

**Study Report**  
**For**  
**Porter Road Segment 3**  
**Morton Ranch Road to Clay Road**

Prepared For:

**Harris County, Precinct 3**



UPIN 21103N302030003  
P.O. HCNTY-0000019610

November 2021

Prepared By:



5225 Katy Freeway, Ste. 400  
Houston, TX 77007  
Texas Registered Engineering Firm  
No. F-8934



November 04, 2021

**TABLE OF CONTENTS**

EXECUTIVE SUMMARY ..... 2

1. INTRODUCTION ..... 4

    A. Authorization ..... 4

    B. Purpose and Scope ..... 4

    C. Existing Conditions ..... 4

    D. Overview of Proposed Improvements ..... 4

    E. Schedule ..... 4

    F. Estimate of Probable Cost ..... 4

2. ALIGNMENT ..... 5

    A. Right-of-Way ..... 5

    B. Proposed Typical Roadway Section ..... 5

    C. Modifications to Existing Median ..... 5

    D. Sight Distance Triangles ..... 5

3. DRAINAGE ..... 6

4. UTILITY CONFLICTS ..... 6

5. TEMPORARY CONSTRUCTION EASEMENTS ..... 6

6. GEOTECHNICAL INVESTIGATION AND RECOMMENDATIONS ..... 7

7. ENVIRONMENTAL ..... 7

8. CONCLUSIONS AND RECOMMENDATIONS ..... 8

Appendix A – PROJECT LIMITS ..... 10

Appendix B – TOPOGRAPHIC SURVEY AND SCHEMATIC OF PROPOSED  
    IMPROVEMENTS ..... 12

Appendix C – PRELIMINARY ESTIMATE OF PROBABLE CONSTRUCTION COST ..22

Appendix D – PROPOSED RIGHT-OF-WAY ACQUISITION PARCELS 1-7 ..... 25

Appendix E –TYPICAL PROPOSED ROADWAY CROSS SECTIONS ..... 35

Appendix F – SIGHT DISTANCE TRIANGLES ..... 38

Appendix G – PORTER ROAD DRAINAGE REPORT ..... 59

Appendix H – UTILITY CONFLICT TABLE ..... 80

Appendix I – TEMPORARY CONSTRUCTION EASEMENT ..... 82

Appendix J – GEOTECHNICAL REPORT ..... 84

Appendix K – ENVIRONMENTAL STUDY ..... 156

## **EXECUTIVE SUMMARY**

The proposed improvements to Porter Road will provide for a 4-lane concrete curb and gutter boulevard with median breaks and left turn lanes from approximately 270 feet north of Morton Ranch Road to 545 feet south of Clay Road.

This project is located in west Harris County. The existing land usage within the project limits is mostly residential with some agricultural / undeveloped areas. There is presently no commercial or industrial development within the project limits.

The proposed concrete roadway will be drained by a proposed storm sewer system. The proposed drainage system for Porter Road will be located within the roadway right-of-way and consists of two runs. On the south end of the project, the storm sewer and roadside ditches will collect the runoff and flow to the north to outfall into the HCFCD channel U101-08-00. On the north end of the project, the storm sewer and roadside ditches will collect the runoff and flow to the south to outfall into the HCFCD channel U101-08-00.

There is no proposed detention pond for Porter Road. Harris County is preparing an agreement with MUD 432 to utilize their existing Morton Creek Ranch detention ponds for the 4 ac-ft mitigation needed for the Porter Road widening.

The existing right-of-way along Porter Road varies between 80 feet and 100 feet. The proposed right-of-way along Porter Road will be 100 feet. To establish this full 100-foot-wide corridor, right-of-way acquisition from 7 properties on the east side will be required.

A Traffic Signal Warrant Analysis has not been performed for this project. There is a signal located at the intersection of Porter Road and Morton Ranch Road. There are no other traffic signals located along Porter Road between Morton Ranch Road and Clay Road. Sight Distance Triangles were analyzed at all street intersections. No additional Unobstructed Visibility Easements (UVE) will be required.

There are presently minimal utilities within the project limits of Porter Road. Adjustments will be required for CenterPoint Energy overhead power, Comcast and Consolidated Communications.

A geotechnical report was prepared by Geotest Engineering. Nine (9) bore holes were evaluated at a depth of 20 feet. Ground water depth at 20 feet was only found at one (1) of these locations. No documented geologic faults were located within the project alignment.

A Phase I Environmental Site Assessment, Threatened and Endangered Species Habitat Evaluation, Wetlands and Water of US Delineation, and Archeological Site Assessment were prepared. These reports revealed that there are no Recognized Environmental Conditions (REC) and there will be no effect on endangered species. The reports also showed that no jurisdictional waters of the US, including wetlands, cultural resources or archaeological deposits were identified in the project area.

The Preliminary Estimated Construction Cost (including a 15% contingency) is \$3,289,395.27.

## 1. **INTRODUCTION**

### **A. AUTHORIZATION**

The preparation of this Study Report was authorized by letter from Harris County Engineering Department (HCED) providing Notice-to-Proceed as of September 29, 2020. This authorization was based on Purchase Order No. HCNTY-0000019610. An exhibit of the Porter Road Segment 3 project limits is included in **Appendix A**.

### **B. PURPOSE AND SCOPE**

The purpose of this Study Report is to define existing conditions, reviewing possible alternatives, examining impacts of improvements, and developing recommendations for Porter Road Segment 3. The project limits are from approximately 270 feet north of Morton Ranch Road to 545 feet south of Clay Road.

### **C. EXISTING CONDITIONS**

The existing Porter Road is a two-lane asphalt roadway with roadside ditches that drain to U101-08-00. The existing road right-of-way varies from 80 feet to 100 feet. The existing land usage within the project limits is mostly residential with some agricultural / undeveloped areas. There is presently no commercial or industrial development within the project limits.

### **D. OVERVIEW OF PROPOSED IMPROVEMENTS**

Proposed improvements include widening the existing Porter Road Segment 3 to a standard Harris County 4 lane concrete pavement boulevard with left turn lanes at intersections. Proposed improvements also include median modification on the south end of Porter Road. In order to keep two-way traffic flow accessible along Porter Road during construction, temporary asphalt pavement will be required. A topographic survey with a schematic of the proposed improvements is included in **Appendix B**.

### **E. SCHEDULE**

Currently, the scheduled completion date for the Design Phase is May 2022.

### **F. ESTIMATE OF PROBABLE COST**

The probable estimate of construction cost is \$3,289,395.27 which includes a 15% contingency. A probable construction cost estimate is included in **Appendix C**.

## 2. **ALIGNMENT**

### **A. RIGHT-OF-WAY**

The existing Porter Road is 100-foot right-of-way from approx. 270 north of Morton Ranch Road to 162 feet north of Avogadro Drive and from 1,537 feet north of Adriatic Drive to 545 feet south of Clay Road.

The existing Porter Road Segment 3 is an 80-foot right-of-way from 162 feet north of Avogadro Drive to 1,537 feet north of Adriatic Drive. Right-of-way acquisition of a 20-foot-wide right-of-way strip on the east side of Porter Road will be required in order to create a consistent 100-foot right-of-way corridor. There are seven (7) roadway tracks located within the proposed right-of-way acquisition area as shown on the schematic in Appendix B. Individual Parcels 1-7 are shown in Appendix D.

### **B. PROPOSED TYPICAL ROADWAY SECTION**

The proposed typical cross section of the proposed roadway includes two northbound and two southbound lanes separated by a raised 32-foot median. Travel lanes will be 12 feet wide. (See **Appendix E**). This cross section matches the existing roadway cross section on the south end of the project limits. It also matches the proposed roadway cross section on the north end of the project being constructed as part of the Clay Road improvements.

### **C. MODIFICATIONS TO EXISTING MEDIAN**

The existing asphalt flush median at the south end of the Porter Road project limits will be removed and replaced with a raised median.

### **D. SIGHT DISTANCE TRIANGLES**

Site distance triangle exhibits were developed and are included in **Appendix F**. There is a small (51.6 SF) UVE identified at Adriatic Dr and a small (68 SF) UVE identified at Avogadro Dr, however Harris County Traffic has not recommended acquiring these UVE's. There are existing UVE's at both locations.

There are also a couple of wall encroachments within the existing UVE's on the side streets along Porter Road. Initial contact has been initiated with the MUD 536 concerning the removal of encroachments within the UVE's at the following locations:

1. Porter Road at Avogadro Drive (northwest and southwest corners)
2. Porter Road at Treviso Gardens Drive (northwest and southwest corners)

### **3. DRAINAGE**

#### **A. HYDROLOGY AND HYDRAULICS**

A hydrology and hydraulics analysis for Porter Road Segment 3 was performed by Pape-Dawson Engineers and is included in **Appendix G**. The analysis showed that the current drainage area served by Porter Road is limited to the proposed right-of-way as all offsite areas are either self-contained or drain away from the roadway. The proposed drainage area also includes a 150-foot strip for the undeveloped area from Clay Rd to U101-08-00 on the east side. The analysis studied two different alternatives. Both alternatives showed no increase in flow on U101-08-00.

The analysis looked at sizing the storm sewers to maintain the 100-year proposed peak flow conditions Water Surface Elevation (WSE) below the 100-year existing peak flows WSE in the ROW. This would also places the 2-year to be at least 1-foot below gutter elevations.

The proposed storm sewer trunk line will be located in the center of the Porter Road proposed median. Localized proposed back of curb swales will be utilized as needed.

Mitigation is not necessary to mitigate for peak flows/stage in U101-08-00 but would require approximately 4 ac-ft to mitigate peak flow from the right-of-way only. Since this volume may be located anywhere within the vicinity of the project, Pape-Dawson proposed that this volume be accounted for within the MUD 432 basin located within the Morton Creek Ranch subdivision. An agreement between the County and MUD 432 is currently being prepared to allow for this accommodation of 4 ac-ft.

### **4. UTILITY CONFLICTS**

There are presently minimal utilities within the project limits of Porter Road. Adjustments will be required for CenterPoint Energy overhead power, Comcast and Consolidated Communications.

A Utility Conflict Table has been prepared and is included in **Appendix H**.

### **5. TEMPORARY CONSTRUCTION EASEMENTS**

There is an existing ditch that runs parallel to Porter Road on the east side from approx. 365 feet south of Avogadro Road to approx. 220 feet north of Avogadro Road. This ditch is located outside of the existing 100-foot roadway right-of-way and is currently being used to convey the drainage from a 2.8 acre tract along the west side of Porter Road to outfall channel U101-08-00. The drainage from this tract will be incorporated into the proposed storm sewer system, therefore this ditch will no longer be required once the proposed storm sewer has been construction.

As part of the agreement to use the existing Morton Creek Ranch detention pond for the required 4 ac-ft from the Porter Road project, MUD 432 has requested that Harris County fill in this existing ditch. A temporary construction easement will be required to do this work outside Harris County right-of-way. (Appendix I)

Temporary construction easements may also be required to construct driveways located within the Porter Road project limits. The limits and locations of these easements, if required, will be determined during the design phase. Currently there are no apparent TCE required for driveways.

## **6. GEOTECHNICAL INVESTIGATION AND RECOMMENDATIONS**

A geotechnical investigation was performed by Geotest Engineering, Inc. and is included in **Appendix J**. Nine (9) bore holes were evaluated at a depth of 20 feet. Ground water depth at 20 feet was only found at one (1) of these locations. No documented geologic faults were located within the project limits.

The existing pavement was ascertained to consist of 4 to 5 inches of asphalt over 0 to 20 inches of non-stabilized base consisting of sand with gravel, shell fragments, silty sand with gravel and with/without shell fragments.

The proposed pavement will consist of 10-inch concrete and an 8-inch 6% Lime Stabilized Subgrade. The proposed steel reinforcement shall be Grade 60 #5 bars (9-inch c-c longitudinal and 36-inch c-c transverse). Expansion joints will be at 160-feet in accordance with Pct. 3 concrete pavement details.

## **7. ENVIRONMENTAL**

An environmental study was performed by RPS and their sub-consultant which is included in **Appendix K**. The study included a *Phase I Environmental Site Assessment (ESA)*, a *Threatened and Endangered Species Habitat Survey*, a *Wetland Determination/Delineation Study* and an *Archeological Desktop Assessment*.

### **A. PHASE 1 ENVIRONMENTAL SITE ASSESSMENT**

RPS performed a Phase 1 Environmental Site Assessment (ESA) along the Porter Road corridor between Clay Road and Morton Ranch Road. RPS concluded that there are no known, controlled, or historical recognized environmental conditions (RECs) found within this corridor or on adjacent properties.

### **B. THREATENED AND ENDANGERED SPECIES**

RPS conducted a field reconnaissance and a search of both the Texas Parks and Wildlife Department (TPWD) and U.S. Fish and Wildlife Service's



(USFWS) databases for the Porter Road Segment 3 project area in August 2021. RPS concluded that the proposed project would have no take and no effect on any federally listed species, habitat, or designated critical habitat. The proposed project would have no impact on any state listed species.

### **C. WETLANDS AND WATERS OF THE U.S.**

RPS performed a wetland determination and delineation for the Porter Road project area in August 2021. Based on their findings, no jurisdictional areas were identified within the proposed project area. RPS stated that the Porter Road widening project would not impact any jurisdictional waters or wetlands.

### **D. ARCHEOLOGICAL DESKTOP ASSESSMENT**

No previous archeological surveys, previously recorded archeological sites, or any other type of cultural resources intersect, overlap or are within one kilometer of the Porter Road Segment 3 project area. AmaTerra Environmental concludes that construction for the proposed Porter Road expansion has little to no potential to impact intact, significant archeological resources. AmaTerra recommends that the proposed project does not require archeological survey in advance of construction.

## **8. CONCLUSIONS AND RECOMMENDATIONS**

Midtown Engineers recommends HCED accept this study report and authorize the design phase for Porter Road Segment 3.

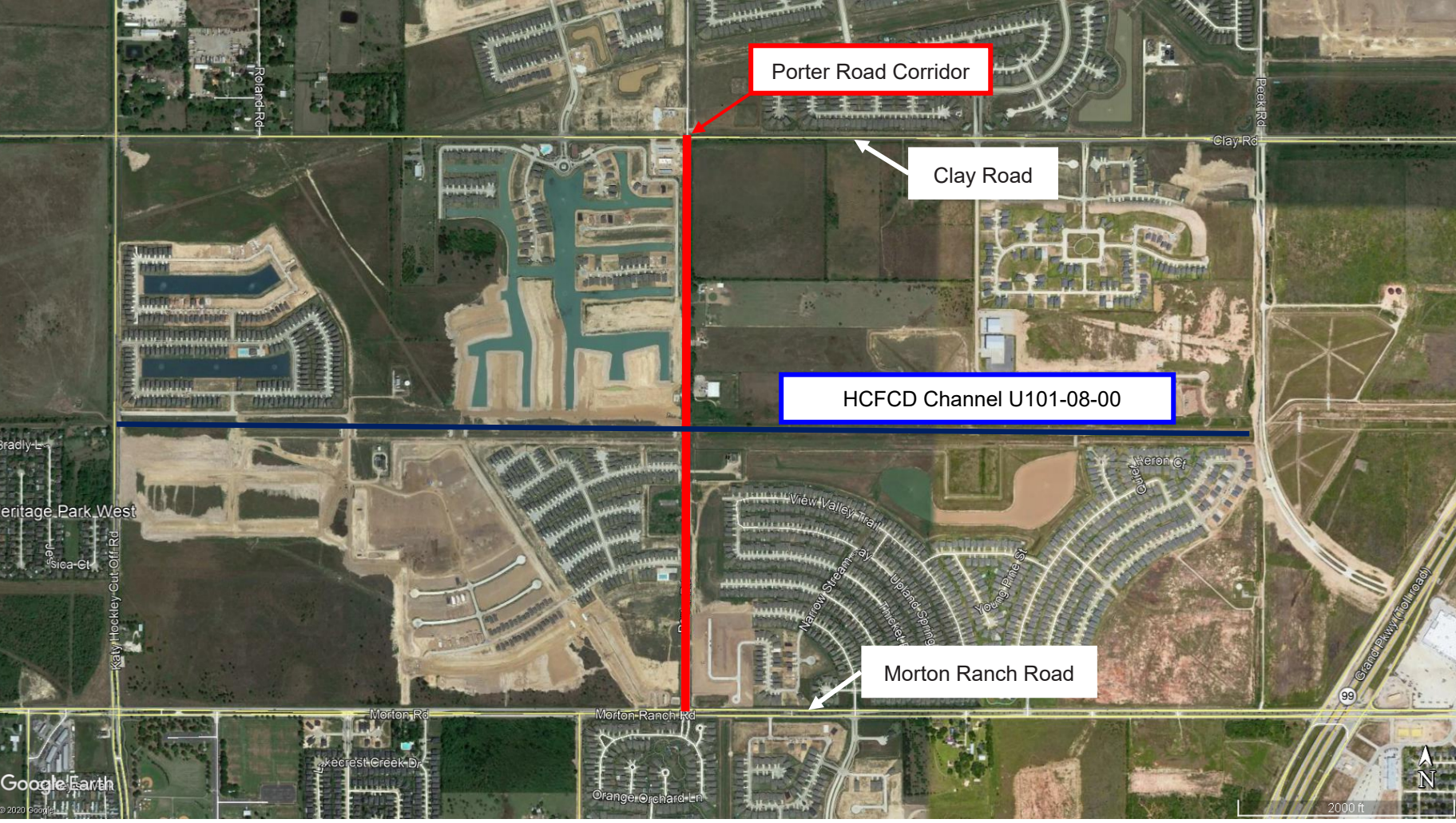
APPENDIX A  
PROJECT LIMITS

Porter Road Corridor

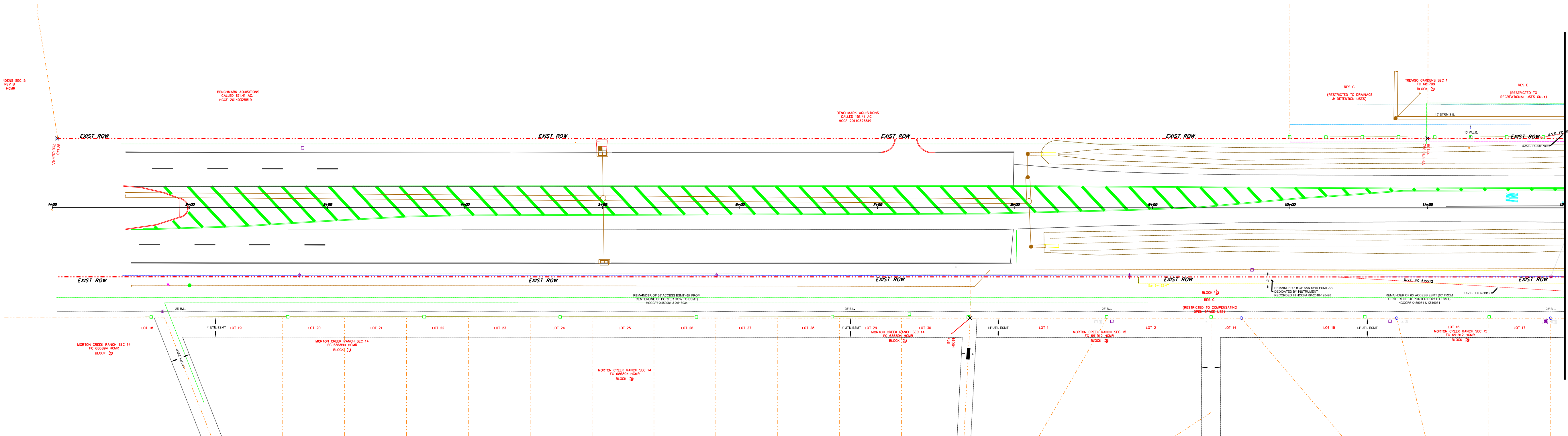
Clay Road

HCFC Channel U101-08-00

Morton Ranch Road

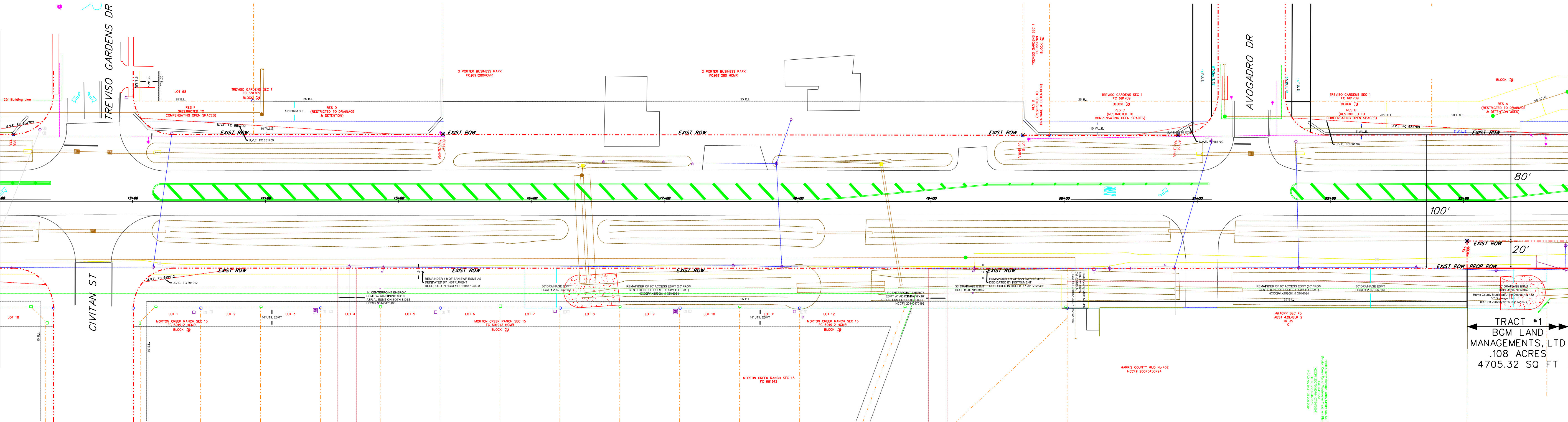


APPENDIX B  
TOPOGRAPHIC SURVEY AND  
SCHEMATIC OF PROPOSED IMPROVEMENTS



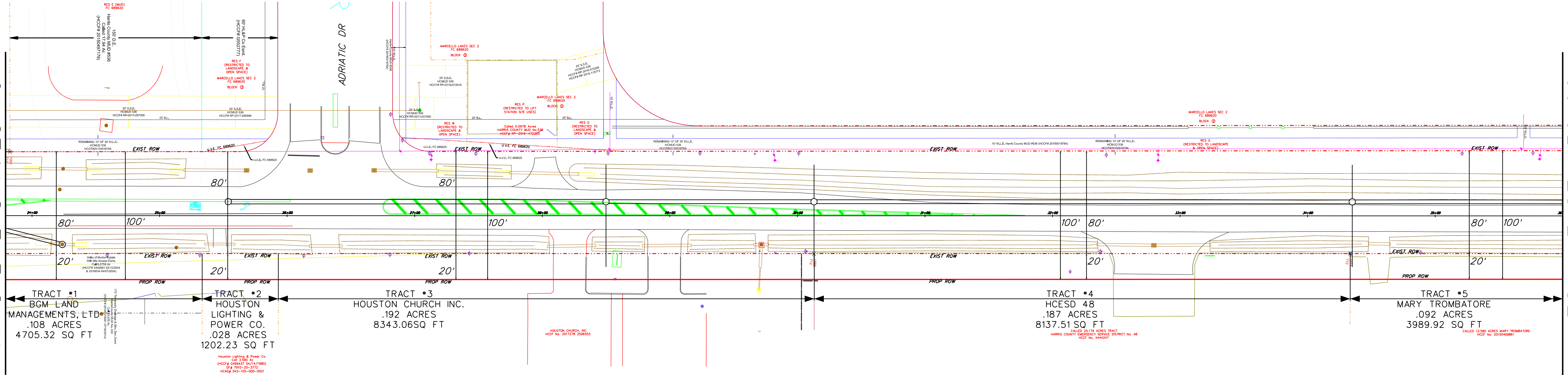
MATCHLINE STA. 12+00

MATCHLINE STA. 12+00



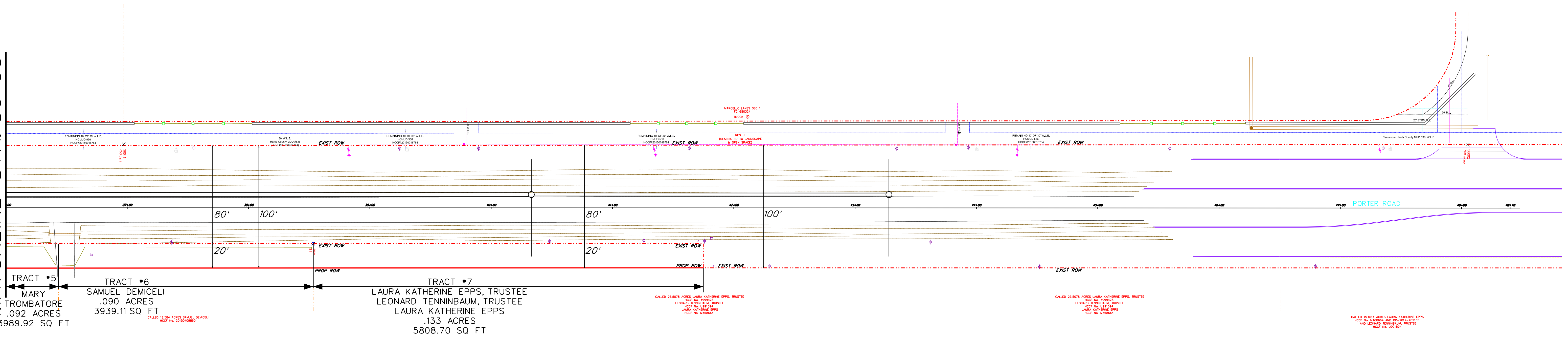
MATCHLINE STA. 23+79

MATCHLINE STA. 23+79



MATCHLINE STA. 36+00

MATCHLINE STA. 36+00



TRACT #5  
MARY TROMBATORE  
.092 ACRES  
3989.92 SQ FT

TRACT #6  
SAMUEL DEMICELI  
.090 ACRES  
3939.11 SQ FT  
CALLLED 12.584 ACRES SAMUEL DEMICELI  
HCCF No. 20150409060

TRACT #7  
LAURA KATHERINE EPPS, TRUSTEE  
LEONARD TENNENBAUM, TRUSTEE  
LAURA KATHERINE EPPS  
.133 ACRES  
5808.70 SQ FT

CALLLED 23.5078 ACRES LAURA KATHERINE EPPS, TRUSTEE  
HCCF No. 4999478  
LEONARD TENNENBAUM, TRUSTEE  
HCCF No. U991594  
LAURA KATHERINE EPPS  
HCCF No. M468664

CALLLED 23.5078 ACRES LAURA KATHERINE EPPS, TRUSTEE  
HCCF No. 4999478  
LEONARD TENNENBAUM, TRUSTEE  
HCCF No. U991594  
LAURA KATHERINE EPPS  
HCCF No. M468664

CALLLED 15.1614 ACRES LAURA KATHERINE EPPS  
HCCF No. M468664 AND RP-2017-482135  
AND LEONARD TENNENBAUM, TRUSTEE  
HCCF No. U991594



