not r	present at the san	npled
location. Therefore, the sampled	l area is	s not a	a wetland.			
VEGETATION – Use scientific names of plants.						
20	Absolute	Domin	ant Indicator	Dominance Test wo	orksheet:	
<u>Tree Stratum</u> (Plot size: <u>50</u> )	<u>% Cover</u>	<u>Specie</u>	<u>s? Status</u>	Number of Dominant	Species	
1. Ulmus crassifolia	5	Yes	FAC	(excluding FAC-):	V, or FAC 2	(A)
3	<u> </u>			Total Number of Dem	ainant	
4.	·			Species Across All S	trata: <u>4</u>	(B)
Sapling/Shrub Stratum (Plot size: <u>30</u> )	10	= Total	Cover	Percent of Dominant That Are OBL, FACW	Species V, or FAC: <u>50</u>	(A/B)
1				Brovalance Index w	orkahaati	
2				Total % Cover of	f Multiply by:	
3				OBL species 0	$\frac{1}{x 1 = 0}$	
4	·			FACW species 0	$x_{2} = 0$	
5	0	Tatal		FAC species 20	x 3 = 60	
Herb Stratum (Plot size: 15 feet	0	= i otai	Cover	FACU species 80	x 4 = 240	_
1. Ambrosia trifida	15	Yes	FAC	UPL species 5	x 5 = 25	
2			FAC	Column Totals: 105	(A) <u>325</u>	(B)
3				Drevelor es la d	$a_{11} = D(a = 31)$	
4				Prevalence Inde		
5				1 – Rapid Test fo	n Hydrophictic Vegetation	
6	·			2 - Dominance T	est is >50%	I
7	·			3 - Prevalence Ir	ndex is $\leq 3.0^1$	
8				4 - Morphologica	al Adaptations <sup>1</sup> (Provide su	upporting
9	40	NI		data in Rema	irks or on a separate shee	t)
10. <u>Rubus trivialis</u>	10		FACU	Problematic Hyd	rophytic Vegetation <sup>1</sup> (Expl	lain)
Woody Vine Stratum (Plot size: 30	10 :	= Total (	Cover			
1 Smilax bona-nox	10	No	FACU	<sup>1</sup> Indicators of hydric s	soil and wetland hydrology	/ must
2. Lonicera japonica	60	Yes	FACU	be present, unless di	sturbed or problematic.	
	80	= Total (	Cover	Hydrophytic		
% Bare Ground in Herb Stratum 20				Vegetation Present?	Yes No 🗸	
Remarks: (Include photo numbers here or on a separate s	sheet.)			1		

Photograph 21. Rubus trivialis is woody vine stratum. Hydrophytic Vegetation is not present at the sampling point.

#### SOIL

-12	1 0000 00000000000000000000000000000000	0/	Color (moint)	0/.	Tunol	1.002	Taxtura	Pomarka
-12	10 VR 3/1		<u> </u>			<u>LOC</u>		Remarks
	10 11 3/1		.5 TR 4/0					
							· ·	
					<u> </u>			
/pe: C=C dric Soil	oncentration, D=De Indicators:	pletion, RM=F	Reduced Matrix, C	S=Cover	ed or Coat	ed Sand G	Grains. <sup>2</sup> Location: Indicators for Pro	PL=Pore Lining, M=Matrix. blematic Hydric Soils <sup>3</sup> :
Histosol	I (A1)		Sandv	Gleved N	/atrix (S4)		1 cm Muck (A	9) (LRRI, J)
Histic E	pipedon (A2)		Sandy	Redox (S	65)		Coast Prairie	Redox (A16) (LRR F, G, H)
Black H	istic (A3)		Strippe	ed Matrix	(S6)		Dark Surface	(S7) (LRR G)
Hydroge	en Sulfide (A4)		Loamy	Mucky N	lineral (F1	)	High Plains D	epressions (F16)
Stratifie	d Layers (A5) <b>(LRR</b>	(F)	Loamy	Gleyed I	Matrix (F2)		(LRRH outsi	de of MLRA 72 & 73)
1 cm Mu	uck (A9) (LRR F, G,	, H)	Deplet	ed Matrix	(F3)		Reduced Vert	ic (F18)
_ Deplete	d Below Dark Surfa	ıce (A11)	Redox	Dark Su	face (F6)		Red Parent M	laterial (TF2)
Thick Da	ark Surface (A12)		Deplet	ed Dark \$	Surface (F7	7)	Other (Explain	n in Remarks)
_ Sandy M	Mucky Mineral (S1)		Redox	Depress	ions (F8)		<sup>3</sup> Indicators of hyd	rophytic vegetation and
_ 2.5 cm I	Mucky Peat or Peat	(S2) (LRR G	H) High P	lains Dep	pressions (	F16)	wetland hydro	logy must be present,
5 cm Mi	ucky Peat or Peat (S	S3) (LRR F)	(MLRA	72 & 73	of LRR H	)	unless disturb	ed or problematic.
estrictive	Layer (if observed	):				·		
Туре:								
Depth (in	ches):						Hydric Soil Prese	nt? Yes No _✔
emarks:								

Surface Sc	oil Cracks	(B6)

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

Water-Stained Leaves	(B9)	Frost-Heave Hu	mmocks (D7)	(LRR				
Field Observations:								
Surface Water Present?	Yes	No 🖌	Depth (inches):					
Water Table Present?	Yes	No 🖌	_ Depth (inches):					
Saturation Present? (includes capillary fringe)	Yes	No	_ Depth (inches): _		Wetland Hydrology Present?	Yes	No _	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
Remarks: Wetland hy	drology v	vas not	present at th	e sampling	point.			

\_ Aquatic Invertebrates (B13)

\_ Hydrogen Sulfide Odor (C1)

(where not tilled)

\_ Thin Muck Surface (C7)

\_\_\_\_ Other (Explain in Remarks)

\_ Dry-Season Water Table (C2)

Presence of Reduced Iron (C4)

\_\_\_\_ Oxidized Rhizospheres on Living Roots (C3)

\_ High Water Table (A2)

\_\_\_\_ Sediment Deposits (B2)

\_ Algal Mat or Crust (B4)

Inundation Visible on Aerial Imagery (B7)

Iron Deposits (B5)

\_ Saturation (A3)

Water Marks (B1)

\_\_\_\_ Drift Deposits (B3)