**MORTON RANCH RD**

EXIST ROW

**PORTER RD**

EXIST ROW

EXIST PAVING

EXIST PAVING

PROP PAVING

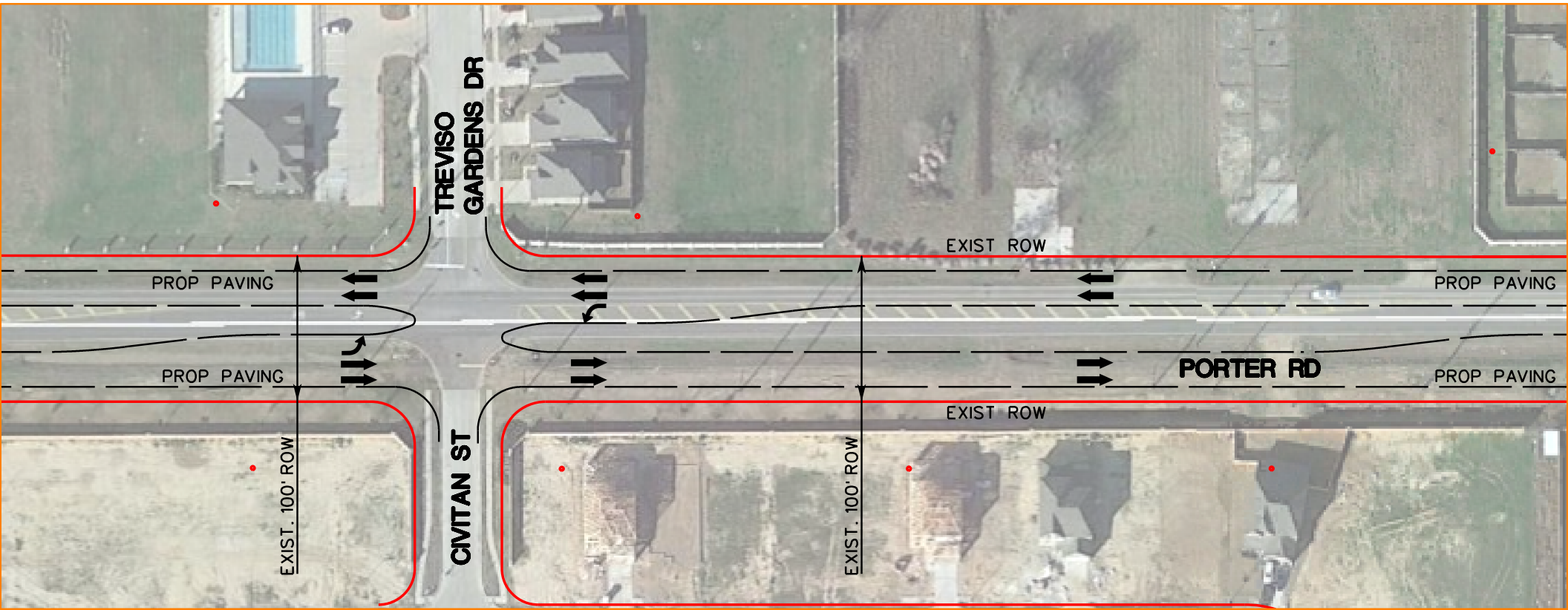
PROP PAVING

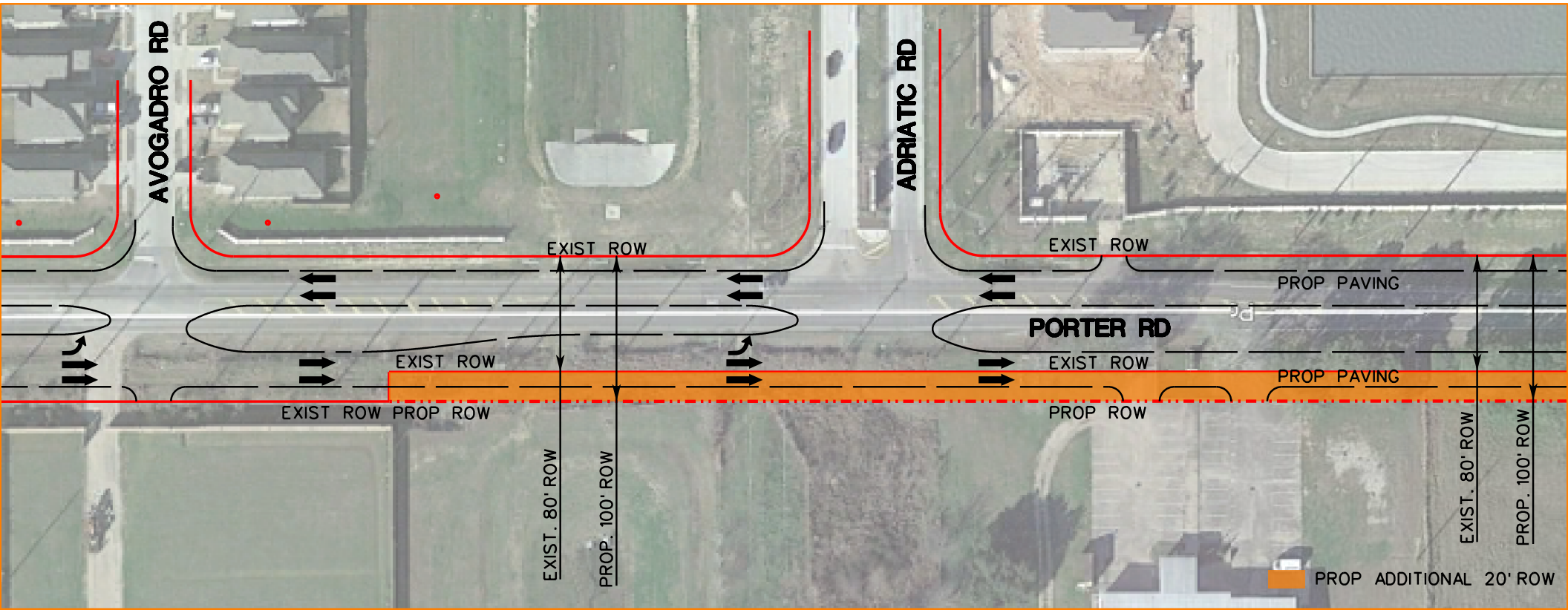
EXIST. 100' ROW

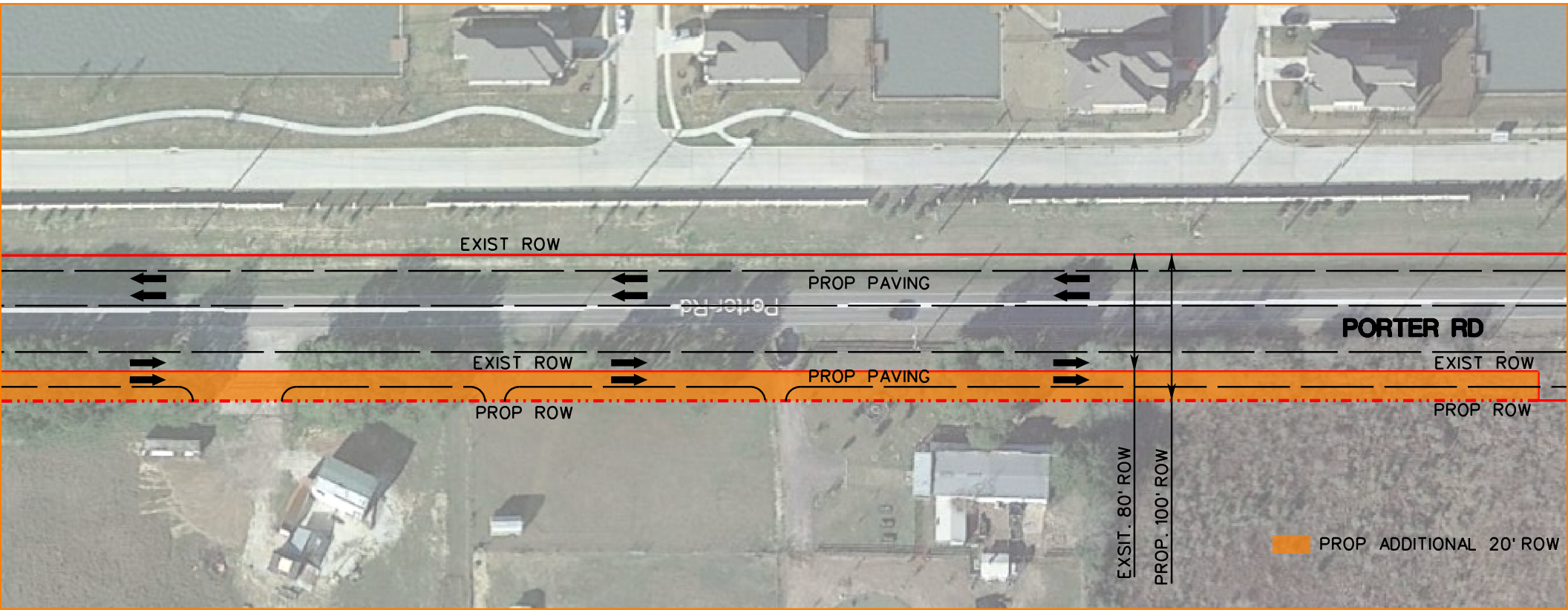
STA. 8+00  
BEGIN CONC.  
PAVEMENT

⇐ EXIST TRAVEL LANES  
⇨ PROP TRAVEL LANES









EXIST ROW

PROP PAVING

Porter Rd

**PORTER RD**

EXIST ROW

PROP PAVING

EXIST ROW

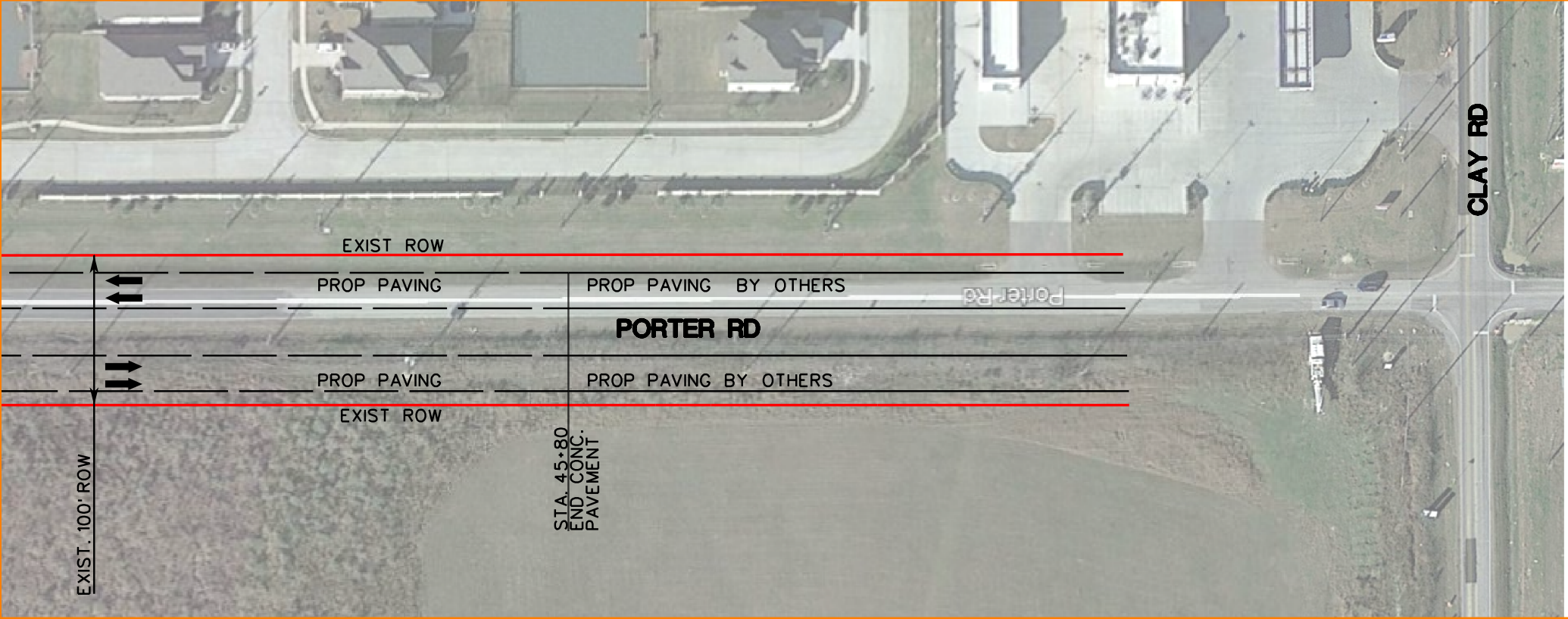
PROP ROW

PROP ROW

EXSIT. 80' ROW

PROP. 100' ROW

PROP. ADDITIONAL 20' ROW



CLAY RD

EXIST ROW

PROP PAVING

PROP PAVING BY OTHERS

PORTER RD

PROP PAVING

PROP PAVING BY OTHERS

EXIST ROW

EXIST. 100' ROW

STA. 45+80  
END CONC.  
PAVEMENT



APPENDIX C  
PRELIMINARY ESTIMATE OF  
PROBABLE CONSTRUCTION COST

# CONSTRUCTION COST ESTIMATE

**Project:** Porter Rd Segment 3  
**Limit From:** Morton Ranch Rd  
**Limit To:** Clay Rd  
**Proj Length:** 3780'  
**Precinct:** Three  
**UPIN:** 21103N302030003  
**Job No:** This is the number available when advertising project  
**Prepared By:** Consultant  
**Date:** 00/00/16

Summary of Estimate		
Stage:	Proposal	
Total Amount for Roadway:		\$2,860,343.71
Total Amount for XXXX:		\$0.00
Total Amount for XXXX:		\$0.00
Total Amount for XXXX:		\$0.00
Grant Total Amount:		\$2,860,343.71
Contingencies:	15%	\$429,051.56
<b>Grand Total Project:</b>		<b>\$3,289,395.27</b>

ITEM NO.	SPEC NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
<b>A SITE PREPARATION AND EARTHWORK</b>						
1	Drawing	Project Sign	EA	2.00	\$1,000.00	\$2,000.00
2	102	Clearing and Grubbing	LS	1.00	\$50,000.00	\$50,000.00
3	102	Clearing and Grubbing	STA	38.00	\$3,500.00	\$133,000.00
4	110	Roadway Excavation Including 3" Topsoil	CY	12,511.00	\$10.00	\$125,110.00
5	495	Removing Old Structures - Box Culverts	LF	255.00	\$40.00	\$10,200.00
6	495	Removing Old Structures - Safety End Treatments	EA	16.00	\$400.00	\$6,400.00
7	540	Remove and Dispose Existing Asphaltic Surface and Base Material (All Depths)	SY	16,502.00	\$5.00	\$82,510.00
<b>Subtotal of Item A</b>						<b>\$409,220.00</b>
<b>B PAVING</b>						
8	220	Lime Stabilized Subgrade (8" Depth)	SY	25,671.17	\$3.00	\$77,013.51
9	360	Concrete Pavement (10")	SY	23,319.97	\$60.00	\$1,399,198.20
10	530	Reinforced Concrete Curb ( 6")	LF	16,011.00	\$3.00	\$48,033.00
11	535	Esplanades, Medians and Directional Islands	SY	33.00	\$60.00	\$1,980.00
<b>Subtotal of Item B</b>						<b>\$1,526,224.71</b>
<b>C STORM SEWER</b>						
12	429	Trench Safety System (10' to 15')	LF	1,521.00	\$1.00	\$1,521.00
13	429	Trench Safety System (15' to 20')	LF	1,409.00	\$2.00	\$2,818.00
14	460	Reinforced Concrete Pipe, C76, Class III, Rubber Gasket (24")	LF	1,406.00	\$70.00	\$98,420.00
15	460	Reinforced Concrete Pipe, C76, Class III, Rubber Gasket (30")	LF	351.00	\$100.00	\$35,100.00
16	460	Reinforced Concrete Pipe, C76, Class III, Rubber Gasket (36")	LF	416.00	\$120.00	\$49,920.00
17	460	Reinforced Concrete Pipe, C76, Class III, Rubber Gasket (42")	LF	1,476.00	\$150.00	\$221,400.00
18	471	Precast Concrete Standard Manhole (5 ft ≤ Depth ≤ 10 ft)	EA	14.00	\$3,500.00	\$49,000.00
19	472	Type BB Inlet	EA	20.00	\$2,500.00	\$50,000.00
<b>Subtotal of Item C</b>						<b>\$508,179.00</b>
<b>E TRAFFIC CONTROL PLAN</b>						
20	665	Work Zone Pavement Markings 4" Yellow/Solid (Removable) Furnished-Applied & Removed	LF	3,780.00	\$0.60	\$2,268.00
21	671	Temporary Residential Driveways - Furnish-Install & Remove	EA	2.00	\$800.00	\$1,600.00
22	671	Temporary Commercial Driveways - Furnish-Install & Remove	EA	4.00	\$1,000.00	\$4,000.00
23	(SP 673)	Constructing Detours (8" Black Base)	SY	5,040.00	\$40.00	\$201,600.00
24	696	Low Profile Concrete Barrier (Furnish and Install)	LF	3,780.00	\$20.00	\$75,600.00
25	696	Low Profile Concrete Barrier (Relocate)	LF	3,780.00	\$6.00	\$22,680.00
26	696	Low Profile Concrete Barrier (Remove)	LF	3,780.00	\$10.00	\$37,800.00
<b>Subtotal of Item E</b>						<b>\$345,548.00</b>
<b>F SIGNING AND PAVEMENT MARKINGS</b>						
27	660	Reflectorized Pavement Markings Type I (Thermoplastic) 4" White/Dashed - Furnish & Applied (15' over 40')	LF	7,560.00	\$0.50	\$3,780.00
28	660	Reflectorized Pavement Markings Type I (Thermoplastic) 8" White/Solid - Furnish & Applied	LF	450.00	\$1.00	\$450.00
29	660	Reflectorized Pavement Markings Type I (Thermoplastic) 24" White/Solid - Furnish & Applied	LF	96.00	\$3.50	\$336.00

# CONSTRUCTION COST ESTIMATE

**Project:** Porter Rd Segment 3  
**Limit From:** Morton Ranch Rd  
**Limit To:** Clay Rd  
**Proj Length:** 3780'  
**Precinct:** Three  
**UPIN:** 21103N302030003  
**Job No:** This is the number available when advertising project  
**Prepared By:** Consultant  
**Date:** 00/00/16

Summary of Estimate		
Stage:	Proposal	
<b>Total Amount for Roadway:</b>		<b>\$2,860,343.71</b>
<b>Total Amount for XXXX:</b>		<b>\$0.00</b>
<b>Total Amount for XXXX:</b>		<b>\$0.00</b>
<b>Total Amount for XXXX:</b>		<b>\$0.00</b>
<b>Grant Total Amount:</b>		<b>\$2,860,343.71</b>
<b>Contingencies:</b>	15%	<b>\$429,051.56</b>
<b>Grand Total Project:</b>		<b>\$3,289,395.27</b>

ITEM NO.	SPEC NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
30	660	Reflectorized Pavement Markings Type I (Thermoplastic) Word "ONLY" - Furnish & Applied	EA	4.00	\$100.00	\$400.00
31	660	Reflectorized Pavement Markings Type I (Thermoplastic) Single Arrow-LEFT - Furnish & Applied	EA	4.00	\$100.00	\$400.00
32	663	Reflectorized Pavement Markers Type II-C-R - Furnish & Install	EA	189.00	\$3.00	\$567.00
33	674	Removing Pavement Striping & Markings (4" Width, Any Color/Dashed) (15' Over 40')	LF	3,780.00	\$0.30	\$1,134.00
34	674	Removal of All Striping and Pavement Markings	SF	11,196.00	\$1.00	\$11,196.00
<b>Subtotal of Item F</b>						<b>\$18,263.00</b>
<b>H</b>	<b>STORM WATER POLLUTION PREVENTION PLAN</b>					
35	162	Sodding for Erosion Control (Various Widths)	SY	2,372.00	\$4.00	\$9,488.00
36	165	Hydro-Mulch Seeding	AC	4.59	\$1,500.00	\$6,885.00
37	708	Filter Fabric Fence (60% of unit cost for furnish and installation and 40% of unit cost for removal)	LF	3,780.00	\$1.20	\$4,536.00
<b>Subtotal of Item H</b>						<b>\$20,909.00</b>
<b>I</b>	<b>** EXTRA WORK ITEMS</b>					
38	559	Construction Safety Fence	LF	200.00	\$10.00	\$2,000.00
39	672	Off-Duty Uniformed Peace Office - As Directed by Engineer (Min. Bid \$25/HR)	HR	1,200.00	\$25.00	\$30,000.00
<b>Subtotal of Item I</b>						<b>\$32,000.00</b>



APPENDIX D  
PROPOSED RIGHT-OF-WAY ACQUISITION  
PARCELS 1-7

ORIGINAL SCALE IN INCHES  
FOR REDUCED PLANS

3  
2  
1  
0

# CLAY ROAD

## PORTER ROAD

PARCEL 7

PARCEL 6

PARCEL 5

PARCEL 4

PARCEL 3

PARCEL 2

PARCEL 1

CALLED 15.1614 ACRE TRACT  
LAURA KATHERINE EPPS  
HCCF NO. M468664 AND  
HCCF NO. RP-2017482135  
LEONARD TENNINBAUM, TRUSTEE  
HCCF NO. U991594

CALLED 23.5078 ACRE TRACT  
KATHERINE EPPS, ETAL  
HCCF NO. Y999478

CALLED 12.584 ACRE TRACT SAMUEL J. DIMICELI  
HCCF NO. 20150409860

CALLED 12.585 ACRE TRACT MARY JACQUELYN TROMBATORE  
HCCF NO. 20150409861

CALLED 25.179 ACRE TRACT  
HARRIS COUNTY EMERGENCY SERVICES DISTRICT NO. 48  
HCCF NO. X444247

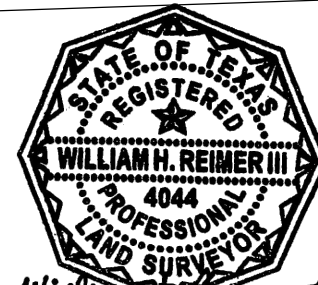
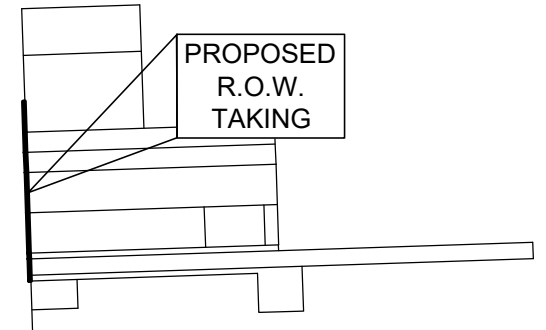
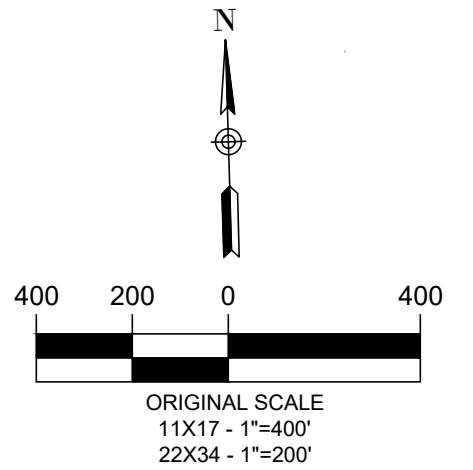
REMAINDER OF  
CALLED 25.182 ACRE TRACT  
HOUSTON CHURCH INC.  
HCCF NO. Z017278, Z506553

CALLED 3.590 ACRE TRACT  
HOUSTON LIGHTING AND POWER CO.  
HCCF NO. G499437

CALLED 20.435 ACRE TRACT  
HARRIS COUNTY MUD NO.  
432, HCCF NO. 20140485570

CALLED 3.419 ACRE  
HARRIS COUNTY  
MUD NO. 432,  
HCCF NO. 20070450794

BGM LAND  
INVESTMENTS, LTD.  
REMAINDER OF  
CALLED 320.669 AC.  
TRACT  
HCCF NO. X609400



*William H. Reimer III*  
07-27-2021

FILE NAME: P:\Cadd\2020\20020 - Midtown - Porter Road Segment 3\CAD\_DWG\Xref\Parcel Exhibit\Parcel Exhibit.dwg

REVISIONS	DATE	NAME

### HARRIS COUNTY ENGINEERING DEPARTMENT



**AMANI ENGINEERING, INC.**  
8303 SOUTHWEST FREEWAY, SUITE 600  
HOUSTON, TEXAS 77074  
TEL: (713) 270-5700  
Texas Registered Engineering Firm No. F-4528  
Texas Registered Surveying Firm No. 100282-00

PROJECT TITLE: PAVING & DRAINAGE IMPROVEMENTS FOR PORTER ROAD, SEGMENT 3		
DRAWN BY:	SHEET DESCRIPTION:	JOB NO.:
JW	RIGHT-OF-WAY ACQUISITION OVERALL MAP	
CKD BY:	UPIN 21103N302030003	FILE NAME: 20020
SCALE: 1" = 400'		FILE NO.:
DATE:	APPROVED BY:	SHT NO.:

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

3  
2  
1  
0

FILE NAME: P:\Cadd\2020\20020 - Midtown - Porter Road Segment 3\CAD\_DWG\Xref\Parcel Exhibit\Parcel Exhibit.dwg

**LEGEND**

- POC — POINT OF COMMENCEMENT
- POB — POINT OF BEGINNING
- HCCF — HARRIS COUNTY CLERK'S FILE
- MRHC — MAP RECORDS HARRIS COUNTY
- — 5/8 INCH IRON ROD SET CAPPED 'AMANI'
- — FOUND IRON ROD

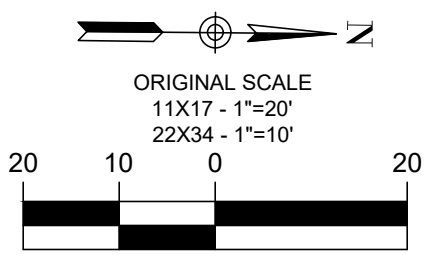
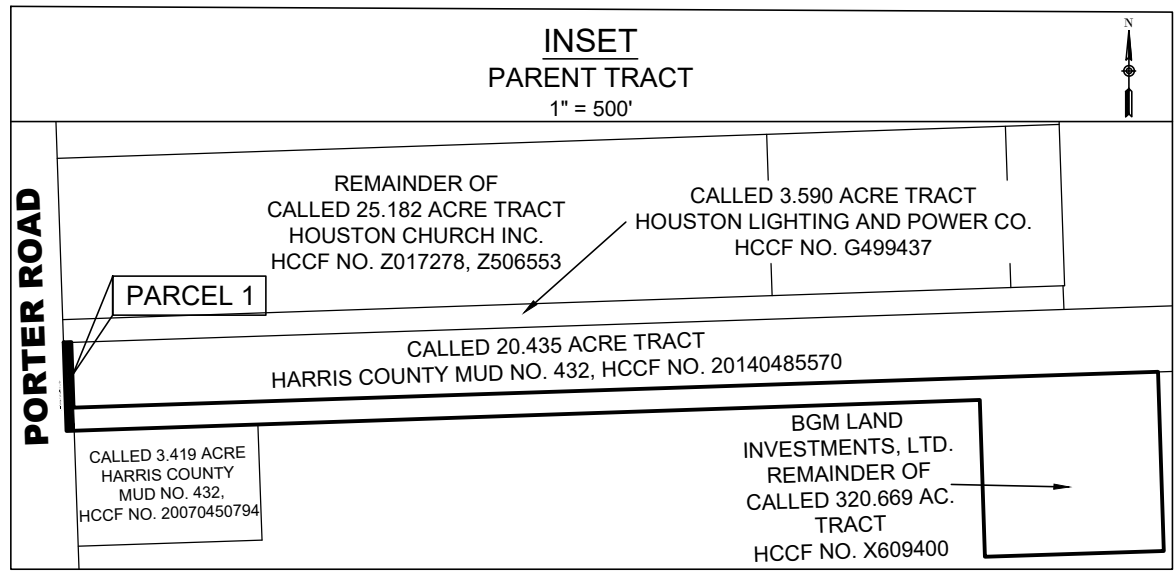
**LINE TABLE**

LINE	BEARING	DISTANCE
L1	S88° 04' 22"W	20.44'
L2	N88° 05' 50"E	20.39'

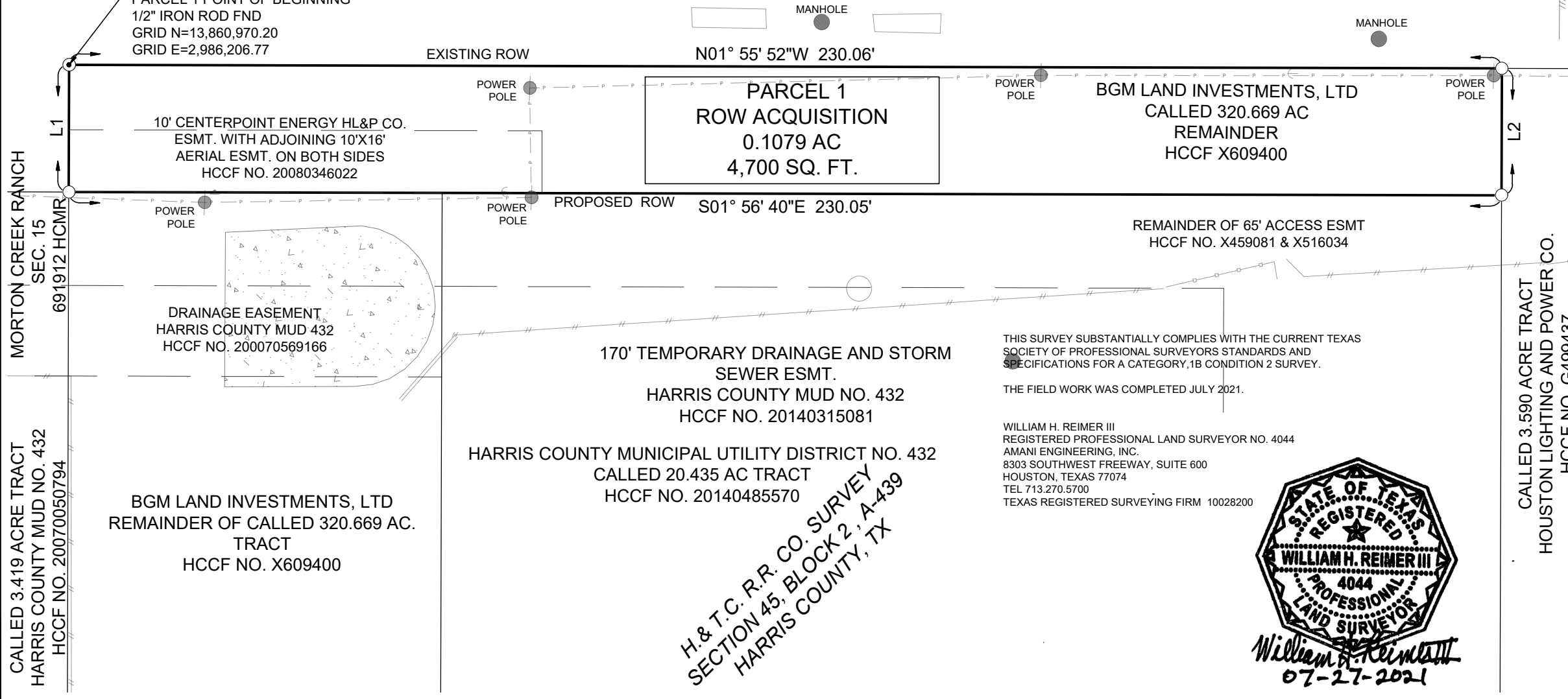
PROPOSED TAKING AC.	PARENT TRACT AC.	REMAINDER AC.
0.1079 ACRES	320.669 ACRES REMAINDER	320.561 ACRES REMAINDER

**INSET PARENT TRACT**  
1" = 500'



- NOTES:**
- ALL BEARINGS AND COORDINATES ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204) NORTH AMERICAN DATUM OF 1983 (2011 ADJ) 2010 EPOCH. COORDINATES SHOWN HEREON ARE GRID VALUES AND ALL DISTANCES SHOWN ARE SURFACE VALUES. THE COMBINED SCALE FACTOR IS 0.99989812.
  - GRID COORDINATES/SCALE FACTOR = SURFACE COORDINATES.
  - HORIZONTAL COORDINATES BASED ON GPS FIELD DATA COLLECTED APRIL, 2020.
  - THE SURVEYOR HAS NOT ABSTRACTED THE SUBJECT PROPERTY. ABSTRACT CERTIFICATE PROVIDED BY ABSTRACT SERVICES OF HOUSTON GF NO. 7910-20-3918 DATED NOVEMBER 7, 2020.
  - SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE COMMITMENT AND MAY NOT SHOW ALL ENCUMBRANCES TO THE SITE.
  - THIS PLAT IS ACCOMPANIED BY A LEGAL DESCRIPTION OF EVEN DATE.
  - SUBJECT TRACT MAY BE AFFECTED BY THE FOLLOWING EASEMENTS AND RESTRICTIONS:
    - DRAINAGE EASEMENT DATED SEPTEMBER 8, 2006, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. 2006003822.
    - STORM WATER QUALITY MANAGEMENT PLAN NOTICE DATED NOVEMBER 20, 2006, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. 20060226049
    - TEMPORARY 20' ACCESS EASEMENT DATED AUGUST 29, 2007, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. 20070535614.
    - SANITARY SEWER EASEMENT DATED AUGUST 29, 2007, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. 20070535615.
    - SANITARY SEWER EASEMENT DATED AUGUST 29, 2007, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. 20070535616.
    - DRAINAGE EASEMENT DATED SEPTEMBER 12, 2007, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. 20070561966.
    - PUBLIC UTILITY EASEMENT DATED NOVEMBER 7, 2007, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. 20070674529.
    - CENTERPOINT EASEMENT DATED JUNE 18, 2008, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. 20080346022.
    - CENTERPOINT EASEMENT DATED APRIL 17, 2009, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. 20090244758.
    - SANITARY SEWER EASEMENT DATED NOVEMBER 21, 2013 RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. 20130590629.
    - PUBLIC UTILITY EASEMENT MORTON CREEK RANCH DATED MARCH 20, 2014, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. 20140117612.
    - TEMPORARY DRAINAGE AND STORM SEWER EASEMENT DATED JULY 16, 2014, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. 20140315081.
    - SANITARY SEWER EASEMENT DATED AUGUST 13, 2014, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. 20140371464.
    - CENTERPOINT EASEMENT DATED SEPTEMBER 11, 2014, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. 201470198.
    - CENTERPOINT EASEMENT DATED OCTOBER 10, 2014, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. 20140533186.
    - PUBLIC UTILITY EASEMENT MORTON CREEK RANCH DATED AUGUST 13, 2014, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. 20150054203.
    - RESERVATION AND DEDICATION OF SANITARY SEWER EASEMENT DATED MARCH 21, 2018, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. 20180125497.
    - SANITARY SEWER EASEMENT DATED MARCH 23, 2018, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. 20180125498.
    - HARRIS COUNTY FLOOD CONTROL DISTRICT EASEMENT DATED DECEMBER 15, 1947, RECORDED IN VOLUME 1750, PAGE 685, OFFICIAL PUBLIC RECORDS OF HARRIS COUNTY, TEXAS.
    - DEDICATION OF DRILL SITE AND EASEMENT AND RELEASE OF OTHER SURFACE RIGHTS DATED MAY 31, 1983, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. J221840.
    - WAIVER OF SURFACE RIGHTS AND DESIGNATION OF DRILL SITE TRACT DATED JANUARY 28, 2004, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. X459081 AND CORRECTED BY HARRIS COUNTY CLERK'S FILE NO. X516034.
    - ON-SITE SEWAGE FACILITY NOTICE DATED APRIL 27, 2005, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. Y464359.
    - SANITARY CONTROL EASEMENT DATED FEBRUARY 15, 2006, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. Z097530.
    - TEMPORARY WATER PLANT ACCESS EASEMENT DATED JANUARY 30, 2006, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. Z097534.
    - UTILITY EASEMENT DATED APRIL 12, 2006, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. Z227274.
    - PUBLIC UTILITY EASEMENT DATED APRIL 12, 2006 RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. Z227275.
    - AA. WATER LINE EASEMENT DATED APRIL 12, 2006, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. Z227276.
    - AB. WATER LINE EASEMENT DATED APRIL 12, 2006, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. Z227277.
    - AC. STORM SEWER EASEMENT DATED APRIL 12, 2006, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. Z227279.
    - AD. PUBLIC UTILITY EASEMENT DATED AUGUST 3, 2006, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. Z537204.
    - AE. PUBLIC UTILITY EASEMENT DATED AUGUST 3, 2006, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. Z537205.
    - AF. WATER LINE EASEMENT DATED AUGUST 3, 2006, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. Z537206.
    - AG. SANITARY SEWER EASEMENT DATED AUGUST 3, 2006, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. Z537207.
    - AH. SUBJECT TO RESTRICTION IN A SANITARY CONTROL EASEMENT DATED FEBRUARY 15, 2006, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. Z097530.

**PORTER ROAD**  
(HARRIS COUNTY MAP NO. 76, W.P.A. PROJECT NO. 65-1-66-2749,689620 HCMR, 681709 HCMR, 691912 HCMR)



THIS SURVEY SUBSTANTIALLY COMPLIES WITH THE CURRENT TEXAS SOCIETY OF PROFESSIONAL SURVEYORS STANDARDS AND SPECIFICATIONS FOR A CATEGORY 1B CONDITION 2 SURVEY.

THE FIELD WORK WAS COMPLETED JULY 2021.

WILLIAM H. REIMER III  
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 4044  
AMANI ENGINEERING, INC.  
8303 SOUTHWEST FREEWAY, SUITE 600  
HOUSTON, TEXAS 77074  
TEL 713.270.5700  
TEXAS REGISTERED SURVEYING FIRM 10028200



H. & T.C. R.R. CO. SURVEY  
SECTION 45, BLOCK 2, A-439  
HARRIS COUNTY, TX

NO.	REVISIONS	DATE	NAME
1	County Comments	10.21	JW

**HARRIS COUNTY ENGINEERING DEPARTMENT**

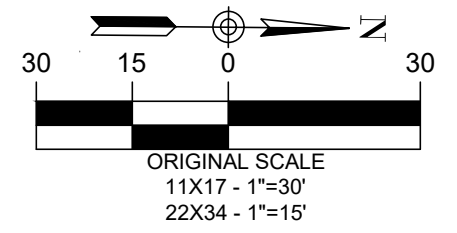


**AMANI ENGINEERING, INC.**  
8303 SOUTHWEST FREEWAY, SUITE 600  
HOUSTON, TEXAS 77074  
TEL: (713) 270-5700  
Texas Registered Engineering Firm No. F-4528  
Texas Registered Surveying Firm No. 100282-00

PROJECT TITLE:		
PAVING & DRAINAGE IMPROVEMENTS FOR PORTER ROAD, SEGMENT 3		
DRAWN BY:	SHEET DESCRIPTION:	JOB NO.:
JW	RIGHT-OF-WAY ACQUISITION PARCEL 1	
UPN 21103N302030003	FILE NAME:	20020
SCALE:	FILE NO.:	
1" = 20'		
DATE:	APPROVED BY:	SHT NO.:

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

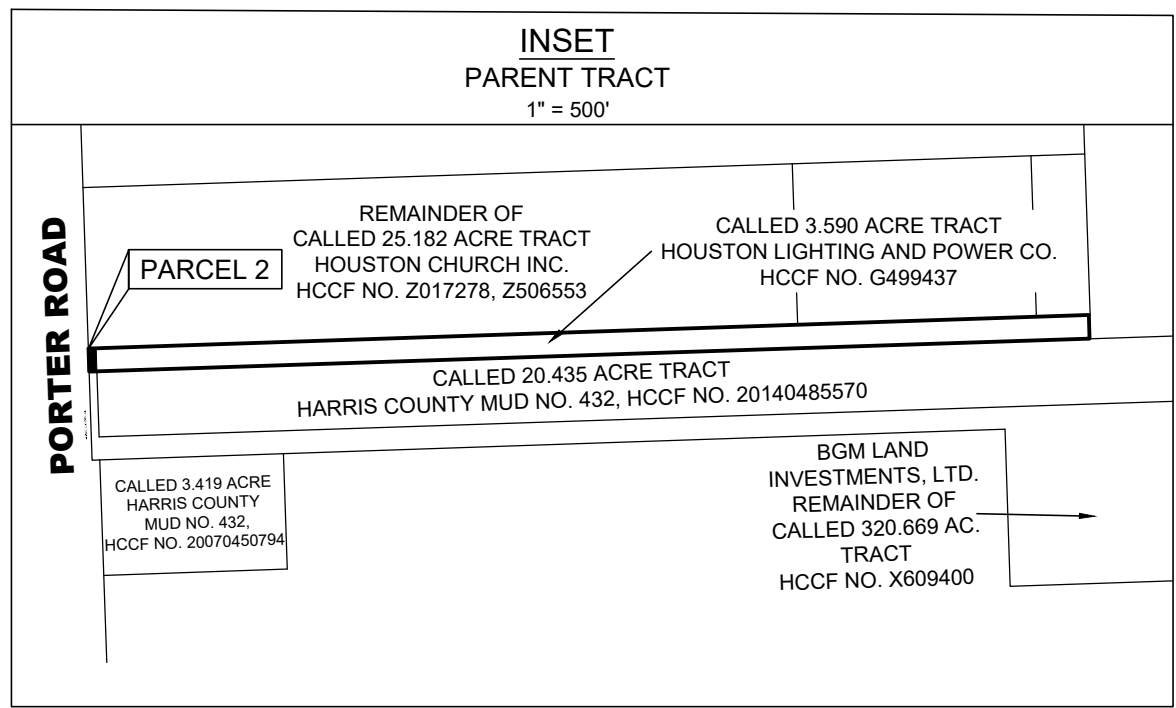
3  
2  
1  
0



THIS SURVEY SUBSTANTIALLY COMPLIES WITH THE CURRENT TEXAS SOCIETY OF PROFESSIONAL SURVEYORS STANDARDS AND SPECIFICATIONS FOR A CATEGORY 1B CONDITION 2 SURVEY.

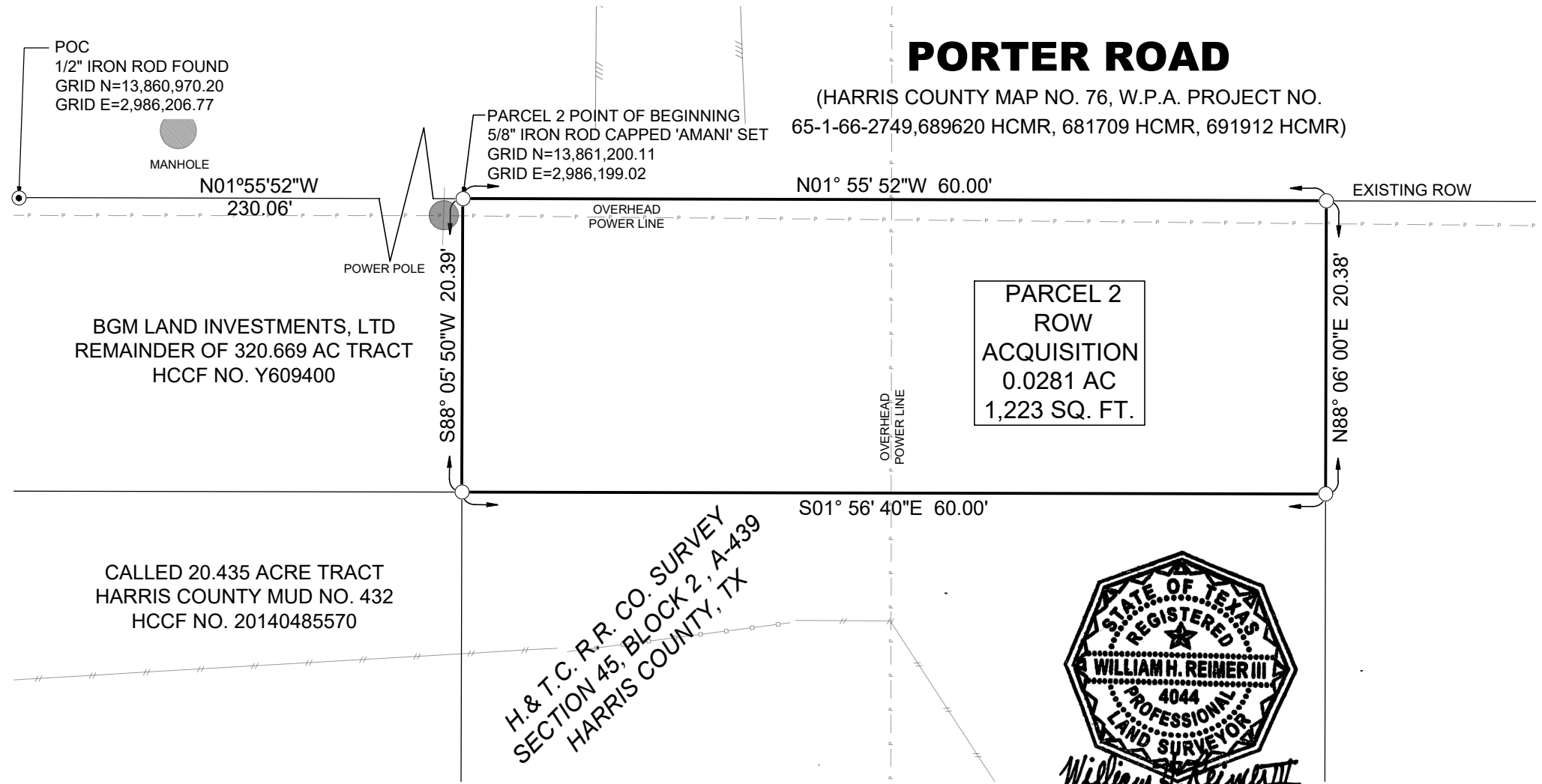
THE FIELD WORK WAS COMPLETED JULY 2021.

WILLIAM H. REIMER III  
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 4044  
AMANI ENGINEERING, INC.  
8303 SOUTHWEST FREEWAY, SUITE 600  
HOUSTON, TEXAS 77074  
TEL 713.270.5700  
TEXAS REGISTERED SURVEYING FIRM 10028200



PROPOSED TAKING AC.	PARENT TRACT AC.	REMAINDER AC.
0.0281 ACRES	3.590 ACRES	3.562 ACRES

LEGEND	
POC —	POINT OF COMMENCEMENT
POB —	POINT OF BEGINNING
HCCF —	HARRIS COUNTY CLERK'S FILE
MRHC —	MAP RECORDS HARRIS COUNTY
○ —	5/8 INCH IRON ROD SET CAPPED 'AMANI'
● —	FOUND IRON ROD



**PORTER ROAD**  
(HARRIS COUNTY MAP NO. 76, W.P.A. PROJECT NO. 65-1-66-2749,689620 HCMR, 681709 HCMR, 691912 HCMR)

**PARCEL 2  
ROW  
ACQUISITION  
0.0281 AC  
1,223 SQ. FT.**

H & T.C. R.R. CO. SURVEY  
SECTION 45, BLOCK 2, A-439  
HARRIS COUNTY, TX



- NOTES:
- ALL BEARINGS AND COORDINATES ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204) NORTH AMERICAN DATUM OF 1983 (2011 ADJ) 2010 EPOCH. COORDINATES SHOWN HEREON ARE GRID VALUES AND ALL DISTANCES SHOWN ARE SURFACE VALUES. THE COMBINED SCALE FACTOR IS 0.99989812.
  - GRID COORDINATES/SCALE FACTOR = SURFACE COORDINATES.
  - HORIZONTAL COORDINATES BASED ON GPS FIELD DATA COLLECTED APRIL, 2020.
  - THE SURVEYOR HAS NOT ABSTRACTED THE SUBJECT PROPERTY. ABSTRACT CERTIFICATE PROVIDED BY ABSTRACT SERVICES OF HOUSTON GF NO. 7910-20-3772 DATED OCTOBER 28, 2020.
  - SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE COMMITMENT AND MAY NOT SHOW ALL ENCUMBRANCES TO THE SITE.
  - THIS PLAT IS ACCOMPANIED BY A LEGAL DESCRIPTION OF EVEN DATE.
  - SUBJECT TRACT MAY BE AFFECTED BY THE FOLLOWING EASEMENTS AND RESTRICTIONS:
    - 10 FOOT WIDE EASEMENT GRANTED TO HARRIS COUNTY FLOOD CONTROL DISTRICT RECORDED IN VOLUME 1750, PAGE 683 OF THE DEED RECORDES OF HARRIS COUNTY, TEXAS.
    - PIPELINE EASEMENT AND CONSENT RECORDED UNDER COUNTY CLERK'S FILE NO. 20120355859.
    - PIPELINE EASEMENT AND CONSENT RECORDED UNDER COUNTY CLERK'S FILE NO. 20140573267.

FILE NAME: P:\Cadd\2020\20020 - Midtown - Porter Road Segment 3\CAD\_DWG\Xref\Parcel Exhibit\Parcel Exhibit.dwg

NO.	REVISIONS	DATE	NAME
1	County Comments	10.21	JW

**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



**AMANI  
ENGINEERING, INC.**  
8303 SOUTHWEST FREEWAY, SUITE 600  
HOUSTON, TEXAS 77074  
TEL: (713) 270-5700  
Texas Registered Engineering Firm No. F-4528  
Texas Registered Surveying Firm No. 100282-00

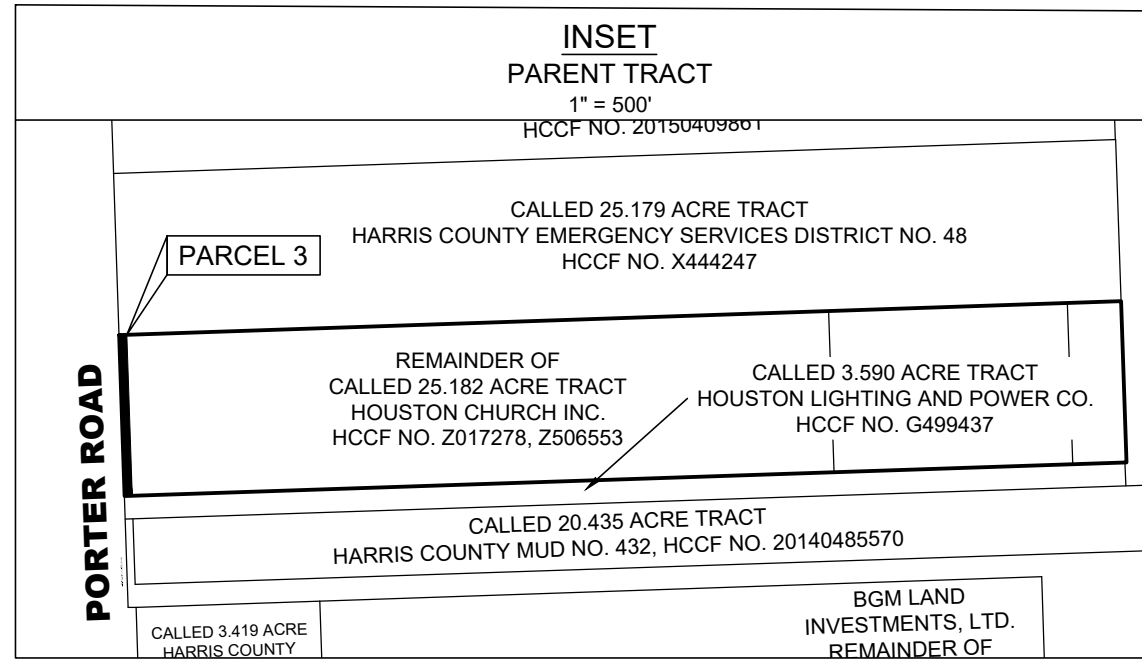
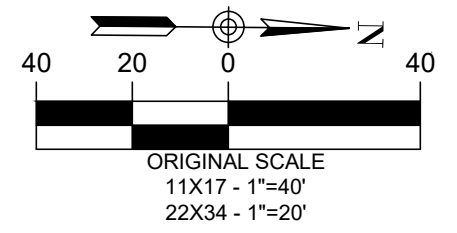
PROJECT TITLE: PAVING & DRAINAGE IMPROVEMENTS FOR PORTER ROAD, SEGMENT 3		
DRAWN BY: JW	SHEET DESCRIPTION: RIGHT-OF-WAY ACQUISITION PARCEL 2	JOB NO.:
CKD BY:	UPIN 21103N302030003	FILE NAME: 20020
SCALE: 1" = 30'		FILE NO.:
DATE:	APPROVED BY:	SHT NO.:

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

3  
2  
1  
0

**NOTES:**

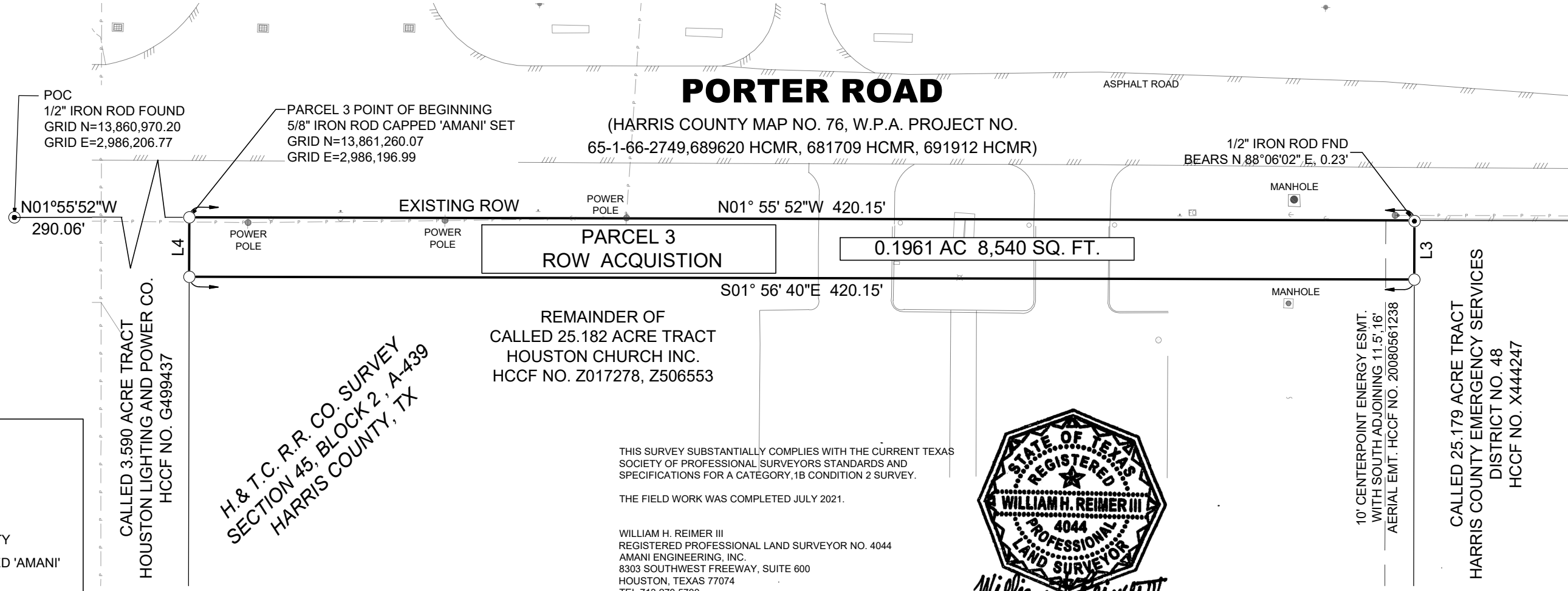
- ALL BEARINGS AND COORDINATES ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204) NORTH AMERICAN DATUM OF 1983 (2011 ADJ) 2010 EPOCH. COORDINATES SHOWN HEREON ARE GRID VALUES AND ALL DISTANCES SHOWN ARE SURFACE VALUES. THE COMBINED SCALE FACTOR IS 0.99989812.
- GRID COORDINATES/SCALE FACTOR = SURFACE COORDINATES.
- HORIZONTAL COORDINATES BASED ON GPS FIELD DATA COLLECTED APRIL, 2020.
- THE SURVEYOR HAS NOT ABSTRACTED THE SUBJECT PROPERTY. ABSTRACT CERTIFICATE PROVIDED BY ABSTRACT SERVICES OF HOUSTON GF NO. 7910-20-3774 DATED OCTOBER 28, 2020.
- SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE COMMITMENT AND MAY NOT SHOW ALL ENCUMBRANCES TO THE SITE.
- THIS PLAT IS ACCOMPANIED BY A LEGAL DESCRIPTION OF EVEN DATE.
- SUBJECT TRACT MAY BE AFFECTED BY THE FOLLOWING EASEMENTS AND RESTRICTIONS:
  - 10 FOOT WIDE EASEMENT GRANTED TO CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC., RECORDED UNDER COUNTY CLERK'S FILE NO. 20080561238.



**LINE TABLE**

LINE	BEARING	DISTANCE
L3	N88° 06' 02"E	20.28'
L4	S88° 06' 00"W	20.38'

PROPOSED TAKING AC.	PARENT TRACT AC.	REMAINDER AC.
0.1961 ACRES	17.832 ACRES	17.636 ACRES



**LEGEND**

- POC — POINT OF COMMENCEMENT
- POB — POINT OF BEGINNING
- HCCF — HARRIS COUNTY CLERK'S FILE
- MRHC — MAP RECORDS HARRIS COUNTY
- — 5/8 INCH IRON ROD SET CAPPED 'AMANI'
- — FOUND IRON ROD

THIS SURVEY SUBSTANTIALLY COMPLIES WITH THE CURRENT TEXAS SOCIETY OF PROFESSIONAL SURVEYORS STANDARDS AND SPECIFICATIONS FOR A CATEGORY, 1B CONDITION 2 SURVEY.

THE FIELD WORK WAS COMPLETED JULY 2021.

WILLIAM H. REIMER III  
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 4044  
AMANI ENGINEERING, INC.  
8303 SOUTHWEST FREEWAY, SUITE 600  
HOUSTON, TEXAS 77074  
TEL 713.270.5700  
TEXAS REGISTERED SURVEYING FIRM 10028200



FILE NAME: P:\Cadd\2020\2020 - Midtown - Porter Road Segment 3\CAD\_DWG\Xref\Parcel Exhibit\Parcel Exhibit.dwg

NO.	REVISIONS	DATE	NAME
1	County Comments	10.21	JW

**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



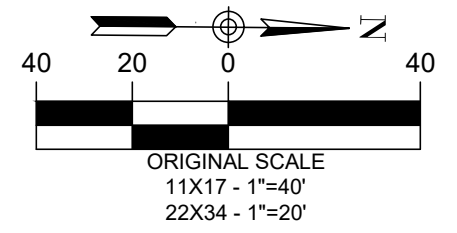
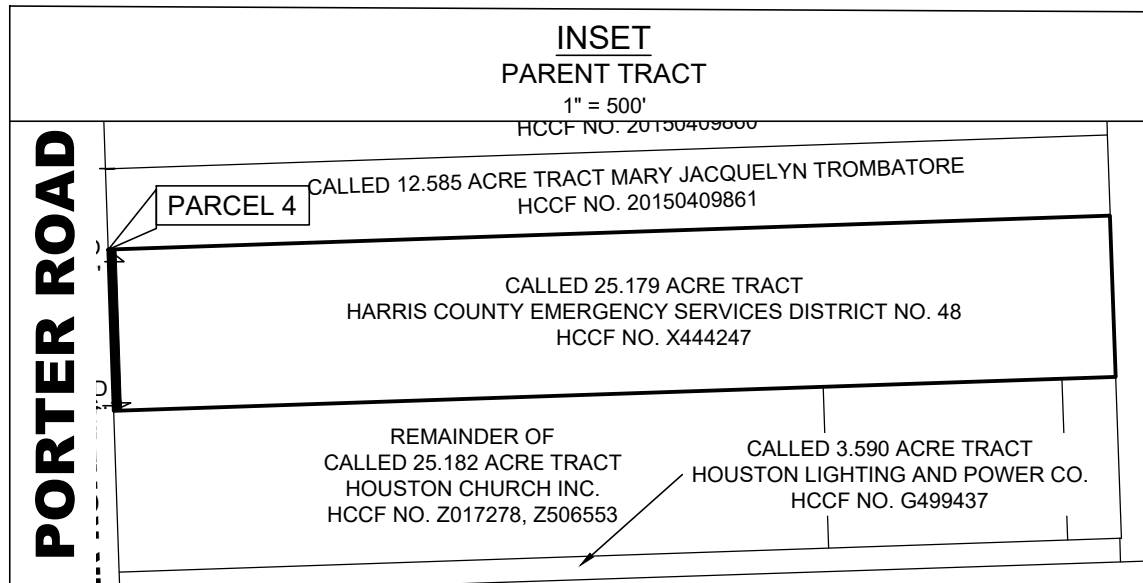
**AMANI ENGINEERING, INC.**  
8303 SOUTHWEST FREEWAY, SUITE 600  
HOUSTON, TEXAS 77074  
TEL: (713) 270-5700  
Texas Registered Engineering Firm No. F-4528  
Texas Registered Surveying Firm No. 100282-00

PROJECT TITLE: PAVING & DRAINAGE IMPROVEMENTS FOR PORTER ROAD, SEGMENT 3		
DRAWN BY: JW	SHEET DESCRIPTION: RIGHT-OF-WAY ACQUISITION PARCEL 3	JOB NO.:
CVD BY:	UPIN 21103N302030003	FILE NAME: 20020
SCALE: 1" = 40'	DATE:	FILE NO.:
APPROVED BY:		SHT NO.:

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

3  
2  
1  
0

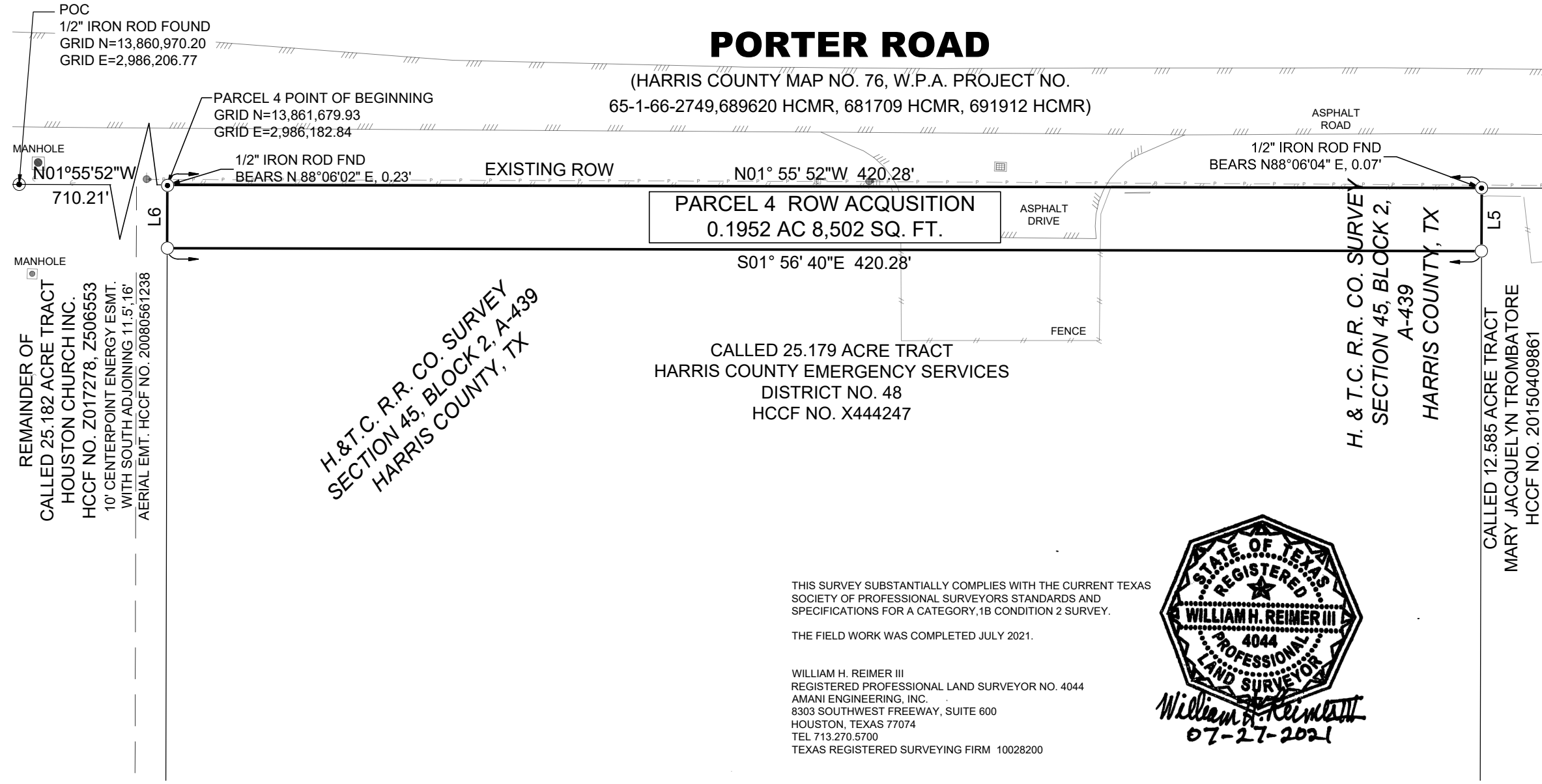
FILE NAME: P:\Cadd\2020\20020 - Midtown - Porter Road Segment 3\CAD\_DWG\Xref\Parcel Exhibit.dwg



LINE TABLE		
LINE	BEARING	DISTANCE
L5	N88° 06' 04"E	20.18'
L6	S88° 06' 02"W	20.28'

PROPOSED TAKING AC.	PARENT TRACT AC.	REMAINDER AC.
0.1952 ACRES	25.179 ACRES	24.984 ACRES

LEGEND	
POC	POINT OF COMMENCEMENT
POB	POINT OF BEGINNING
HCCF	HARRIS COUNTY CLERK'S FILE
MRHC	MAP RECORDS HARRIS COUNTY
○	5/8 INCH IRON ROD SET CAPPED 'AMANI'
●	FOUND IRON ROD



H. & T.C. R.R. CO. SURVEY  
SECTION 45, BLOCK 2, A-439  
HARRIS COUNTY, TX

THIS SURVEY SUBSTANTIALLY COMPLIES WITH THE CURRENT TEXAS SOCIETY OF PROFESSIONAL SURVEYORS STANDARDS AND SPECIFICATIONS FOR A CATEGORY 1B CONDITION 2 SURVEY.

THE FIELD WORK WAS COMPLETED JULY 2021.

WILLIAM H. REIMER III  
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 4044  
AMANI ENGINEERING, INC.  
8303 SOUTHWEST FREEWAY, SUITE 600  
HOUSTON, TEXAS 77074  
TEL 713.270.5700  
TEXAS REGISTERED SURVEYING FIRM 10028200



- NOTES:
- ALL BEARINGS AND COORDINATES ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204) NORTH AMERICAN DATUM OF 1983 (2011 ADJ) 2010 EPOCH. COORDINATES SHOWN HEREON ARE GRID VALUES AND ALL DISTANCES SHOWN ARE SURFACE VALUES. THE COMBINED SCALE FACTOR IS 0.99989812.
  - GRID COORDINATES/SCALE FACTOR = SURFACE COORDINATES.
  - HORIZONTAL COORDINATES BASED ON GPS FIELD DATA COLLECTED APRIL, 2020.
  - THE SURVEYOR HAS NOT ABSTRACTED THE SUBJECT PROPERTY. ABSTRACT CERTIFICATE PROVIDED BY ABSTRACT SERVICES OF HOUSTON GF NO. 7910-20-3773 DATED OCTOBER 27, 2020.
  - SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE COMMITMENT AND MAY NOT SHOW ALL ENCUMBRANCES TO THE SITE.
  - THIS PLAT IS ACCOMPANIED BY A LEGAL DESCRIPTION OF EVEN DATE.

NO.	REVISIONS	DATE	NAME
1	County Comments	10.21	JW

HARRIS COUNTY  
ENGINEERING DEPARTMENT



AMANI ENGINEERING, INC.  
8303 SOUTHWEST FREEWAY, SUITE 600  
HOUSTON, TEXAS 77074  
TEL: (713) 270-5700  
Texas Registered Engineering Firm No. F-4528  
Texas Registered Surveying Firm No. 100282-00

PROJECT TITLE: PAVING & DRAINAGE IMPROVEMENTS FOR PORTER ROAD, SEGMENT 3		
DRAWN BY: JW	SHEET DESCRIPTION: RIGHT-OF-WAY ACQUISITION PARCEL 4	JOB NO.:
CVD BY:	UPIN 21103N302030003	FILE NAME: 20020
SCALE: 1" = 40'		FILE NO.:
DATE:	APPROVED BY:	SHT NO.:

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

3

2

1

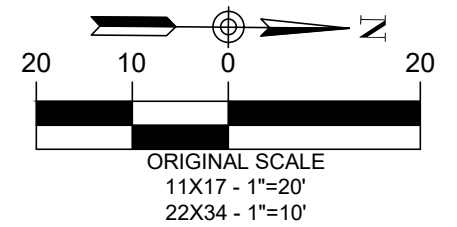
0

**LEGEND**

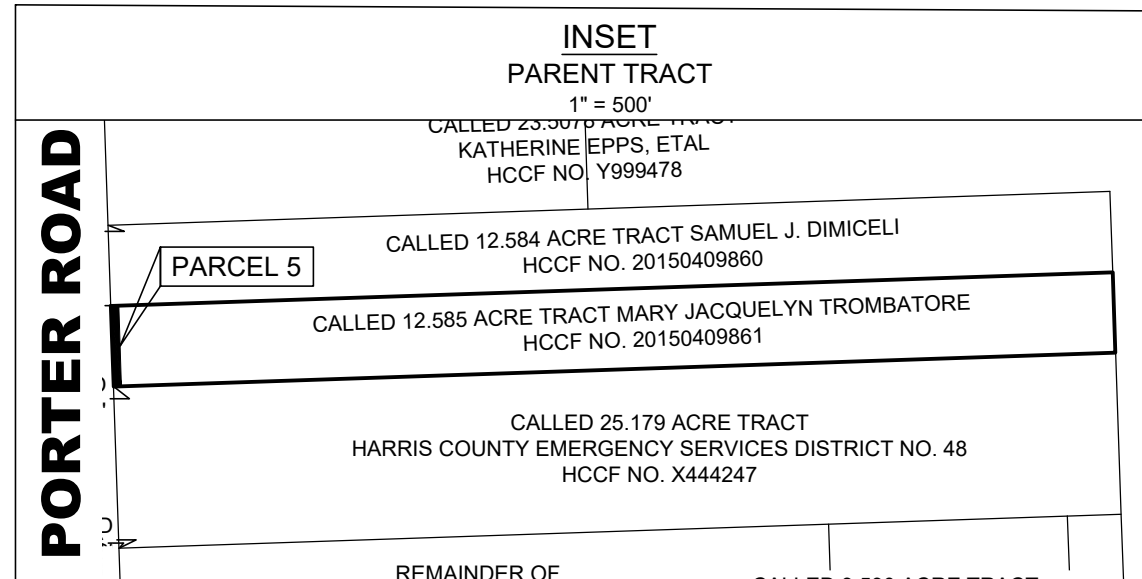
- POC — POINT OF COMMENCEMENT
- POB — POINT OF BEGINNING
- HCCF — HARRIS COUNTY CLERK'S FILE
- MRHC — MAP RECORDS HARRIS COUNTY
- — 5/8 INCH IRON ROD SET CAPPED 'AMANI'
- — FOUND IRON ROD

**LINE TABLE**

LINE	BEARING	DISTANCE
L7	N88° 05' 48"E	20.13'
L8	S88° 06' 04"W	20.18'

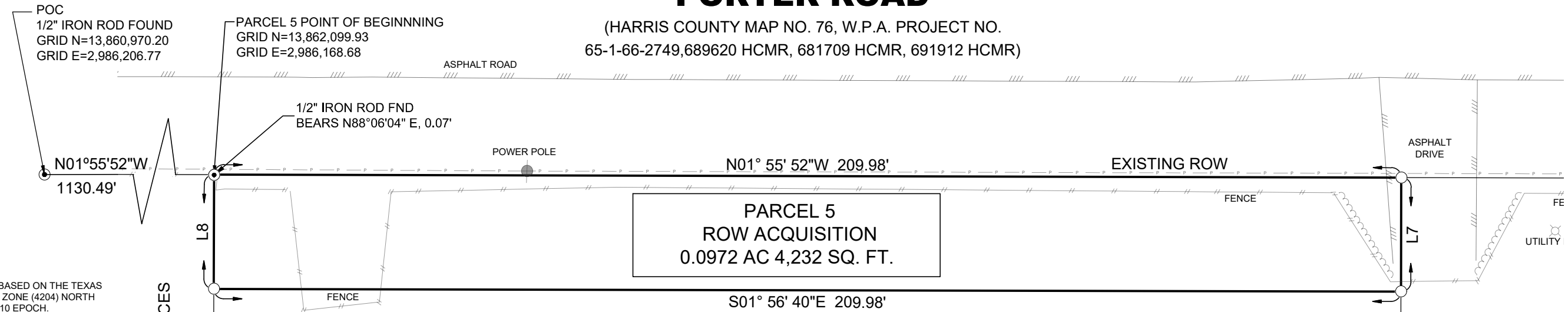


PROPOSED TAKING AC.	PARENT TRACT AC.	REMAINDER AC.
0.0972 ACRES	12.585 ACRES	12.488 ACRES



**PORTER ROAD**

(HARRIS COUNTY MAP NO. 76, W.P.A. PROJECT NO. 65-1-66-2749,689620 HCMR, 681709 HCMR, 691912 HCMR)



- NOTES:**
- ALL BEARINGS AND COORDINATES ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204) NORTH AMERICAN DATUM OF 1983 (2011 ADJ) 2010 EPOCH. COORDINATES SHOWN HEREON ARE GRID VALUES AND ALL DISTANCES SHOWN ARE SURFACE VALUES. THE COMBINED SCALE FACTOR IS 0.99989812.
  - GRID COORDINATES/SCALE FACTOR = SURFACE COORDINATES.
  - HORIZONTAL COORDINATES BASED ON GPS FIELD DATA COLLECTED APRIL, 2020.
  - THE SURVEYOR HAS NOT ABSTRACTED THE SUBJECT PROPERTY. ABSTRACT CERTIFICATE PROVIDED BY ABSTRACT SERVICES OF HOUSTON GF NO. 7910-20-3959 DATED NOVEMBER 9, 2020.
  - SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE COMMITMENT AND MAY NOT SHOW ALL ENCUMBRANCES TO THE SITE.
  - THIS PLAT IS ACCOMPANIED BY A LEGAL DESCRIPTION OF EVEN DATE.
  - SUBJECT TRACT MAY BE AFFECTED BY THE FOLLOWING EASEMENTS AND RESTRICTIONS:
    - HOUSTON LIGHTING & POWER EASEMENT DATED APRIL 11, 1980, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. G499437.

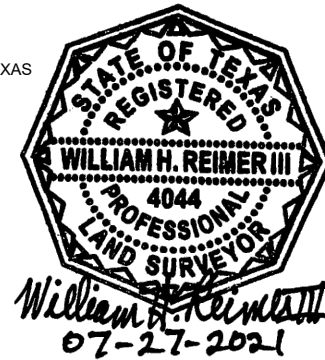
CALLED 25.179 ACRE TRACT  
 HARRIS COUNTY EMERGENCY SERVICES  
 DISTRICT NO. 48  
 HCCF NO. X444247

H. & T.C. R.R. CO. SURVEY  
 SECTION 45, BLOCK 2, A-439  
 HARRIS COUNTY, TX

THIS SURVEY SUBSTANTIALLY COMPLIES WITH THE CURRENT TEXAS SOCIETY OF PROFESSIONAL SURVEYORS STANDARDS AND SPECIFICATIONS FOR A CATEGORY, 1B CONDITION 2 SURVEY.

THE FIELD WORK WAS COMPLETED JULY 2021.

WILLIAM H. REIMER III  
 REGISTERED PROFESSIONAL LAND SURVEYOR NO. 4044  
 AMANI ENGINEERING, INC.  
 8303 SOUTHWEST FREEWAY, SUITE 600  
 HOUSTON, TEXAS 77074  
 TEL 713.270.5700  
 TEXAS REGISTERED SURVEYING FIRM 10028200



CALLED 12.584 ACRE TRACT  
 SAMUEL J. DIMICELI  
 HCCF NO. 20150409860

NO.	REVISIONS	DATE	NAME
1	County Comments	10.21	JW

**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



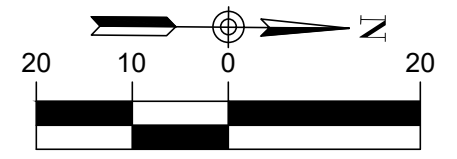
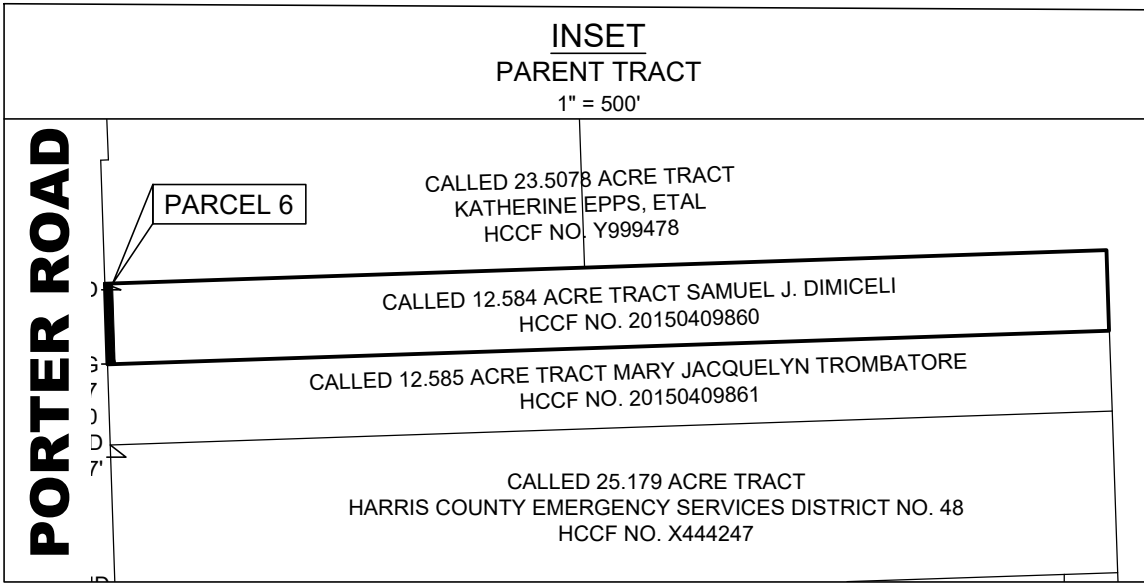
**AMANI ENGINEERING, INC.**  
 8303 SOUTHWEST FREEWAY, SUITE 600  
 HOUSTON, TEXAS 77074  
 TEL: (713) 270-5700  
 Texas Registered Engineering Firm No. F-4528  
 Texas Registered Surveying Firm No. 100282-00

PROJECT TITLE:		FILE NAME:
PAVING & DRAINAGE IMPROVEMENTS FOR PORTER ROAD, SEGMENT 3		20020
DRAWN BY:	SHEET DESCRIPTION:	FILE NO.:
JW	RIGHT-OF-WAY ACQUISITION PARCEL 5	20020
DATE:	APPROVED BY:	SHT NO.:
1" = 20'		

FILE NAME: P:\Cadd\2020\20020 - Midtown - Porter Road Segment 3\CAD\_DWG\Xref\Parcel Exhibit\Parcel Exhibit.dwg

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

3  
2  
1  
0

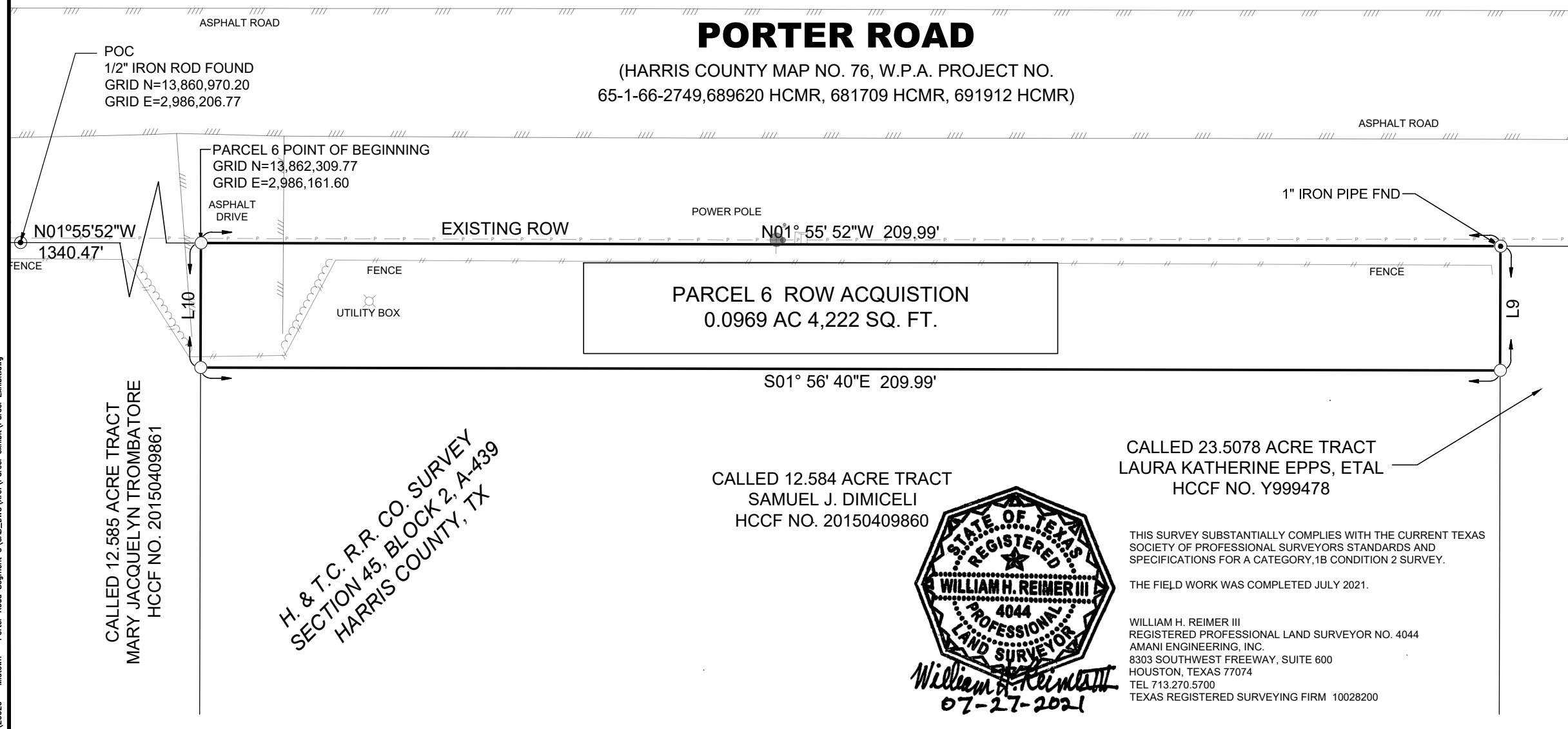


ORIGINAL SCALE  
11X17 - 1"=20'  
22X34 - 1"=10'

LINE TABLE		
LINE	BEARING	DISTANCE
L9	N88° 05' 43"E	20.08'
L10	S88° 05' 48"W	20.13'

PROPOSED TAKING AC.	PARENT TRACT AC.	REMAINDER AC.
0.0969 ACRES	12.584 ACRES	12.487 ACRES

LEGEND	
POC	POINT OF COMMENCEMENT
POB	POINT OF BEGINNING
HCCF	HARRIS COUNTY CLERK'S FILE
MRHC	MAP RECORDS HARRIS COUNTY
○	5/8 INCH IRON ROD SET CAPPED 'AMANI'
●	FOUND IRON ROD



- NOTES:
- ALL BEARINGS AND COORDINATES ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204) NORTH AMERICAN DATUM OF 1983 (2011 ADJ) 2010 EPOCH. COORDINATES SHOWN HEREON ARE GRID VALUES AND ALL DISTANCES SHOWN ARE SURFACE VALUES. THE COMBINED SCALE FACTOR IS 0.99989812.
  - GRID COORDINATES/SCALE FACTOR = SURFACE COORDINATES.
  - HORIZONTAL COORDINATES BASED ON GPS FIELD DATA COLLECTED APRIL, 2020.
  - THE SURVEYOR HAS NOT ABSTRACTED THE SUBJECT PROPERTY. ABSTRACT CERTIFICATE PROVIDED BY ABSTRACT SERVICES OF HOUSTON GF NO. 7910-20-3972 DATED NOVEMBER 9, 2020.
  - SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE COMMITMENT AND MAY NOT SHOW ALL ENCUMBRANCES TO THE SITE.
  - THIS PLAT IS ACCOMPANIED BY A LEGAL DESCRIPTION OF EVEN DATE.
  - SUBJECT TRACT MAY BE AFFECTED BY THE FOLLOWING EASEMENTS AND RESTRICTIONS:
    - HOUSTON LIGHTING & POWER EASEMENT DATED APRIL 11, 1980, RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. G499437.
    - THIS TRACT SUBJECT TO REVOCABLE TRANSFER ON DEATH DATED AUGUST 8, 2019 UNDER HARRIS COUNTY CLERK FILE NO. RP-2019-366547

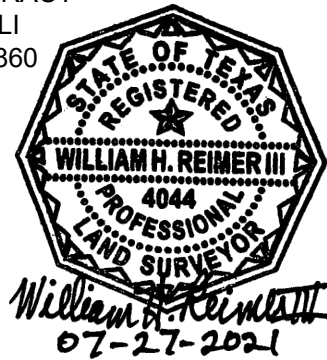
FILE NAME: P:\Cadd\2020\20020 - Midtown - Porter Road Segment 3\CAD\_DWG\Xref\Parcel Exhibit\Parcel Exhibit.dwg

CALLED 12.585 ACRE TRACT  
MARY JACQUELYN TROMBATORE  
HCCF NO. 20150409861

H. & T.C. R.R. CO. SURVEY  
SECTION 45, BLOCK 2, A-439  
HARRIS COUNTY, TX

CALLED 12.584 ACRE TRACT  
SAMUEL J. DIMICELI  
HCCF NO. 20150409860

CALLED 23.5078 ACRE TRACT  
LAURA KATHERINE EPPS, ETAL  
HCCF NO. Y999478



THIS SURVEY SUBSTANTIALLY COMPLIES WITH THE CURRENT TEXAS SOCIETY OF PROFESSIONAL SURVEYORS STANDARDS AND SPECIFICATIONS FOR A CATEGORY 1B CONDITION 2 SURVEY.

THE FIELD WORK WAS COMPLETED JULY 2021.

WILLIAM H. REIMER III  
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 4044  
AMANI ENGINEERING, INC.  
8303 SOUTHWEST FREEWAY, SUITE 600  
HOUSTON, TEXAS 77074  
TEL 713.270.5700  
TEXAS REGISTERED SURVEYING FIRM 10028200

NO.	REVISIONS	DATE	NAME
1	County Comments	10.21	JW

HARRIS COUNTY  
ENGINEERING DEPARTMENT



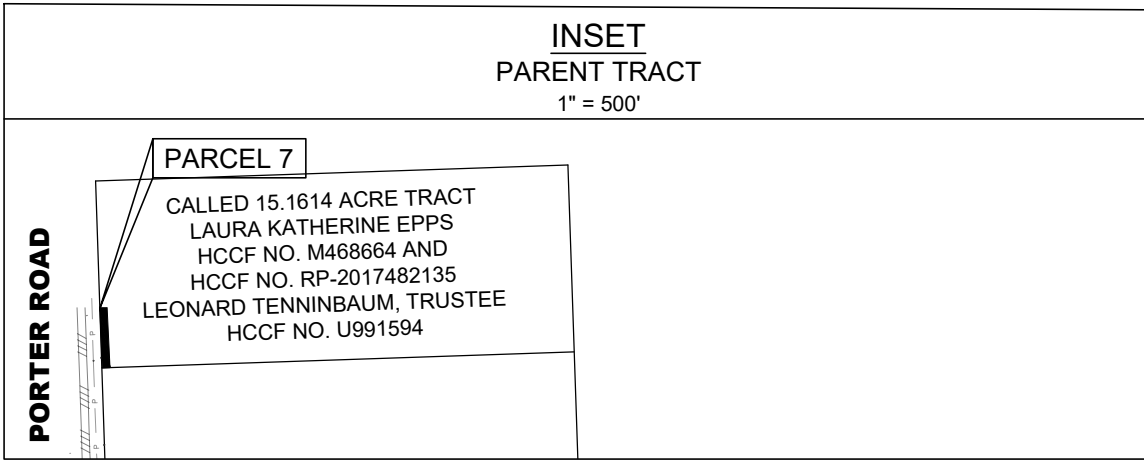
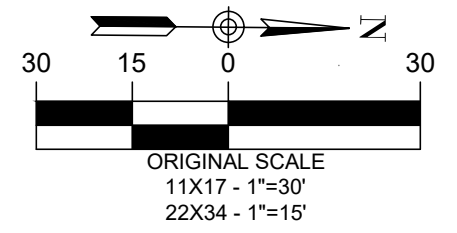
AMANI ENGINEERING, INC.  
8303 SOUTHWEST FREEWAY, SUITE 600  
HOUSTON, TEXAS 77074  
TEL: (713) 270-5700  
Texas Registered Engineering Firm No. F-4528  
Texas Registered Surveying Firm No. 100282-00

PROJECT TITLE:		
PAVING & DRAINAGE IMPROVEMENTS FOR PORTER ROAD, SEGMENT 3		
DRAWN BY:	SHEET DESCRIPTION:	JOB NO.:
JW	RIGHT-OF-WAY ACQUISITION PARCEL 6	
CKD BY:	UPIN 21103N302030003	FILE NAME:
		20020
SCALE:		FILE NO.:
1" = 20'		
DATE:	APPROVED BY:	SHT NO.:



ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

FILE NAME: P:\Cadd\2020\20020 - Midtown - Porter Road Segment 3\CAD\_DWG\Xref\Parcel Exhibit\Parcel Exhibit.dwg



**LINE TABLE**

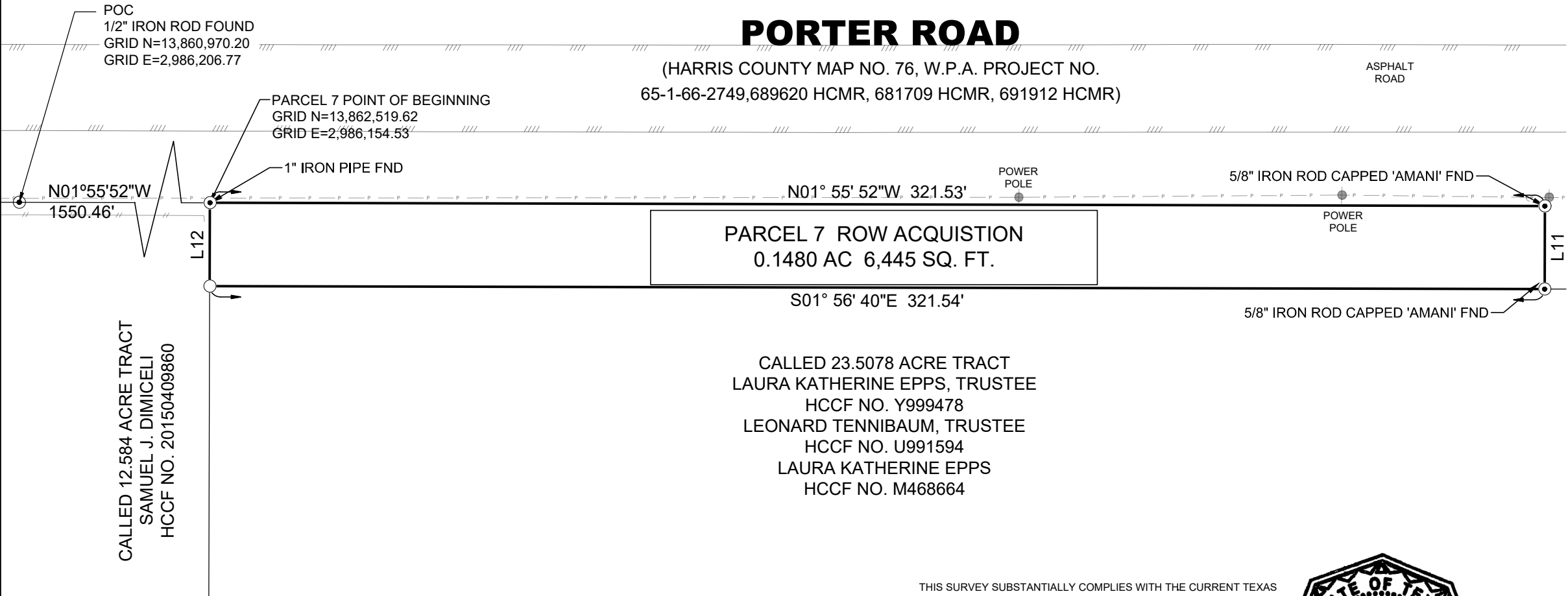
LINE	BEARING	DISTANCE
L11	N88° 03' 34"E	20.01'
L12	S88° 05' 43"W	20.08'

PROPOSED TAKING AC.	PARENT TRACT AC.	REMAINDER AC.
0.1480 ACRES	23.5078 ACRES	23.3598 ACRES

**LEGEND**

POC — POINT OF COMMENCEMENT  
 POB — POINT OF BEGINNING  
 HCCF — HARRIS COUNTY CLERK'S FILE  
 MRHC — MAP RECORDS HARRIS COUNTY

○ — 5/8 INCH IRON ROD SET CAPPED 'AMANI'  
 ● — FOUND IRON ROD

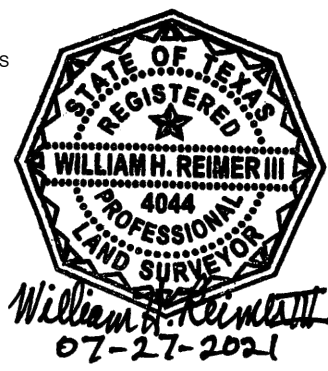


- NOTES:**
- ALL BEARINGS AND COORDINATES ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204) NORTH AMERICAN DATUM OF 1983 (2011 ADJ) 2010 EPOCH. COORDINATES SHOWN HEREON ARE GRID VALUES AND ALL DISTANCES SHOWN ARE SURFACE VALUES. THE COMBINED SCALE FACTOR IS 0.9998981200.
  - GRID COORDINATES/SCALE FACTOR = SURFACE COORDINATES.
  - HORIZONTAL COORDINATES BASED ON GPS FIELD DATA COLLECTED APRIL, 2020.
  - THE SURVEYOR HAS NOT ABSTRACTED THE SUBJECT PROPERTY. ABSTRACT CERTIFICATE PROVIDED BY ABSTRACT SERVICES OF HOUSTON GF NO. 7910-20-4201 DATED NOVEMBER 24, 2020.
  - SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE COMMITMENT AND MAY NOT SHOW ALL ENCUMBRANCES TO THE SITE.
  - THIS PLAT IS ACCOMPANIED BY A LEGAL DESCRIPTION OF EVEN DATE.
  - SUBJECT TRACT MAY BE AFFECTED BY THE FOLLOWING EASEMENTS AND RESTRICTIONS:
    - SUBJECT TO RESTRICTIVE COVENANTS AS OUTLINED AND DESCRIBED IN THE DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR KATY POINTE RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. RP-2017-507711.
    - SUBJECT TO RESTRICTIVE COVENANTS AS OUTLINED AND DESCRIBED IN THE ARCHITECTURAL REVIEW COMMITTEE IMPROVEMENT GUIDELINES FOR KATY POINTE COMMUNITY ASSOCIATION, INC., RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. RP-2019-574134.
    - RIGHT OF ENTRY AGREEMENT BETWEEN KATY POINTE COMMUNITY ASSOCIATION, INC., A TEXAS NONPROFIT CORPORATION AND WEST HARRIS COUNTY REGIONAL WATER AUTHORITY, A POLITICAL SUBDIVISION OF THE STATE OF TEXAS RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. RP-2019-449983.
    - SHORT FORM BLANKET EASEMENT FOR CERTAIN UTILITIES, AS SET FORTH AND DESCRIBED IN AN INSTRUMENT RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. RP-2017-522822.
    - SUBJECT TO ALL EASEMENTS AND BUILDING LINES AS SET FORTH AND AS SHOWN IN VOLUME 683, PAGE 253 IN THE MAP RECORDS OF HARRIS COUNTY, TEXAS.

THIS SURVEY SUBSTANTIALLY COMPLIES WITH THE CURRENT TEXAS SOCIETY OF PROFESSIONAL SURVEYORS STANDARDS AND SPECIFICATIONS FOR A CATEGORY 1B CONDITION 2 SURVEY.

THE FIELD WORK WAS COMPLETED JULY 2021.

WILLIAM H. REIMER III  
 REGISTERED PROFESSIONAL LAND SURVEYOR NO. 4044  
 AMANI ENGINEERING, INC.  
 8303 SOUTHWEST FREEWAY, SUITE 600  
 HOUSTON, TEXAS 77074  
 TEL 713.270.5700  
 TEXAS REGISTERED SURVEYING FIRM 10028200



NO.	REVISIONS	DATE	NAME
1	County Comments	10.21	JW

**HARRIS COUNTY  
ENGINEERING DEPARTMENT**



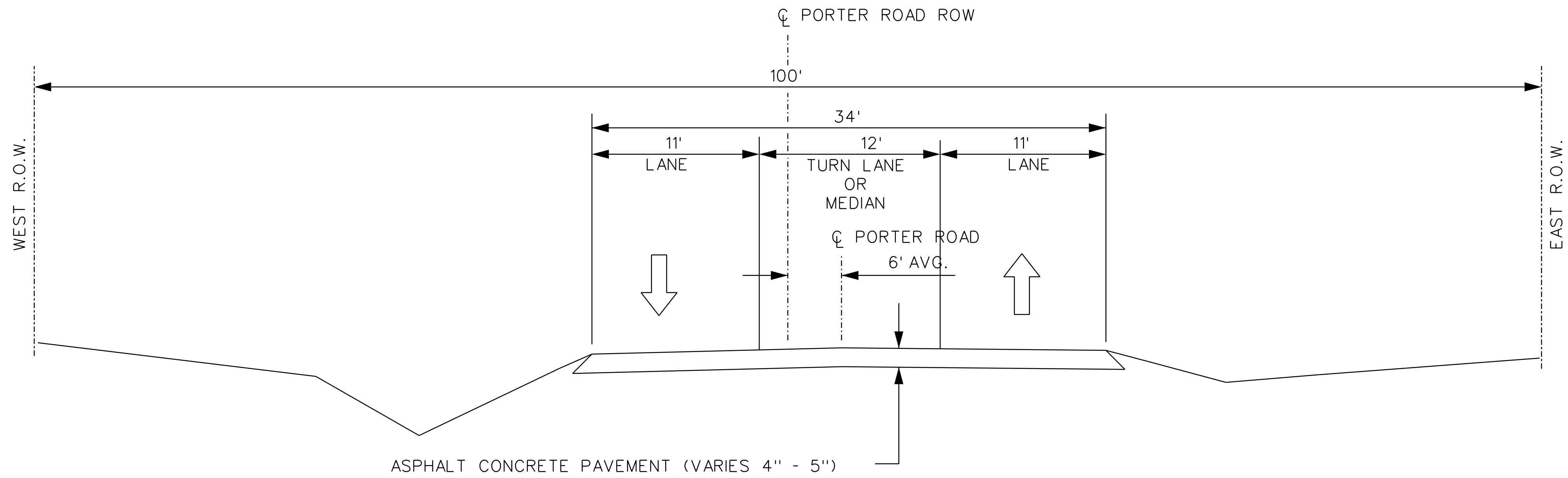
**AMANI ENGINEERING, INC.**  
 8303 SOUTHWEST FREEWAY, SUITE 600  
 HOUSTON, TEXAS 77074  
 TEL: (713) 270-5700  
 Texas Registered Engineering Firm No. F-4528  
 Texas Registered Surveying Firm No. 100282-00

PROJECT TITLE: PAVING & DRAINAGE IMPROVEMENTS FOR PORTER ROAD, SEGMENT 3

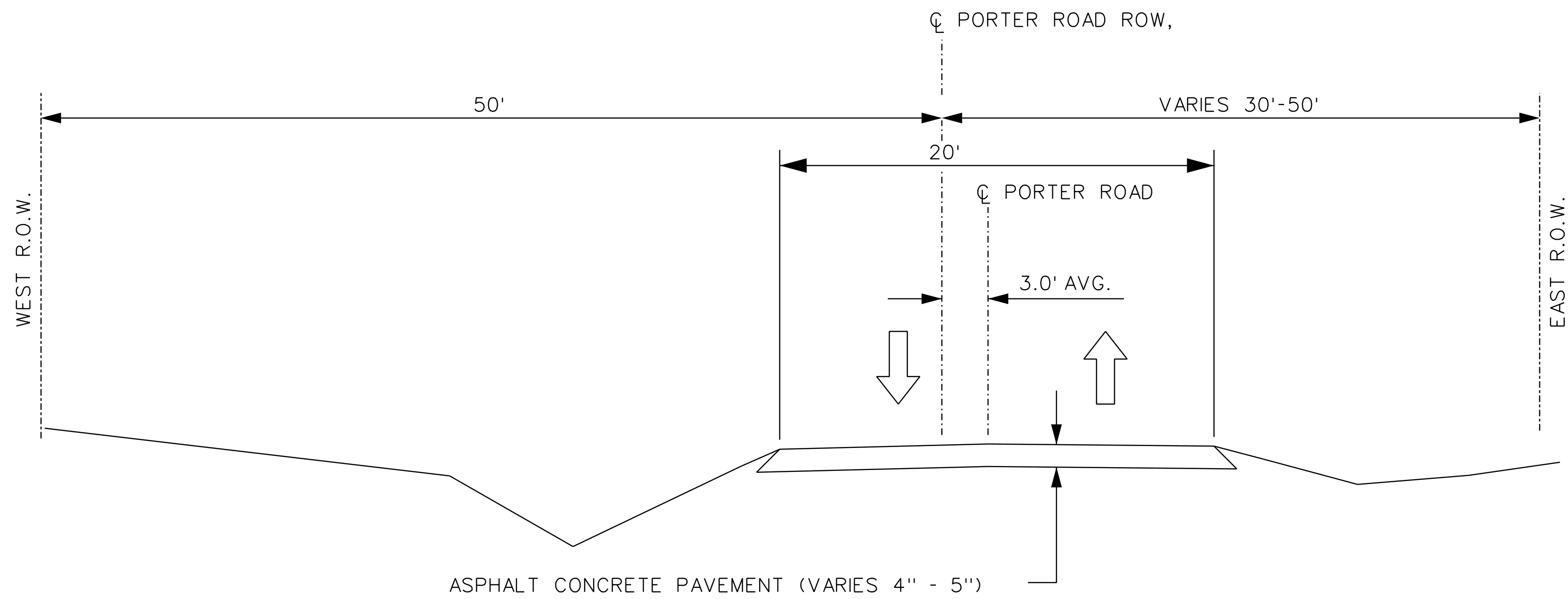
DRAWN BY:	SHEET DESCRIPTION:	JOB NO.:
JW	RIGHT-OF-WAY ACQUISITION PARCEL 7	
CKD BY:	UPIN 21103N302030003	FILE NAME: 20020
SCALE: 1" = 30'		FILE NO.:
DATE:	APPROVED BY:	SHT NO.:

## APPENDIX E

### TYPICAL PROPOSED ROADWAY CROSS SECTIONS



EXISTING TYPICAL SECTION  
STA. 8+00 TO STA. 32+00

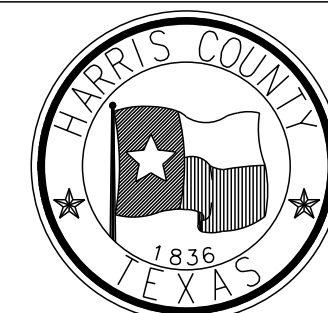


EXISTING TYPICAL SECTION  
STA. 32+00 TO STA. 45+50

P:\HC03-4410\DCN\PP\07-TYPICAL\_SECTION\_EXISTING\_02.dgn

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT

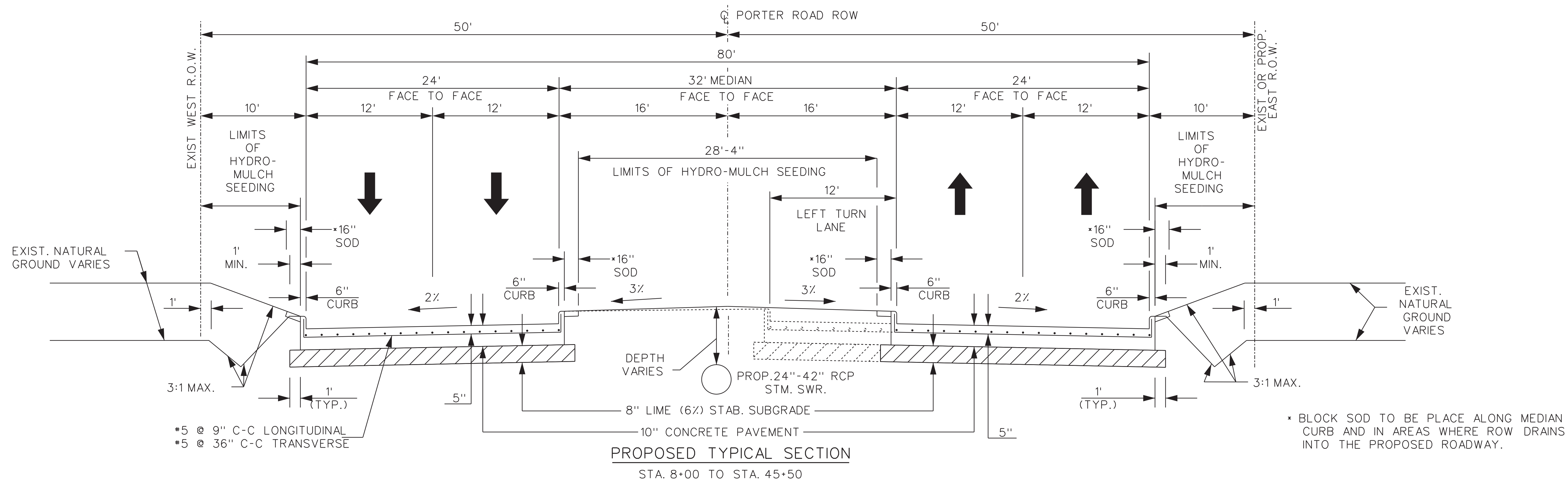


**Midtown Engineers, LLC**  
5225 KATY FREEWAY, SUITE 400 HOUSTON, TX 77007  
(713) 862-8848 WWW.MIDTOWNEENGINEERS.COM  
TBPE NO. F-8934

REVIEW SET  
NOT FOR  
CONSTRUCTION  
TERRY L. MCDANIEL, P.E.  
52852

PROJECT TITLE:		PORTER RD SECTION 3	
SHEET DESCRIPTION:		EXISTING TYPICAL SECTIONS	
DRAWN BY:	M. WAGGONER	DATE:	8/20/2021
CHK'D BY:	T. MCDANIEL	SCALE:	NTS
		SHT NO.:	10 /

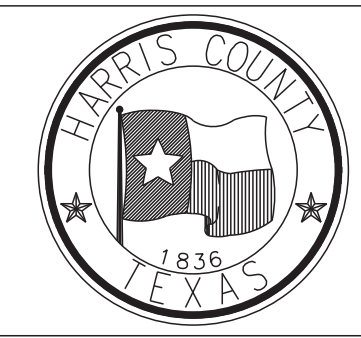
P:\H03-4410.DGN\PP\08-TYPICAL\_SECTION\_PORTER\_01.dgn



\* BLOCK SOD TO BE PLACE ALONG MEDIAN CURB AND IN AREAS WHERE ROW DRAINS INTO THE PROPOSED ROADWAY.

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT

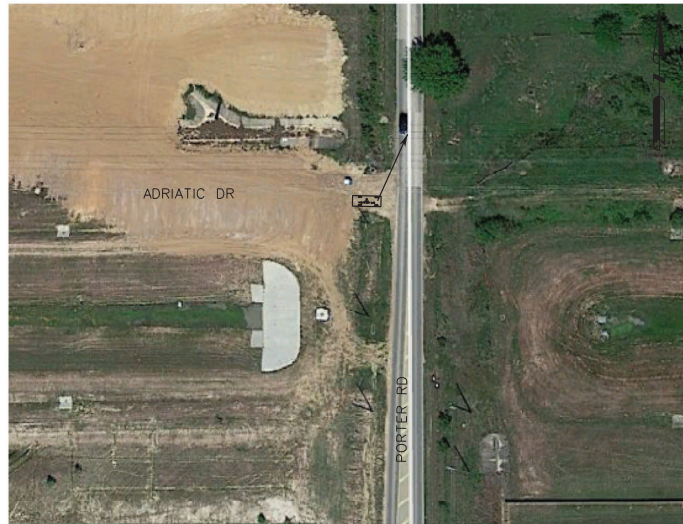


**Midtown Engineers, LLC**  
5225 KATY FREEWAY, SUITE 400 HOUSTON, TX 77007  
(713) 862-8848 WWW.MIDTOWNEENGINEERS.COM  
TBPE NO. F-8934

**REVIEW SET**  
**NOT FOR CONSTRUCTION**  
TERRY L. MCDANIEL, P.E.  
53252

PROJECT TITLE:		PORTER RD SECTION 3	
SHEET DESCRIPTION:		PROPOSED TYPICAL SECTIONS	
DRAWN BY:	M. WAGGONER	DATE:	10/5/2021
CHK'D BY:	T. MCDANIEL	SCALE:	NTS
		SHT NO.:	14 /

APPENDIX F  
SIGHT DISTANCE TRIANGLES



EXISTING INTERSECTION  
AERIAL VIEW

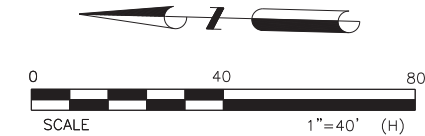


AT EAGLE SKY BLVD  
FACING SOUTH, LOOKING EAST ON W LITTLE YORK RD  
(@ APPROXIMATELY 15-FT SETBACK)

LEGEND

- DIRECTION OF TRAFFIC FLOW
- EXIST. R.O.W.
- PASSENGER VEHICLE
- SIGHT TRIANGLE

EXIST. POSTED SPEED	
PORTER RD	45 M.P.H.
ADRIATIC DR	30 M.P.H.



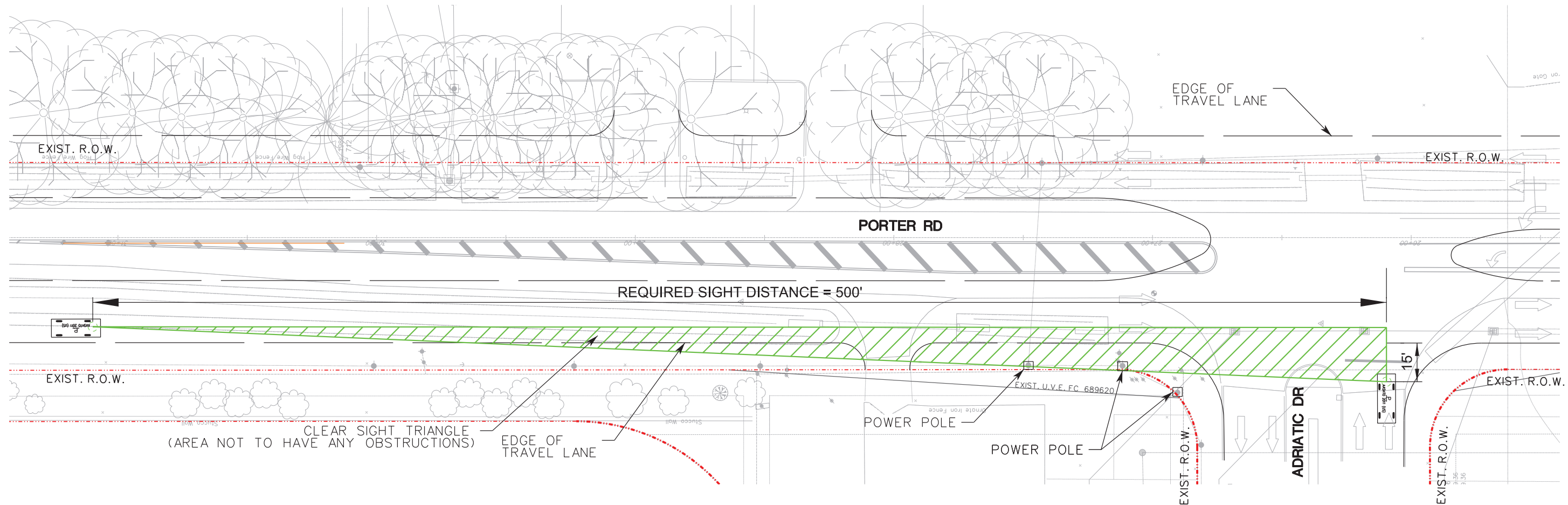
DESIGN CRITERIA (CASE B - INTERSECTIONS WITH STOP CONTROL ON THE MINOR ROAD)<sup>(1)</sup>

- 1) DESIGN VEHICLE - PASSENGER CAR
- 2) DESIGN SPEED - 45 M.P.H.
- 3) SETBACK DISTANCE FROM THE EDGE OF TRAVEL LANE - 15-FT<sup>(2)</sup>
- 4) SIGHT DISTANCE - 500-FT<sup>(2)</sup>
- 5) PORTER RD - MAJOR THOROUGHFARE<sup>(3)</sup>

SOURCES:

- 1-INTERSECTION SIGHT DISTANCES ARE BASED ON THE 6TH EDITION (2011) AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (ASHTO) CRITERIA FOR INTERSECTION SIGHT DISTANCE.
- 2-HARRIS COUNTY STANDARDS AND SPECIFICATIONS
- 3-2018 MTFP & TRANSIT CORRIDOR STREET HIERARCHY CLASSIFICATION TABLE.

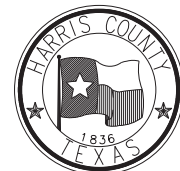
CLEAR SIGHT TRIANGLE FROM VIEWING TRAFFIC APPROACHING FROM THE NORTH. NO REMOVAL NECESSARY.



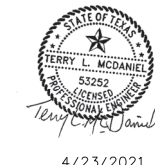
P:\HC03-44\10.DGN\PP\Sight Triangle ADRIATIC EB 15-Offset.dgn  
4/23/2021 3:33:34 PM Kkozakis

NO.	REVISIONS	DATE	NAME

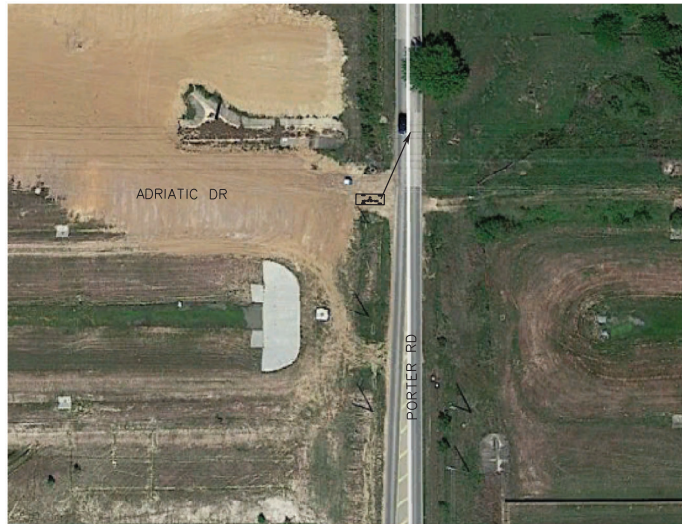
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**Midtown Engineers, LLC**  
5225 KATY FREEWAY, SUITE 400 HOUSTON, TX 77007  
(713) 862-8848 WWW.MIDTOWNEENGINEERS.COM  
TBP NO. F-8934



PROJECT TITLE:		PORTER RD SEGMENT 3
SHEET DESCRIPTION:		ADRIATIC DR EASTBOUND SIGHT TRIANGLE
DRAWN BY:	K. KOZAKIS	DATE:
CK'D BY:	T. MCDANIEL	4/23/2021
SCALE:	1" = 40'	SHEET NO:



EXISTING INTERSECTION  
AERIAL VIEW

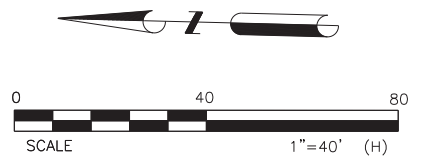


AT ADRIATIC DR  
FACING EAST, LOOKING NORTH ON PORTER RD  
(@ APPROXIMATELY 25-FT SETBACK)

LEGEND

- DIRECTION OF TRAFFIC FLOW
- EXIST. R.O.W.
- PASSENGER VEHICLE
- SIGHT TRIANGLE

EXIST. POSTED SPEED	
PORTER RD	45 M.P.H.
ADRIATIC DR	30 M.P.H.



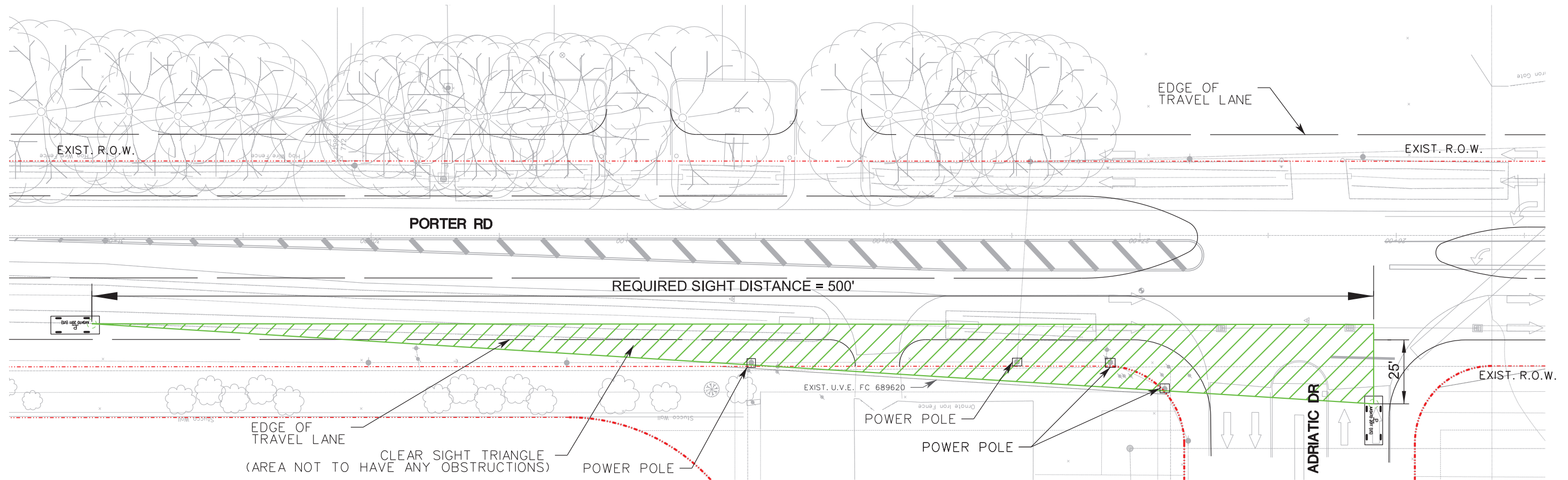
DESIGN CRITERIA (CASE B - INTERSECTIONS WITH STOP CONTROL ON THE MINOR ROAD)<sup>(1)</sup>

- 1) DESIGN VEHICLE - PASSENGER CAR
- 2) DESIGN SPEED - 45 M.P.H.
- 3) SETBACK DISTANCE FROM THE EDGE OF TRAVEL LANE - 25-FT<sup>(2)</sup>
- 4) SIGHT DISTANCE - 500-FT<sup>(2)</sup>
- 5) PORTER RD - MAJOR THOROUGHFARE<sup>(3)</sup>

SOURCES:

- 1-INTERSECTION SIGHT DISTANCES ARE BASED ON THE 6TH EDITION (2011) AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (ASHTO) CRITERIA FOR INTERSECTION SIGHT DISTANCE.
- 2-HARRIS COUNTY STANDARDS AND SPECIFICATIONS.
- 3-2018 MTFP & TRANSIT CORRIDOR STREET HIERARCHY CLASSIFICATION TABLE.

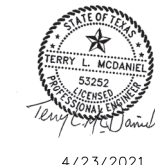
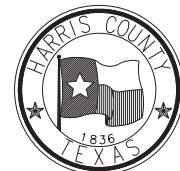
CLEAR SIGHT TRIANGLE FROM VIEWING TRAFFIC APPROACHING FROM THE NORTH. NO REMOVAL NECESSARY.



P:\HC03-4410.DGN\VP\Sight Triangle ADRIATIC EB 25-Offset.dgn  
4/23/2021 3:04:20 PM kkozakis

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



PROJECT TITLE:		PORTER RD SEGMENT 3
SHEET DESCRIPTION:		ADRIATIC DR EASTBOUND SIGHT TRIANGLE
DRAWN BY:	K. KOZAKIS	DATE: 4/23/2021
CK'D BY:	T. MCDANIEL	SHEET NO: /
SCALE:		1" = 40'
DATE:		4/23/2021



EXISTING INTERSECTION  
AERIAL VIEW

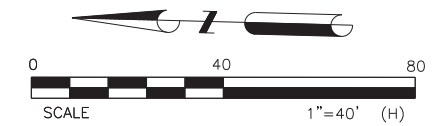


AT ADRIATIC DR  
FACING EAST, LOOKING SOUTH ON PORTER RD  
(@ APPROXIMATELY 15-FT SETBACK)

CLEAR SIGHT TRIANGLE FROM VIEWING  
TRAFFIC APPROACHING FROM THE SOUTH.  
NO REMOVAL NECESSARY.

- LEGEND**
- ← DIRECTION OF TRAFFIC FLOW
  - - - EXIST. R.O.W.
  - ☐ PASSENGER VEHICLE
  - ▨ SIGHT TRIANGLE

EXIST. POSTED SPEED	
PORTER RD	45 M.P.H.
ADRIATIC DR	30 M.P.H.

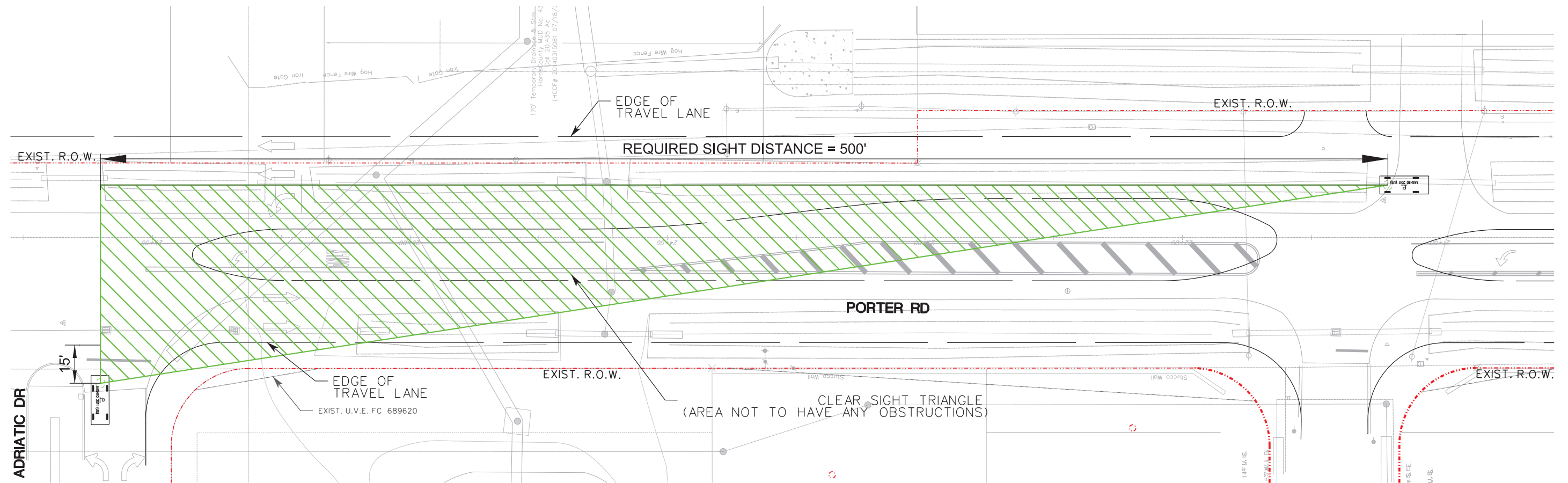


**DESIGN CRITERIA (CASE B - INTERSECTION WITH STOP CONTROL ON THE MINOR ROAD)<sup>(1)</sup>**

- 1) DESIGN VEHICLE - PASSENGER CAR
- 2) DESIGN SPEED - 45 M.P.H.
- 3) SETBACK DISTANCE FROM THE EDGE OF TRAVEL LANE - 15-FT<sup>(2)</sup>
- 4) SIGHT DISTANCE - 500-FT<sup>(2)</sup>
- 5) PORTER RD - MAJOR THOROUGHFARE<sup>(3)</sup>

**SOURCES:**

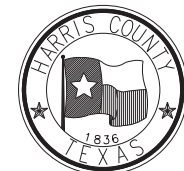
- 1-INTERSECTION SIGHT DISTANCES ARE BASED ON THE 6TH EDITION (2011) AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (ASSHTO) CRITERIA FOR INTERSECTION SIGHT DISTANCE.
- 2-HARRIS COUNTY STANDARDS AND SPECIFICATIONS.
- 3-2018 MTFP & TRANSIT CORRIDOR STREET HIERARCHY CLASSIFICATION TABLE.



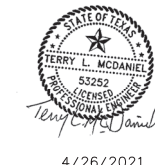
P:\HC03-4410\DCN\PP\ Sight Triangle ADRIATIC EB 15-Offset\_Left turn.dgn  
4/26/2021 12:03:54 PM Kkozakis

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT

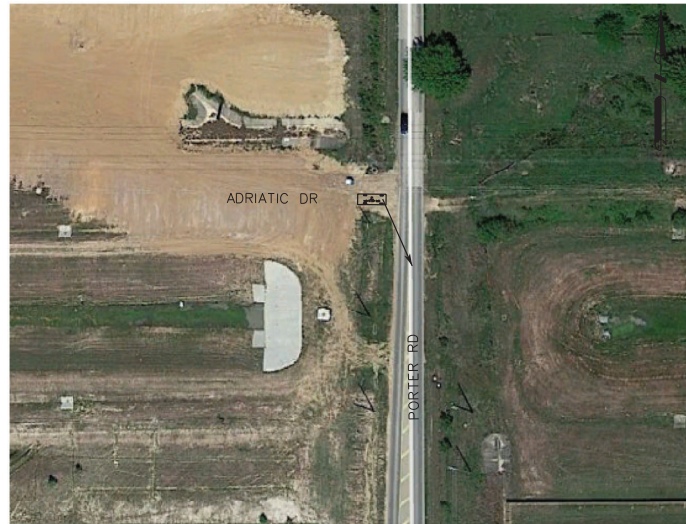


**Midtown Engineers, LLC**  
5225 KATY FREEWAY, SUITE 400 HOUSTON, TX 77007  
(713) 862-8848 WWW.MIDTOWNEENGINEERS.COM  
TBP NO. F-8934



PROJECT TITLE:		PORTER RD SEGMENT 3	
SHEET DESCRIPTION:		ADRIATIC DR EASTBOUND LEFT SIGHT TRIANGLE	
DRAWN BY:	K. KOZAKIS	DATE:	4/26/2021
CK'D BY:	T. MCDANIEL	SHEET NO.:	/
SCALE:		1" = 40'	





EXISTING INTERSECTION  
AERIAL VIEW

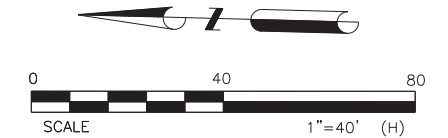


AT ADRIATIC DR  
FACING EAST, LOOKING SOUTH ON PORTER RD  
(@ APPROXIMATELY 25-FT SETBACK)

CLEAR SIGHT TRIANGLE FROM VIEWING  
TRAFFIC APPROACHING FROM THE SOUTH.  
NO REMOVAL NECESSARY.

- LEGEND
- DIRECTION OF TRAFFIC FLOW
  - EXIST. R.O.W.
  - PASSENGER VEHICLE
  - SIGHT TRIANGLE
  - AREA OUTSIDE OF EXISTING U.V.E

EXIST. POSTED SPEED	
PORTER RD	45 M.P.H.
ADRIATIC DR	30 M.P.H.

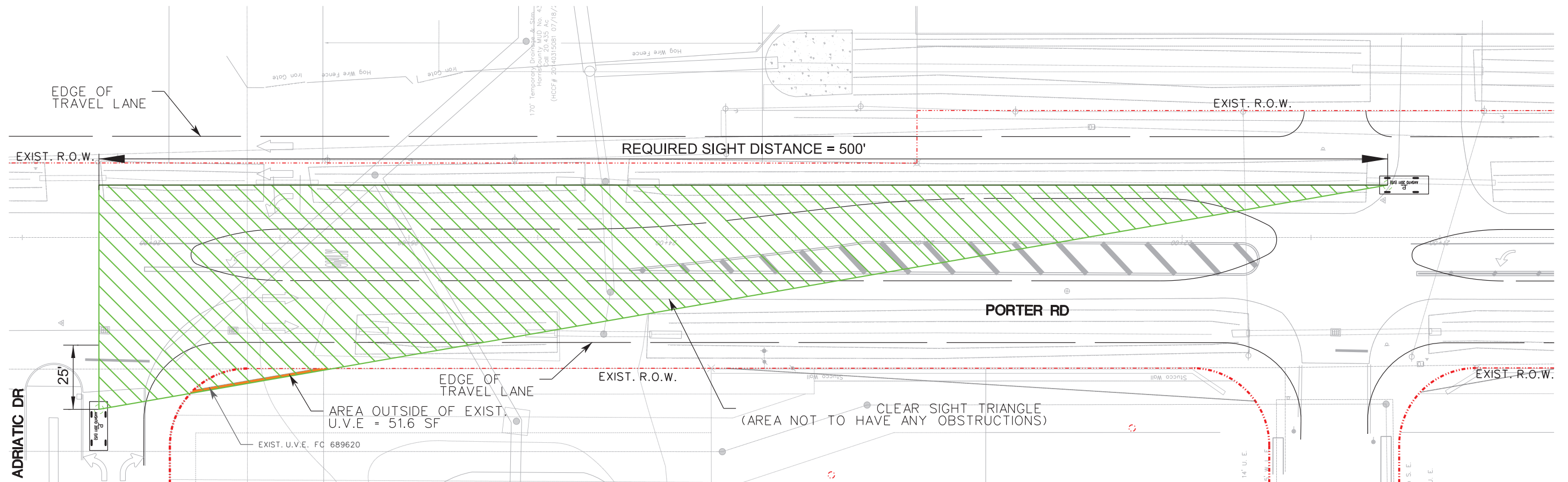


DESIGN CRITERIA (CASE B - INTERSECTION WITH STOP CONTROL ON THE MINOR ROAD)<sup>(1)</sup>

- 1) DESIGN VEHICLE - PASSENGER CAR
- 2) DESIGN SPEED - 45 M.P.H.
- 3) SETBACK DISTANCE FROM THE EDGE OF TRAVEL LANE - 25-FT<sup>(2)</sup>
- 4) SIGHT DISTANCE - 500-FT<sup>(2)</sup>
- 5) PORTER RD - MAJOR THOROUGHFARE<sup>(3)</sup>

SOURCES:

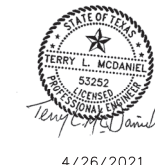
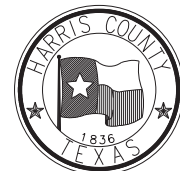
- 1-INTERSECTION SIGHT DISTANCES ARE BASED ON THE 6TH EDITION (2011) AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (ASSHTO) CRITERIA FOR INTERSECTION SIGHT DISTANCE.
- 2-HARRIS COUNTY STANDARDS AND SPECIFICATIONS.
- 3-2018 MTFP & TRANSIT CORRIDOR STREET HIERARCHY CLASSIFICATION TABLE.



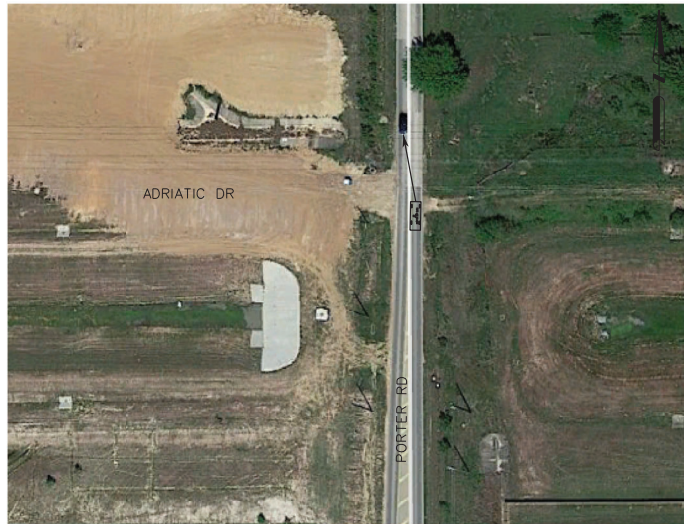
P:\HC03-4410\DCN\EP\Sight Triangle\ADRIATIC EB 25-Offset\_Left turn.dgn  
4/26/2021 12:04:56 PM Kkozakis

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



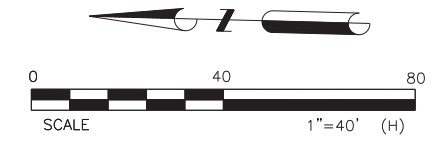
PROJECT TITLE:		PORTER RD SEGMENT 3
SHEET DESCRIPTION:		ADRIATIC DR EASTBOUND LEFT SIGHT TRIANGLE
DRAWN BY:	K. KOZAKIS	DATE: 4/26/2021
CK'D BY:	T. MCDANIEL	SHEET NO: /
SCALE:		1" = 40'
PROJECT TITLE:		PORTER RD SEGMENT 3
SHEET DESCRIPTION:		ADRIATIC DR EASTBOUND LEFT SIGHT TRIANGLE
DRAWN BY:	K. KOZAKIS	DATE: 4/26/2021
CK'D BY:	T. MCDANIEL	SHEET NO: /
SCALE:		1" = 40'



EXISTING INTERSECTION  
AERIAL VIEW

- LEGEND**
- DIRECTION OF TRAFFIC FLOW
  - EXIST. R.O.W.
  - PASSENGER VEHICLE
  - SIGHT TRIANGLE

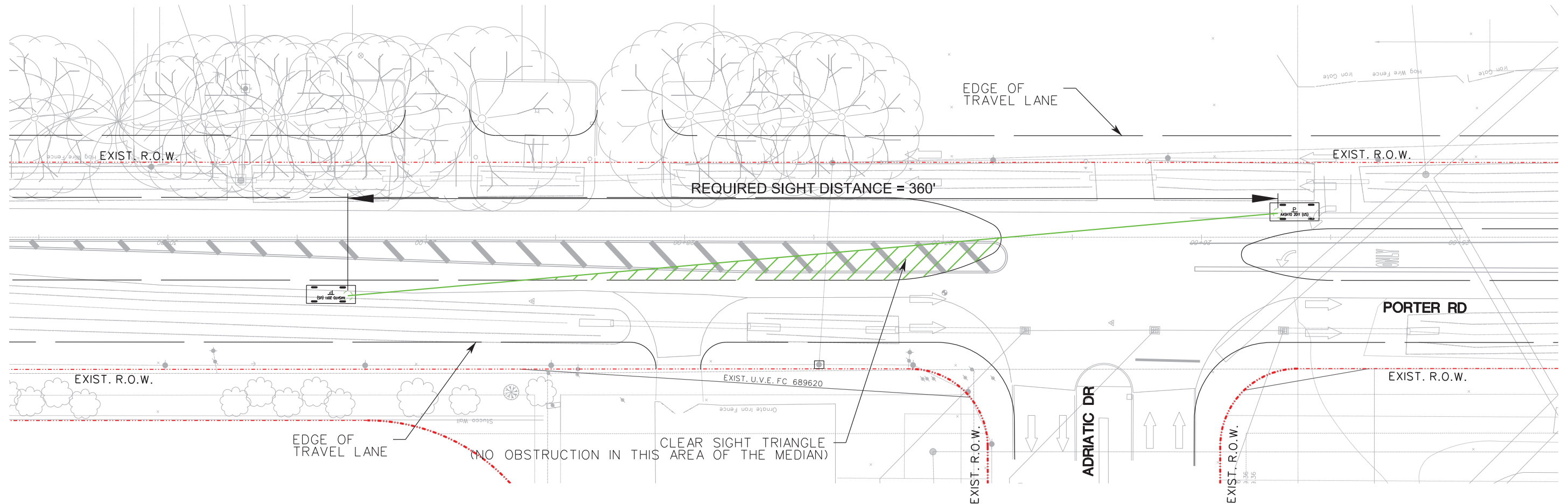
EXIST. POSTED SPEED	
PORTER RD	45 M.P.H.
ADRIATIC DR	30 M.P.H.



- DESIGN CRITERIA:**
- 1) DESIGN VEHICLE - PASSENGER CAR
  - 2) DESIGN SPEED - 45 M.P.H.
  - 3) SIGHT DISTANCE - 360-FT<sup>(1)</sup>
  - 4) PORTER RD - MAJOR THOROUGHFARE<sup>(2)</sup>

- SOURCES:**
- 1-HARRIS COUNTY STANDARDS AND SPECIFICATIONS
  - 2-2018 MTFP & TRANSIT CORRIDOR STREET HIERARCHY CLASSIFICATION TABLE.

PROP. CLEAR SIGHT TRIANGLE FROM VIEWING TRAFFIC APPROACHING FROM THE NORTH.



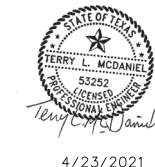
P:\HC03-4410.DGN\VP\Sight Triangle ADRIATIC NB LT Sight Triangle.dgn  
4/23/2021 1:00:01 PM kkozakis

NO.	REVISIONS	DATE	NAME

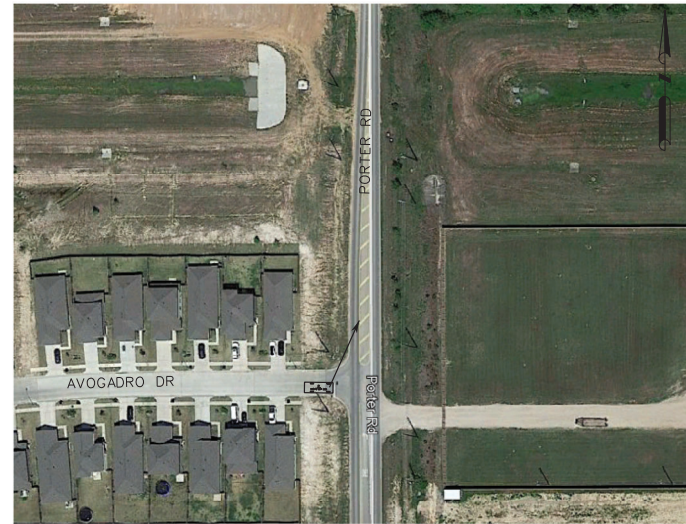
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**Midtown Engineers, LLC**  
5225 KATY FREEWAY, SUITE 400 HOUSTON, TX 77007  
(713) 862-8848 WWW.MIDTOWNEENGINEERS.COM  
TBP NO. F-8934



PROJECT TITLE:		PORTER RD SEGMENT 3
SHEET DESCRIPTION:		ADRIATIC DR NORTHBOUND SIGHT TRIANGLE
DRAWN BY:	K. KOZAKIS	DATE:
CK'D BY:	T. MCDANIEL	4/23/2021
SCALE:	1" = 40'	SHEET NO:



EXISTING INTERSECTION  
AERIAL VIEW



AT AVOGADRO DR  
FACING EAST, LOOKING NORTH ON PORTER RD  
(@ APPROXIMATELY 15-FT SETBACK)

LEGEND

- DIRECTION OF TRAFFIC FLOW
- EXIST. R.O.W.
- PASSENGER VEHICLE
- SIGHT TRIANGLE

EXIST. POSTED SPEED	
PORTER RD	45 M.P.H.
AVOGADRO DR	30 M.P.H.



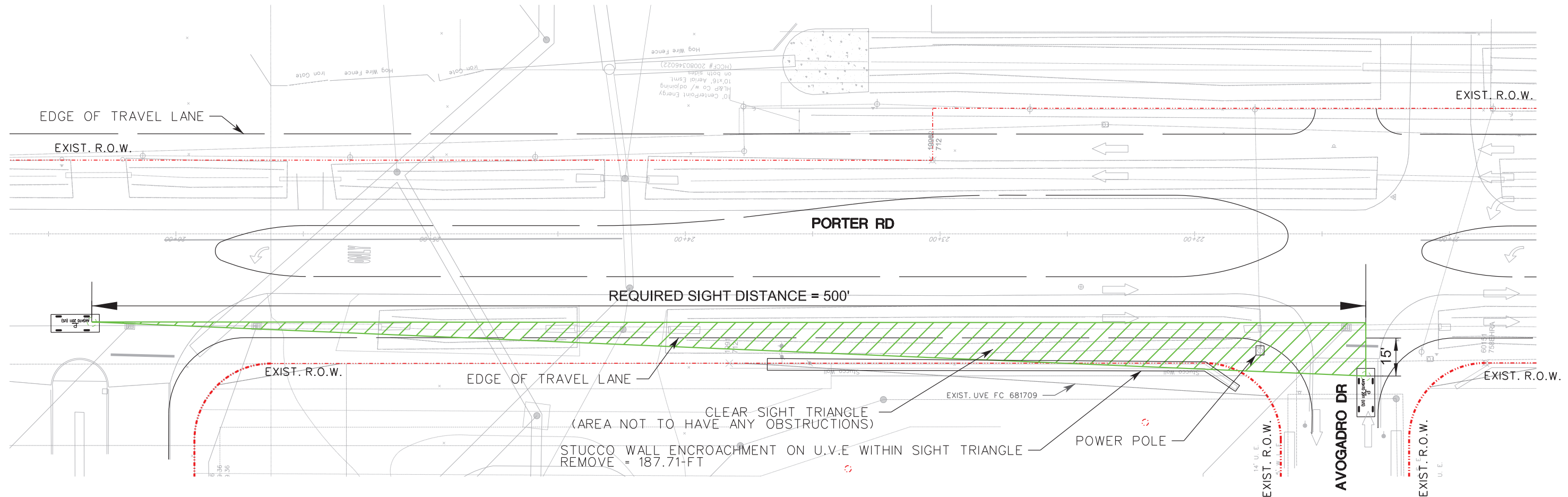
DESIGN CRITERIA (CASE B- INTERSECTIONS WITH STOP CONTROL ON THE MINOR ROAD)<sup>(1)</sup>

- 1) DESIGN VEHICLE - PASSENGER CAR
- 2) DESIGN SPEED - 45 M.P.H.
- 3) SETBACK DISTANCE FROM THE EDGE OF TRAVEL LANE - 15-FT<sup>(2)</sup>
- 4) SIGHT DISTANCE - 500-FT<sup>(2)</sup>
- 5) PORTER RD - MAJOR THOROUGHFARE<sup>(3)</sup>

SOURCES:

- 1-INTERSECTION SIGHT DISTANCES ARE BASED ON THE 6TH EDITION (2011) AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (ASHTO) CRITERIA FOR INTERSECTION SIGHT DISTANCE.
- 2-HARRIS COUNTY STANDARDS AND SPECIFICATIONS.
- 3-2018 MTFP & TRANSIT CORRIDOR STREET HIERARCHY CLASSIFICATION TABLE.

OBSTRUCTION IN SIGHT TRIANGLE FROM VIEWING TRAFFIC APPROACHING FROM THE NORTH. RECOMMEND REMOVE STUCCO WALL.



P:\HC03-4410.DGN\DP\Sight Triangle AVOGADRO EB 15-Offset.dgn  
4/26/2021 1:19:14 PM Kkozakis

NO.	REVISIONS	DATE	NAME

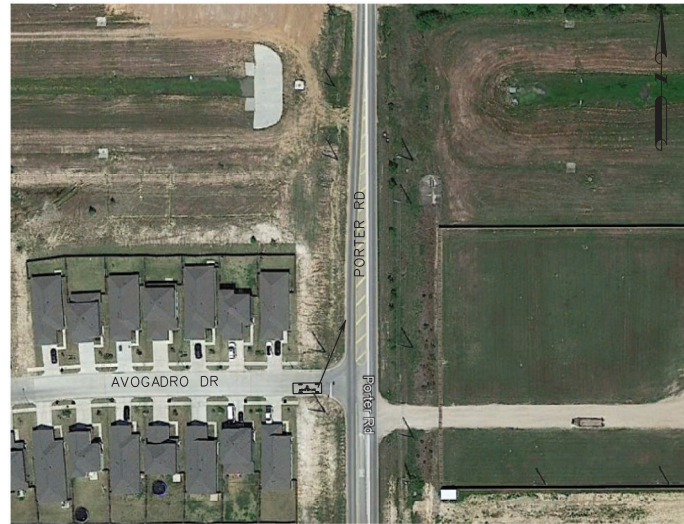
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**Midtown Engineers, LLC**  
5225 KATY FREEWAY, SUITE 400 HOUSTON, TX 77007  
(713) 862-8848 WWW.MIDTOWNENGINEERS.COM  
TBP NO. F-8934



PROJECT TITLE:		PORTER RD SEGMENT 3
SHEET DESCRIPTION:		AVOGADRO DR EASTBOUND SIGHT TRIANGLE
DRAWN BY:	15-FT SETBACK	
CK'D BY:	SCALE:	DATE:
T. MCDANIEL	1" = 40'	4/26/2021
SHEET NO.:		



EXISTING INTERSECTION  
AERIAL VIEW



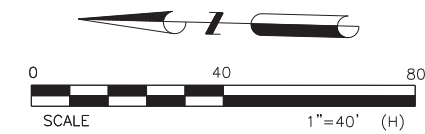
AT AVOGADRO DR  
FACING EAST, LOOKING NORTH ON PORTER ST  
(@ APPROXIMATELY 25-FT SETBACK)

A WALL BLOCKS VIEWING  
TRAFFIC APPROACHING FROM THE NORTH.  
POTENTIAL REMOVAL NECESSARY.

LEGEND

- DIRECTION OF TRAFFIC FLOW
- EXIST. R.O.W.
- PASSENGER VEHICLE
- SIGHT TRIANGLE

EXIST. POSTED SPEED	
PORTER RD	45 M.P.H.
AVOGADRO DR	30 M.P.H.

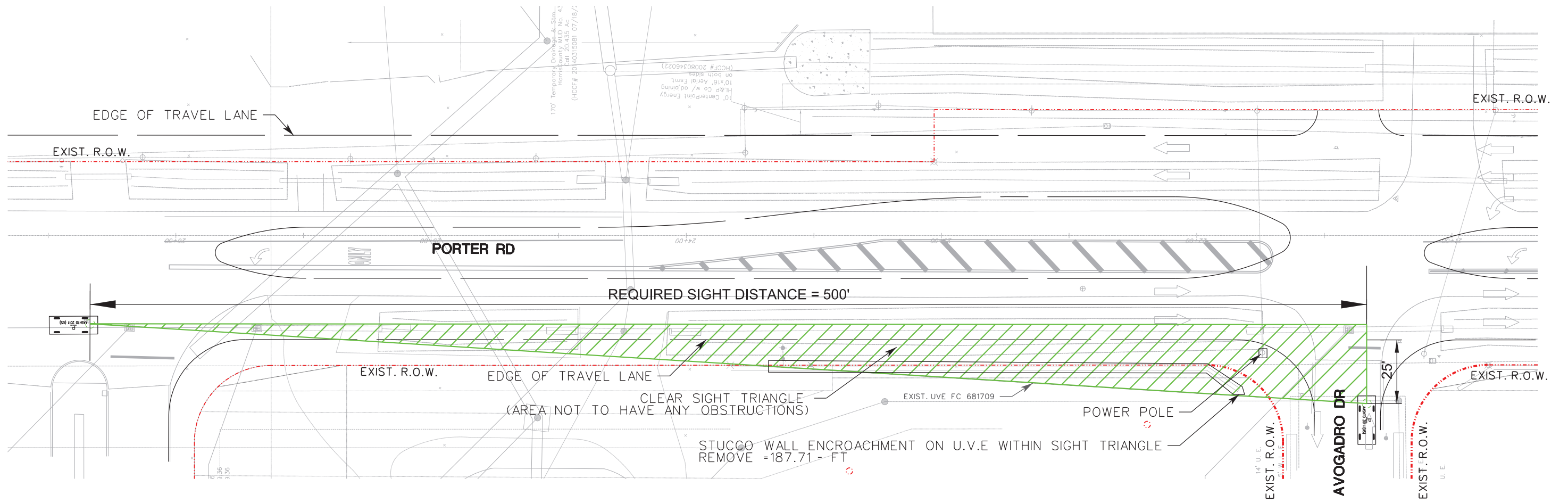


DESIGN CRITERIA (CASE B - INTERSECTIONS WITH STOP CONTROL ON THE MINOR ROAD)<sup>(1)</sup>

- 1) DESIGN VEHICLE - PASSENGER CAR
- 2) DESIGN SPEED - 45 M.P.H.
- 3) SETBACK DISTANCE FROM THE EDGE OF TRAVEL LANE - 25-FT<sup>(2)</sup>
- 4) SIGHT DISTANCE - 500-FT<sup>(2)</sup>
- 5) PORTER RD - MAJOR THOROUGHFARE<sup>(3)</sup>

SOURCES:

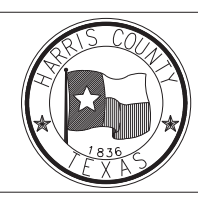
- 1-INTERSECTION SIGHT DISTANCES ARE BASED ON THE 6TH EDITION (2011) AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (ASHTO) CRITERIA FOR INTERSECTION SIGHT DISTANCE.
- 2-HARRIS COUNTY STANDARDS AND SPECIFICATIONS.
- 3-2018 MTFP & TRANSIT CORRIDOR STREET HIERARCHY CLASSIFICATION TABLE.



P:\HC03-4410\DCN\PP\Sight Triangle AVOGADRO EB 25-Offset.dgn  
4/26/2021 11:26:50 AM kkozakis

NO.	REVISIONS	DATE	NAME

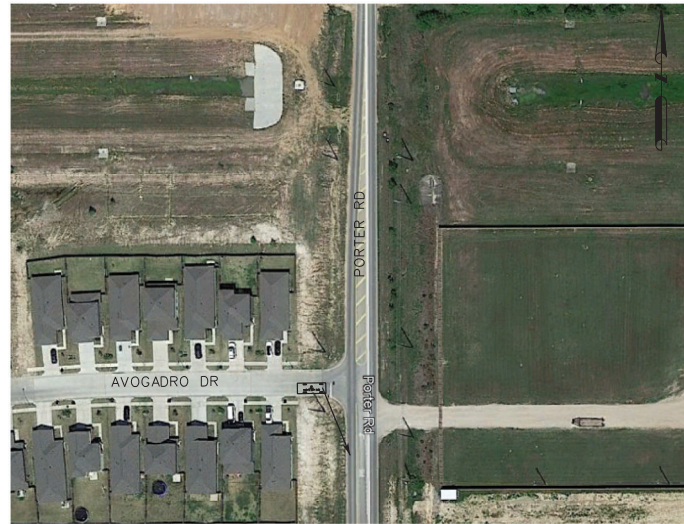
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**Midtown Engineers, LLC**  
5225 KATY FREEWAY, SUITE 400 HOUSTON, TX 77007  
(713) 862-8848 WWW.MIDTOWNEENGINEERS.COM  
TBPE NO. F-8934

STATE OF TEXAS  
TERRY L. MCDANIEL  
53252  
LICENSED PROFESSIONAL ENGINEER  
4/26/2021

PROJECT TITLE:		PORTER RD SEGMENT 3
SHEET DESCRIPTION:		AVOGADRO DR EASTBOUND SIGHT TRIANGLE
DRAWN BY:	K. KOZAKIS	DATE:
CK'D BY:	T. MCDANIEL	4/26/2021
SCALE:	1" = 40'	SHEET NO:



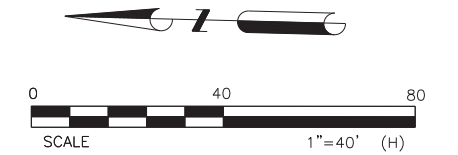
EXISTING INTERSECTION  
AERIAL VIEW



AT AVOGADRO DR  
FACING EAST, LOOKING SOUTH ON PORTER ST  
(@ APPROXIMATELY 15-FT SETBACK)

- LEGEND
- DIRECTION OF TRAFFIC FLOW
  - EXIST. R.O.W.
  - PASSENGER VEHICLE
  - SIGHT TRIANGLE

EXIST. POSTED SPEED	
PORTER RD	45 M.P.H.
AVOGADRO DR	30 M.P.H.



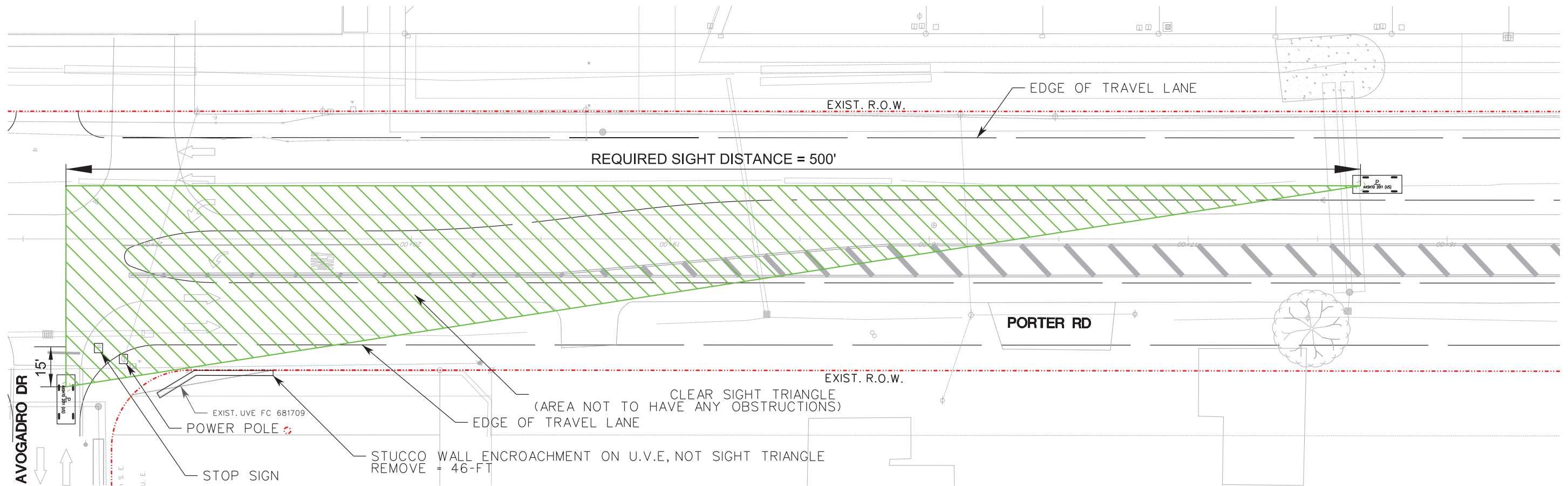
DESIGN CRITERIA (CASE B - INTERSECTION WITH STOP CONTROL ON THE MINOR ROAD)<sup>(1)</sup>

- 1) DESIGN VEHICLE - PASSENGER CAR
- 2) DESIGN SPEED - 45 M.P.H.
- 3) SETBACK DISTANCE FROM THE EDGE OF TRAVEL LANE - 15-FT<sup>(2)</sup>
- 4) SIGHT DISTANCE - 500-FT<sup>(2)</sup>
- 5) PORTER RD - MAJOR THOROUGHFARE<sup>(3)</sup>

SOURCES:

- 1-INTERSECTION SIGHT DISTANCES ARE BASED ON THE 6TH EDITION (2011) AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (ASSHTO) CRITERIA FOR INTERSECTION SIGHT DISTANCE.
- 2-HARRIS COUNTY STANDARDS AND SPECIFICATIONS.
- 3-2018 MTFP & TRANSIT CORRIDOR STREET HIERARCHY CLASSIFICATION TABLE.

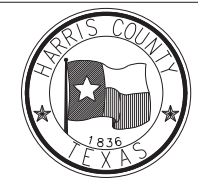
CLEAR SIGHT TRIANGLE FROM VIEWING TRAFFIC APPROACHING FROM THE SOUTH. NO REMOVAL NECESSARY.



P:\HC03-4410\DCN\BP\Sight Triangle AVOGADRO EB 15-Offset\_Left.tur.dgn  
4/26/2021 12:06:02 PM Kkozakis

NO.	REVISIONS	DATE	NAME

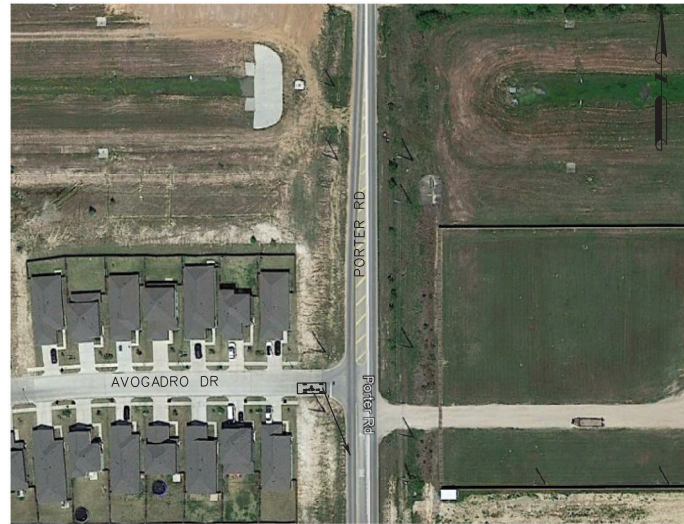
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**Midtown Engineers, LLC**  
5225 KATY FREEWAY, SUITE 400 HOUSTON, TX 77007  
(713) 862-8848 WWW.MIDTOWNGENGINEERS.COM  
TBPE NO. F-8934



PROJECT TITLE:		PORTER RD SEGMENT 3	
SHEET DESCRIPTION:		AVOGADRO DR EASTBOUND LEFT SIGHT TRIANGLE	
DRAWN BY:	K. KOZAKIS	DATE:	4/26/2021
CK'D BY:	T. MCDANIEL	SHEET NO.:	/
SCALE:	1" = 40'		



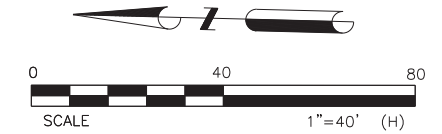
EXISTING INTERSECTION  
AERIAL VIEW



AT AVOGADRO DR  
FACING EAST, LOOKING SOUTH ON PORTER ST  
(@ APPROXIMATELY 25-FT SETBACK)

OBSTRUCTION IN SIGHT TRIANGLE FROM VIEWING  
TRAFFIC APPROACHING FROM THE SOUTH.  
RECOMMEND REMOVE STUCCO WALL.

LEGEND		EXIST. POSTED SPEED	
	DIRECTION OF TRAFFIC FLOW	PORTER RD	45 M.P.H.
	EXIST. R.O.W.	AVOGADRO DR	30 M.P.H.
	PASSENGER VEHICLE		
	SIGHT TRIANGLE		
	ADDITIONAL EASEMENT/ROW REQUIRED		

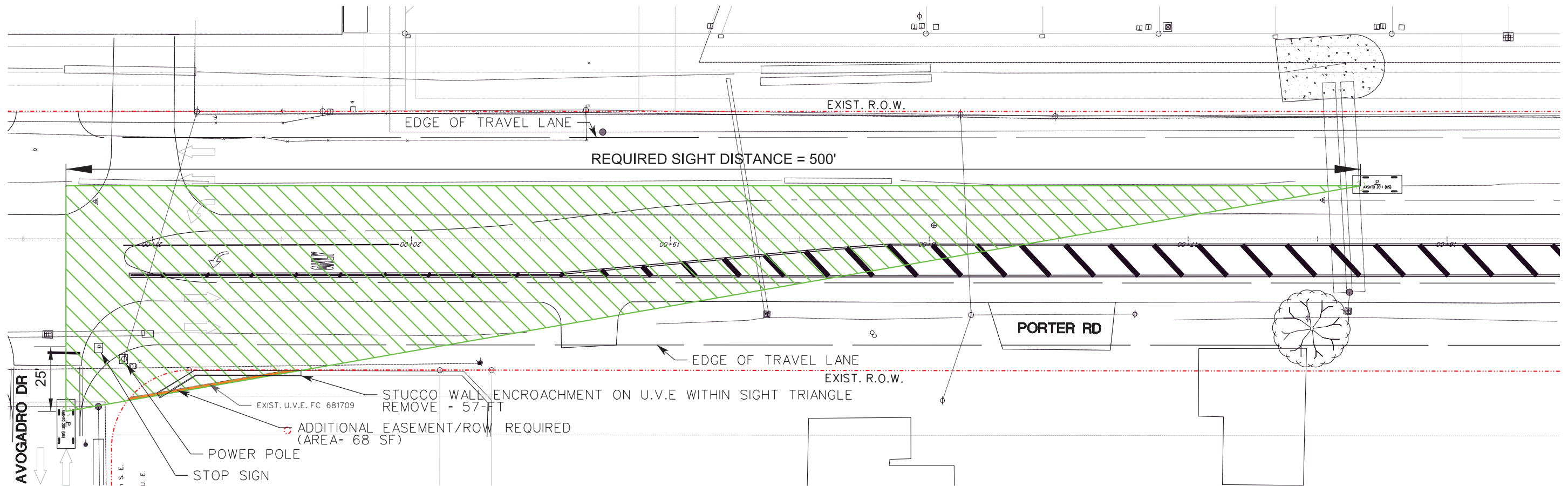


DESIGN CRITERIA (CASE B - INTERSECTION WITH STOP CONTROL ON THE MINOR ROAD)<sup>(1)</sup>

- 1) DESIGN VEHICLE - PASSENGER CAR
- 2) DESIGN SPEED - 45 M.P.H.
- 3) SETBACK DISTANCE FROM THE EDGE OF TRAVEL LANE - 25-FT<sup>(2)</sup>
- 4) SIGHT DISTANCE - 500-FT<sup>(2)</sup>
- 5) PORTER RD - MAJOR THOROUGHFARE<sup>(3)</sup>

SOURCES:

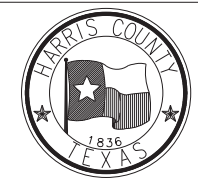
- 1-INTERSECTION SIGHT DISTANCES ARE BASED ON THE 6TH EDITION (2011) AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (ASSHTO) CRITERIA FOR INTERSECTION SIGHT DISTANCE.
- 2-HARRIS COUNTY STANDARDS AND SPECIFICATIONS.
- 3-2018 MTFP & TRANSIT CORRIDOR STREET HIERARCHY CLASSIFICATION TABLE.



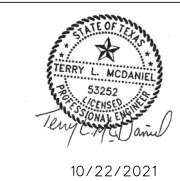
P:\HC03-4410\DCN\PPA\Sight Triangles\Sight Triangle AVOGADRO EB 25-Offset-Left turn.dgn  
10/22/2021 1:34:18 PM KKOZAKIS

NO.	REVISIONS	DATE	NAME

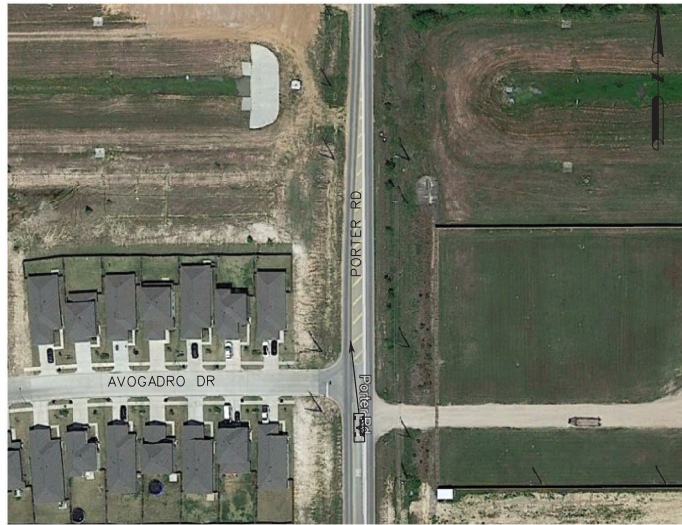
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**Midtown Engineers, LLC**  
5225 KATY FREEWAY, SUITE 400 HOUSTON, TX 77007  
(713) 862-8848 WWW.MIDTOWNEENGINEERS.COM  
TBPE NO. F-8934



PROJECT TITLE:		PORTER RD SEGMENT 3	
SHEET DESCRIPTION:		AVOGADRO DR EASTBOUND LEFT SIGHT TRIANGLE	
DRAWN BY:	K. KOZAKIS	DATE:	10/22/2021
CK'D BY:	T. MCDANIEL	SHEET NO.:	/
SCALE:	1" = 40'		



EXISTING INTERSECTION  
AERIAL VIEW

LEGEND

- DIRECTION OF TRAFFIC FLOW
- EXIST. R.O.W.
- PASSENGER VEHICLE
- SIGHT TRIANGLE

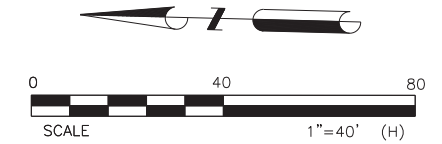
EXIST. POSTED SPEED	
PORTER RD	45 M.P.H.
AVOGADRO DR	30 M.P.H.

DESIGN CRITERIA:

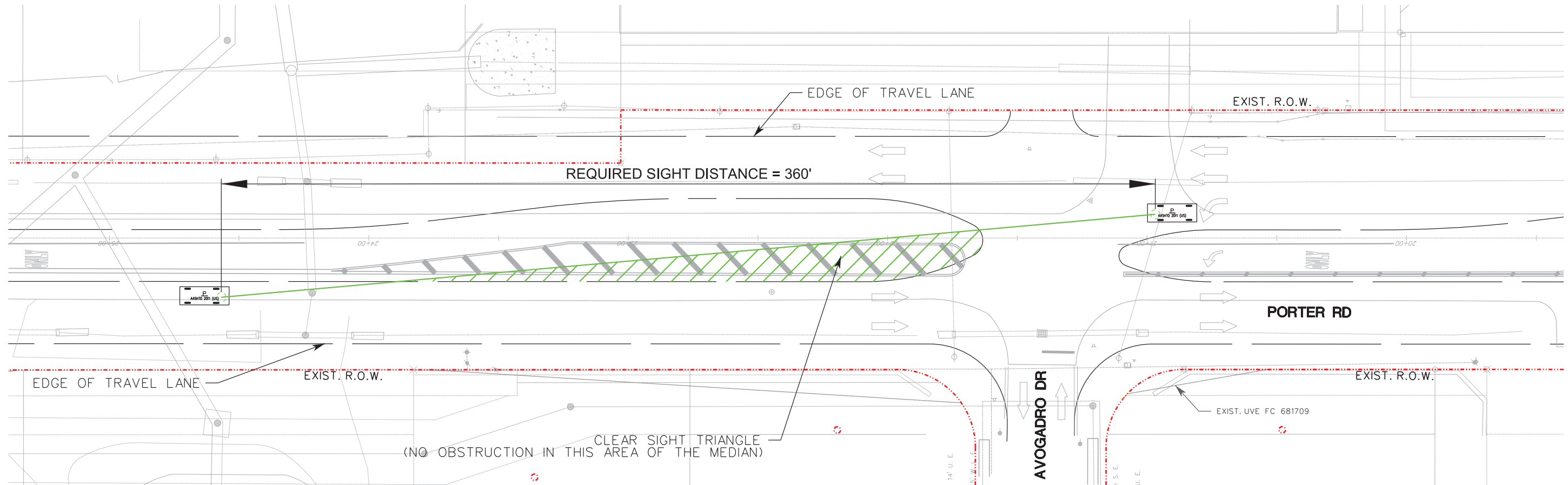
- 1) DESIGN VEHICLE - PASSENGER CAR
- 2) DESIGN SPEED - 45 M.P.H.
- 3) SIGHT DISTANCE - 360-FT<sup>(1)</sup>
- 4) PORTER RD - MAJOR THOROUGHFARE<sup>(2)</sup>

SOURCES:

- 1-HARRIS COUNTY STANDARDS AND SPECIFICATIONS
- 2-2018 MTFP & TRANSIT CORRIDOR STREET HIERARCHY CLASSIFICATION TABLE.



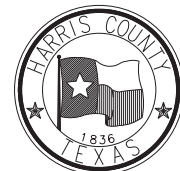
PROP. CLEAR SIGHT TRIANGLE FROM VIEWING  
TRAFFIC APPROACHING FROM THE NORTH.



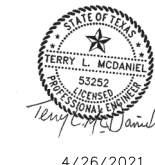
P:\HC03-4410.DGN\PP\Sign Triangle AVOGADRO NB LT Sight Triangle.dgn  
4/26/2021 11:42:51 AM Kkozakis

NO.	REVISIONS	DATE	NAME

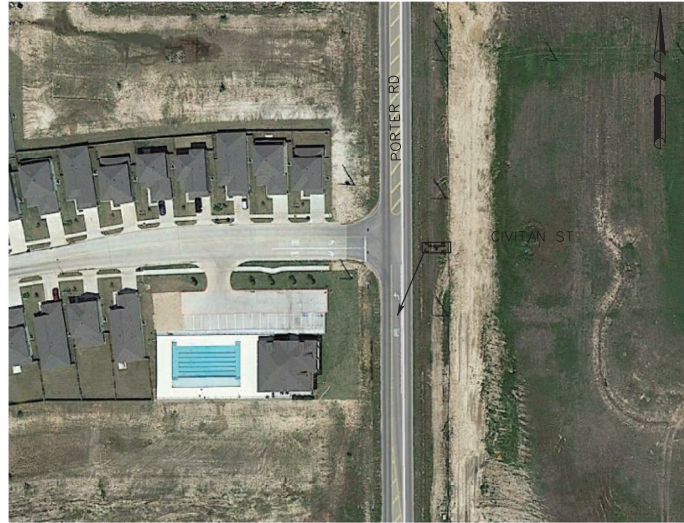
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**Midtown Engineers, LLC**  
5225 KATY FREEWAY, SUITE 400 HOUSTON, TX 77007  
(713) 862-8848 WWW.MIDTOWNEENGINEERS.COM  
TBPE NO. F-8934



PROJECT TITLE:		PORTER RD SEGMENT 3
		AVOGADRO DR
SHEET DESCRIPTION:		NORTHBOUND SIGHT TRIANGLE
DRAWN BY:	MEDIAN LEFT TURN LANE	
CK'D BY:	SCALE:	DATE:
T. MCDANIEL	1" = 40'	4/26/2021
		SHEET NO:
		/



EXISTING INTERSECTION  
AERIAL VIEW

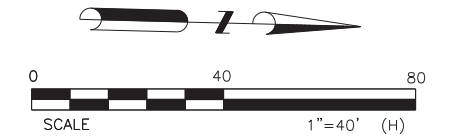


AT CIVITAN ST  
FACING WEST, LOOKING SOUTH ON PORTER RD  
(@ APPROXIMATELY 15-FT SETBACK)

LEGEND

- DIRECTION OF TRAFFIC FLOW
- EXIST. R.O.W.
- PASSENGER VEHICLE
- SIGHT TRIANGLE

EXIST. POSTED SPEED	
PORTER RD	45 M.P.H.
CIVITAN ST	30 M.P.H.



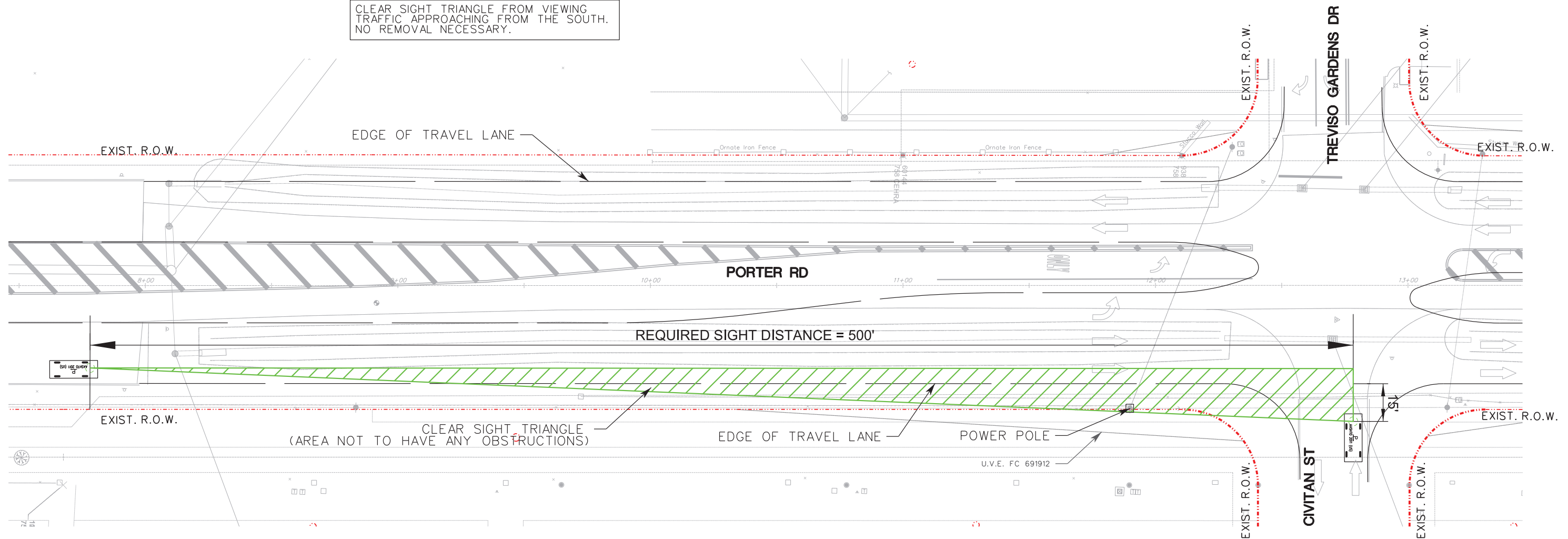
DESIGN CRITERIA (CASE B - INTERSECTIONS WITH STOP CONTROL ON THE MINOR ROAD)<sup>(1)</sup>

- 1) DESIGN VEHICLE - PASSENGER CAR
- 2) DESIGN SPEED - 45 M.P.H.
- 3) SETBACK DISTANCE FROM THE EDGE OF TRAVEL LANE - 15-FT<sup>(2)</sup>
- 4) SIGHT DISTANCE - 500-FT<sup>(2)</sup>
- 5) PORTER RD - MAJOR THOROUGHFARE<sup>(3)</sup>

SOURCES:

- 1-INTERSECTION SIGHT DISTANCES ARE BASED ON THE 6TH EDITION (2011) AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (ASHTO) CRITERIA FOR INTERSECTION SIGHT DISTANCE.
- 2-HARRIS COUNTY STANDARDS AND SPECIFICATIONS.
- 3-2018 MTFP & TRANSIT CORRIDOR STREET HIERARCHY CLASSIFICATION TABLE.

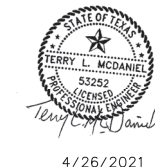
CLEAR SIGHT TRIANGLE FROM VIEWING TRAFFIC APPROACHING FROM THE SOUTH. NO REMOVAL NECESSARY.



P:\HC03-4410.DGN\BP\_Sight\_Triangle\_CIVITAN\_WB\_15\_Offset.dgn  
4/26/2021 12:08:49 PM kkozakis

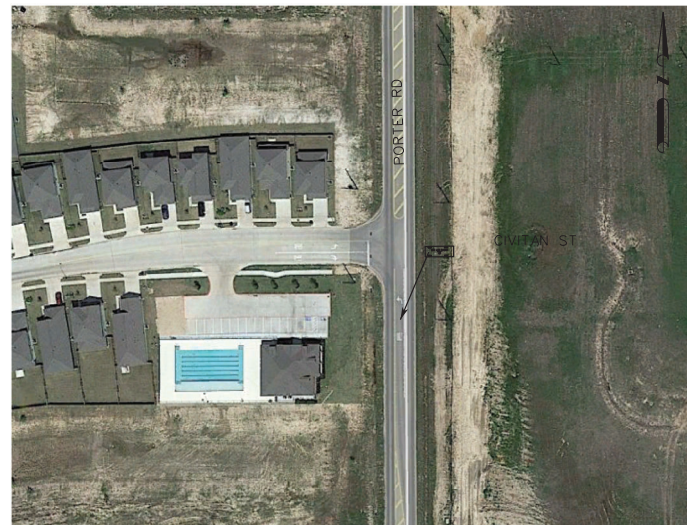
NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



PROJECT TITLE:		PORTER RD SEGMENT 3	
SHEET DESCRIPTION:		CIVITAN ST WESTBOUND SIGHT TRIANGLE	
DRAWN BY:	K. KOZAKIS	DATE:	4/26/2021
CK'D BY:	T. MCDANIEL	SHEET NO.:	/
SCALE:		1" = 40'	
PROJECT TITLE:		PORTER RD SEGMENT 3	
SHEET DESCRIPTION:		CIVITAN ST WESTBOUND SIGHT TRIANGLE	
DRAWN BY:	K. KOZAKIS	DATE:	4/26/2021
CK'D BY:	T. MCDANIEL	SHEET NO.:	/
SCALE:		1" = 40'	





EXISTING INTERSECTION  
AERIAL VIEW

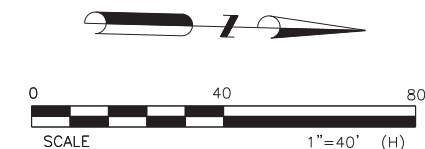


AT CIVITAN DR  
FACING WEST, LOOKING SOUTH ON PORTER RD  
(@ APPROXIMATELY 25-FT SETBACK)

LEGEND

- DIRECTION OF TRAFFIC FLOW
- EXIST. R.O.W.
- PASSENGER VEHICLE
- SIGHT TRIANGLE

EXIST. POSTED SPEED	
PORTER RD	45 M.P.H.
CIVITAN ST	30 M.P.H.



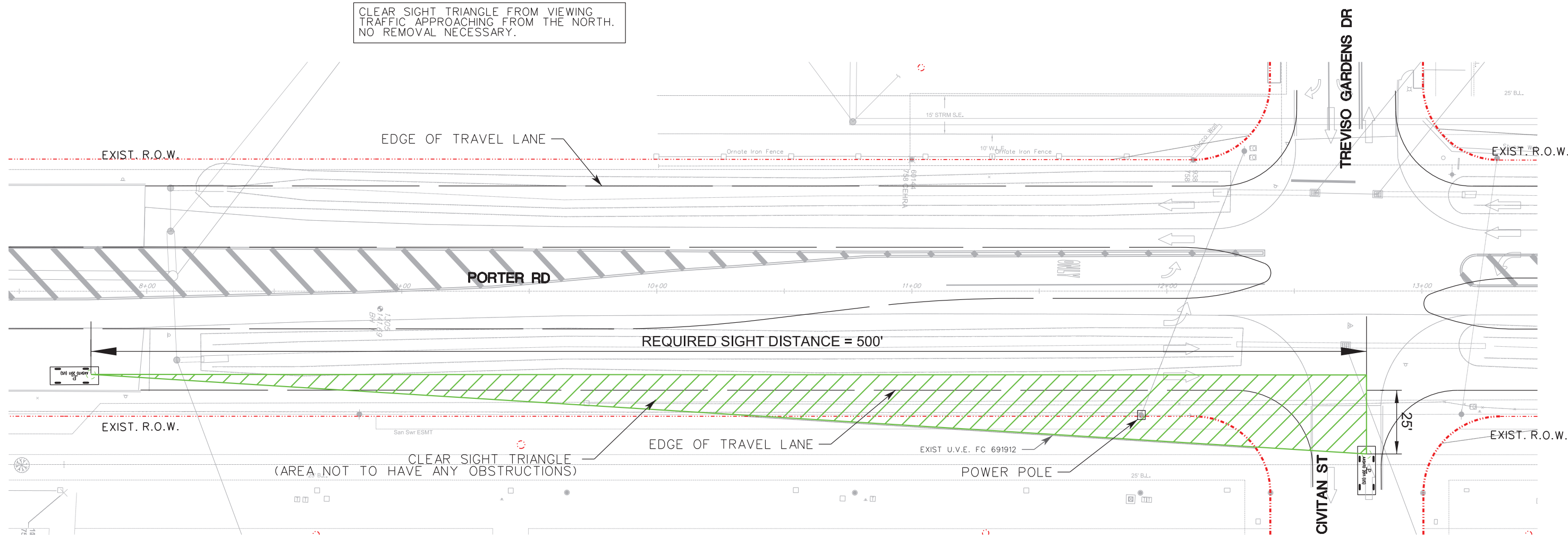
DESIGN CRITERIA (CASE B - INTERSECTIONS WITH STOP CONTROL ON THE MINOR ROAD)<sup>(1)</sup>

- 1) DESIGN VEHICLE - PASSENGER CAR
- 2) DESIGN SPEED - 45 M.P.H.
- 3) SETBACK DISTANCE FROM THE EDGE OF TRAVEL LANE - 25-FT<sup>(2)</sup>
- 4) SIGHT DISTANCE - 500-FT<sup>(2)</sup>
- 5) PORTER RD - MAJOR THOROUGHFARE<sup>(3)</sup>

SOURCES:

- 1-INTERSECTION SIGHT DISTANCES ARE BASED ON THE 6TH EDITION (2011) AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (ASHTO) CRITERIA FOR INTERSECTION SIGHT DISTANCE.
- 2-HARRIS COUNTY STANDARDS AND SPECIFICATIONS.
- 3-2018 MTFP & TRANSIT CORRIDOR STREET HIERARCHY CLASSIFICATION TABLE.

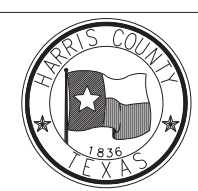
CLEAR SIGHT TRIANGLE FROM VIEWING TRAFFIC APPROACHING FROM THE NORTH. NO REMOVAL NECESSARY.



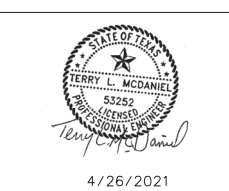
P:\HC03-4410\DCN\BP\Sight Triangle CIVITAN WB 25-Offset.dgn  
4/26/2021 12:10:57 PM kkozakis

NO.	REVISIONS	DATE	NAME

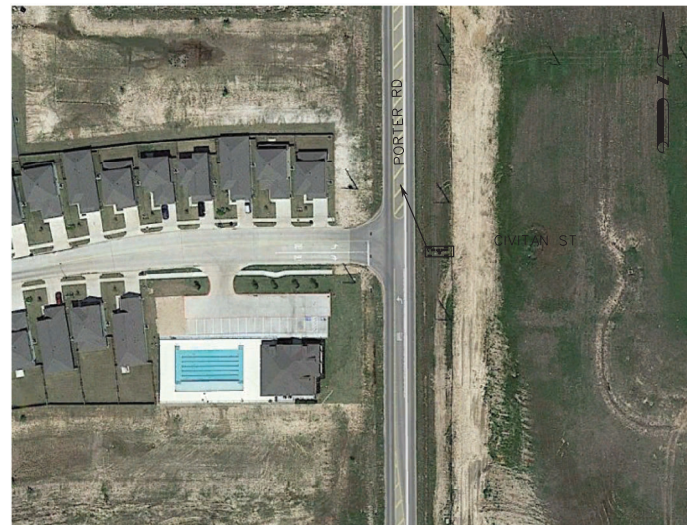
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**Midtown Engineers, LLC**  
5225 KATY FREEWAY, SUITE 400 HOUSTON, TX 77007  
(713) 862-8848 WWW.MIDTOWNGENGINEERS.COM  
TBPE NO. F-8934



PROJECT TITLE:		PORTER RD SEGMENT 3
SHEET DESCRIPTION:		CIVITAN ST WESTBOUND SIGHT TRIANGLE
DRAWN BY:	K. KOZAKIS	DATE:
CK'D BY:	T. MCDANIEL	4/26/2021
SCALE:	1" = 40'	SHEET NO:



EXISTING INTERSECTION  
AERIAL VIEW

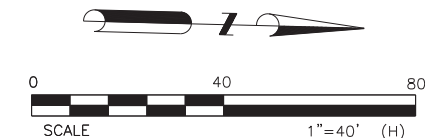


AT CIVITAN DR  
FACING WEST, LOOKING NORTH ON PORTER RD  
(@ APPROXIMATELY 15-FT SETBACK)

LEGEND

- DIRECTION OF TRAFFIC FLOW
- EXIST. R.O.W.
- PASSENGER VEHICLE
- SIGHT TRIANGLE

EXIST. POSTED SPEED	
PORTER RD	45 M.P.H.
CIVITAN ST	30 M.P.H.



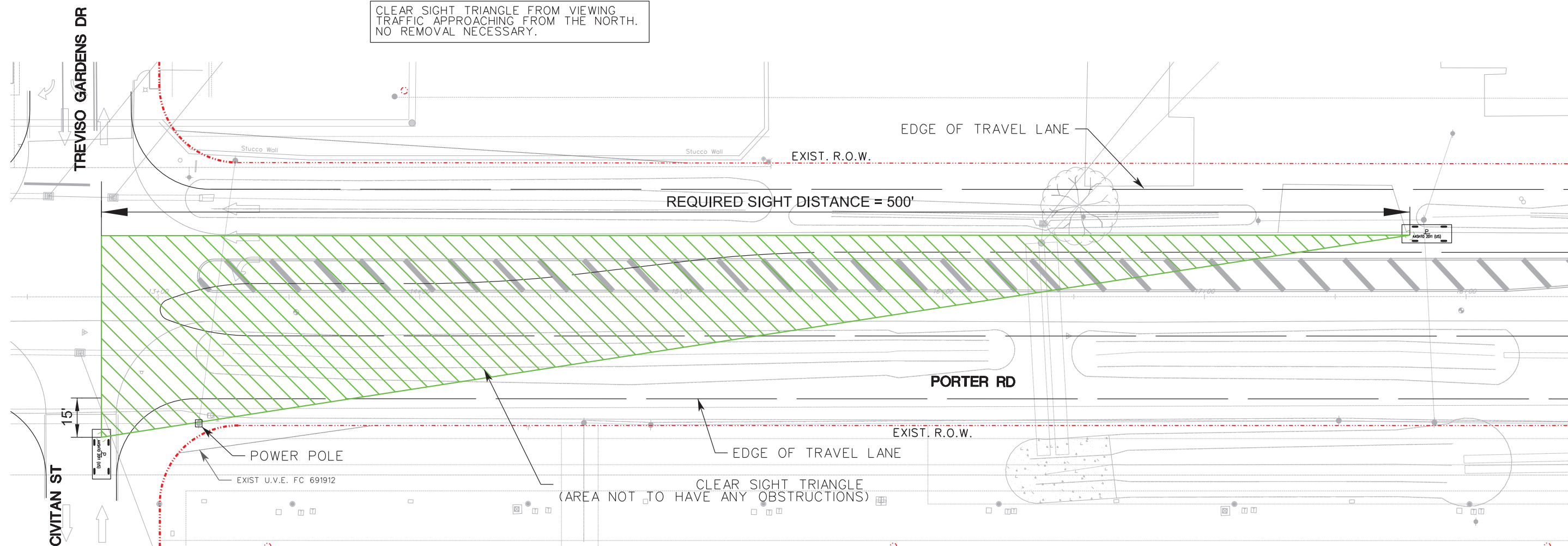
DESIGN CRITERIA (CASE B - INTERSECTIONS WITH STOP CONTROL ON THE MINOR ROAD)<sup>(1)</sup>

- 1) DESIGN VEHICLE - PASSENGER CAR
- 2) DESIGN SPEED - 45 M.P.H.
- 3) SETBACK DISTANCE FROM THE EDGE OF TRAVEL LANE - 15-FT<sup>(2)</sup>
- 4) SIGHT DISTANCE - 500-FT<sup>(2)</sup>
- 5) PORTER RD - MAJOR THOROUGHFARE<sup>(3)</sup>

SOURCES:

- 1-INTERSECTION SIGHT DISTANCES ARE BASED ON THE 6TH EDITION (2011) AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (ASHTO) CRITERIA FOR INTERSECTION SIGHT DISTANCE.
- 2-HARRIS COUNTY STANDARDS AND SPECIFICATIONS.
- 3-2018 MTFP & TRANSIT CORRIDOR STREET HIERARCHY CLASSIFICATION TABLE.

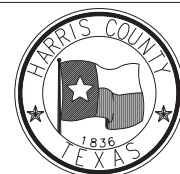
CLEAR SIGHT TRIANGLE FROM VIEWING TRAFFIC APPROACHING FROM THE NORTH. NO REMOVAL NECESSARY.



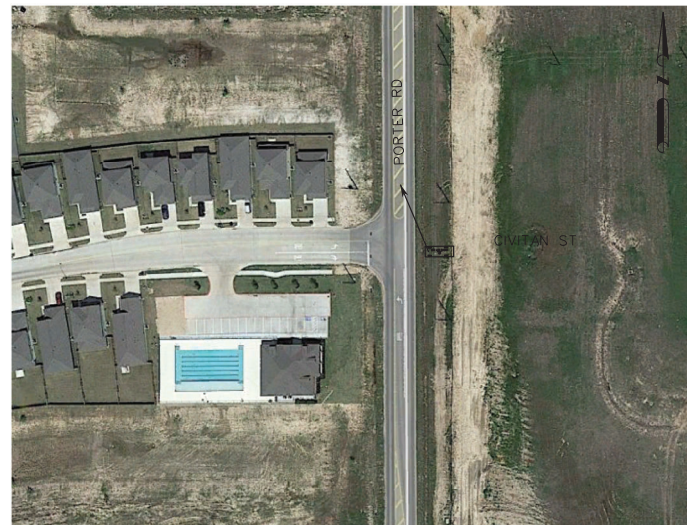
P:\HC03-4410\DCN\DP\Sight Triangle CIVITAN WB 15-Offset\_Left turn.dgn  
4/26/2021 12:10:11 PM kkozakis

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



PROJECT TITLE:		PORTER RD SEGMENT 3
SHEET DESCRIPTION:		CIVITAN ST WESTBOUND LEFT SIGHT TRIANGLE
DRAWN BY:	K. KOZAKIS	DATE:
CK'D BY:	T. MCDANIEL	4/26/2021
SCALE:	1" = 40'	SHEET NO:
		/



EXISTING INTERSECTION  
AERIAL VIEW

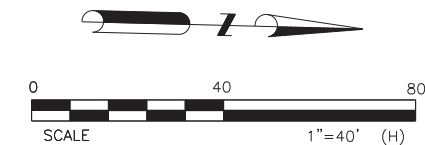


AT CIVITAN DR  
FACING WEST, LOOKING NORTH ON PORTER RD  
(@ APPROXIMATELY 25-FT SETBACK)

LEGEND

- DIRECTION OF TRAFFIC FLOW
- EXIST. R.O.W.
- PASSENGER VEHICLE
- SIGHT TRIANGLE

EXIST. POSTED SPEED	
PORTER RD	45 M.P.H.
CIVITAN ST	30 M.P.H.



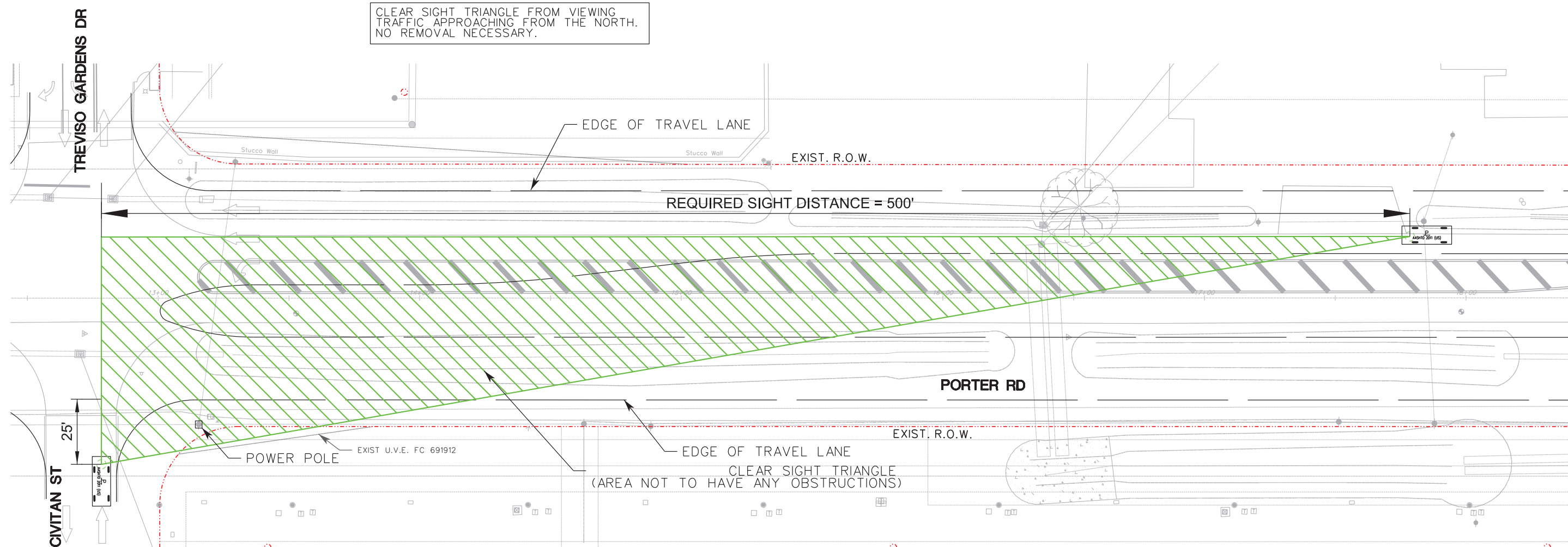
DESIGN CRITERIA (CASE B - INTERSECTIONS WITH STOP CONTROL ON THE MINOR ROAD)<sup>(1)</sup>

- 1) DESIGN VEHICLE - PASSENGER CAR
- 2) DESIGN SPEED - 45 M.P.H.
- 3) SETBACK DISTANCE FROM THE EDGE OF TRAVEL LANE - 25-FT<sup>(2)</sup>
- 4) SIGHT DISTANCE - 500-FT<sup>(2)</sup>
- 5) PORTER RD - MAJOR THOROUGHFARE<sup>(3)</sup>

SOURCES:

- 1-INTERSECTION SIGHT DISTANCES ARE BASED ON THE 6TH EDITION (2011) AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (ASHTO) CRITERIA FOR INTERSECTION SIGHT DISTANCE.
- 2-HARRIS COUNTY STANDARDS AND SPECIFICATIONS.
- 3-2018 MTFP & TRANSIT CORRIDOR STREET HIERARCHY CLASSIFICATION TABLE.

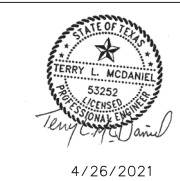
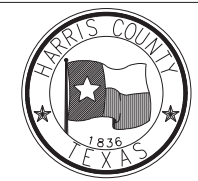
CLEAR SIGHT TRIANGLE FROM VIEWING TRAFFIC APPROACHING FROM THE NORTH. NO REMOVAL NECESSARY.



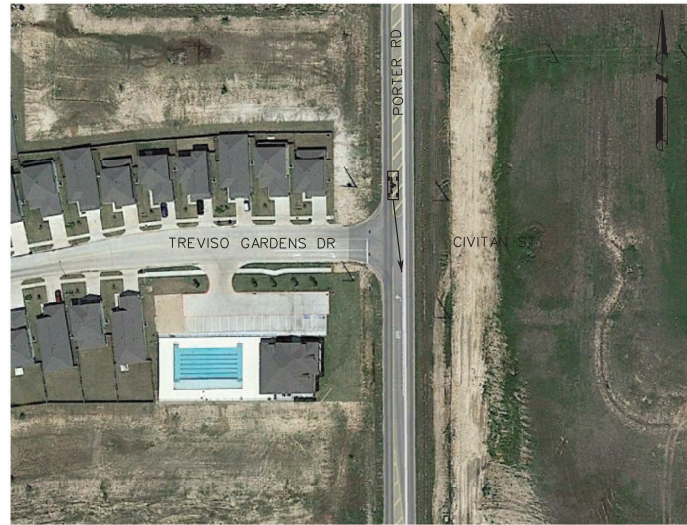
P:\HC03-4410\DCN\BP\Sight Triangle CIVITAN WB 25-Offset\_Left turn.dgn  
4/26/2021 12:11:58 PM kkozakis

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



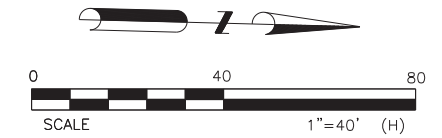
PROJECT TITLE:		PORTER RD SEGMENT 3
SHEET DESCRIPTION:		CIVITAN ST WESTBOUND LEFT SIGHT TRIANGLE
DRAWN BY:	K. KOZAKIS	DATE:
CK'D BY:	T. MCDANIEL	4/26/2021
SCALE:	1" = 40'	SHEET NO.:
		/



EXISTING INTERSECTION  
AERIAL VIEW

- LEGEND**
- DIRECTION OF TRAFFIC FLOW
  - EXIST. R.O.W.
  - PASSENGER VEHICLE
  - SIGHT TRIANGLE

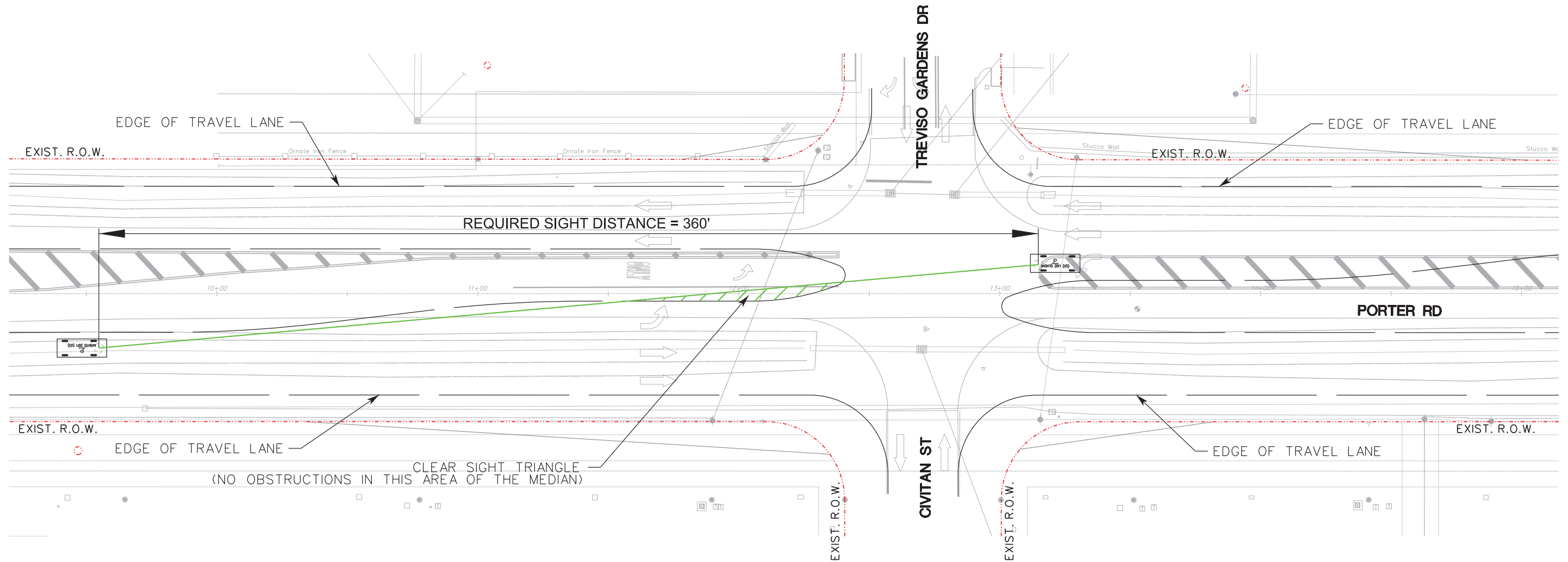
EXIST. POSTED SPEED	
PORTER RD	45 M.P.H.
CIVITAN ST	30 M.P.H.



- DESIGN CRITERIA:**
- 1) DESIGN VEHICLE - PASSENGER CAR
  - 2) DESIGN SPEED - 45 M.P.H.
  - 3) SIGHT DISTANCE - 360-FT<sup>(1)</sup>
  - 4) PORTER RD - MAJOR THOROUGHFARE<sup>(2)</sup>

- SOURCES:**
- 1-HARRIS COUNTY STANDARDS AND SPECIFICATIONS
  - 2-2018 MTFP & TRANSIT CORRIDOR STREET HIERARCHY CLASSIFICATION TABLE.

PROP. CLEAR SIGHT TRIANGLE FROM VIEWING TRAFFIC APPROACHING FROM THE SOUTH.



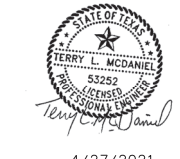
P:\HC03-4410.DGN\SP\Sight Triangle CIVITAN SB LT .dgn  
4/27/2021 12:00:26 PM kkozakis

NO.	REVISIONS	DATE	NAME

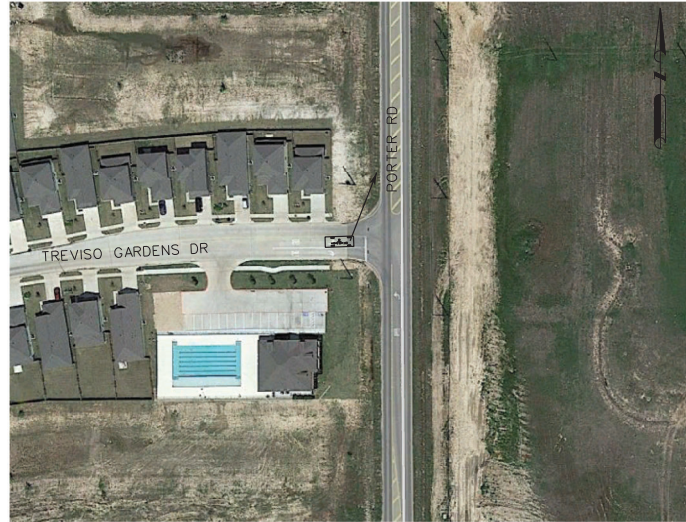
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**Midtown Engineers, LLC**  
5225 KATY FREEWAY, SUITE 400 HOUSTON, TX 77007  
(713) 862-8848 WWW.MIDTOWNEENGINEERS.COM  
TBPE NO. F-8934



PROJECT TITLE:		PORTER RD SEGMENT 3
SHEET DESCRIPTION:		CIVITAN ST SOUTHBOUND SIGHT TRIANGLE
DRAWN BY:	K. KOZAKIS	DATE:
CK'D BY:	T. MCDANIEL	4/27/2021
SCALE:	1" = 40'	SHEET NO:
		/



EXISTING INTERSECTION  
AERIAL VIEW

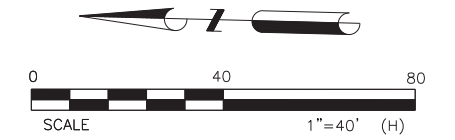


AT TREVISIO GARDENS DR  
FACING EAST, LOOKING NORTH ON PORTER RD  
(@ APPROXIMATELY 15-FT SETBACK)

LEGEND

- DIRECTION OF TRAFFIC FLOW
- EXIST. R.O.W.
- PASSENGER VEHICLE
- SIGHT TRIANGLE

EXIST. POSTED SPEED	
PORTER RD	45 M.P.H.
TREVISIO GARDENS DR	30 M.P.H.



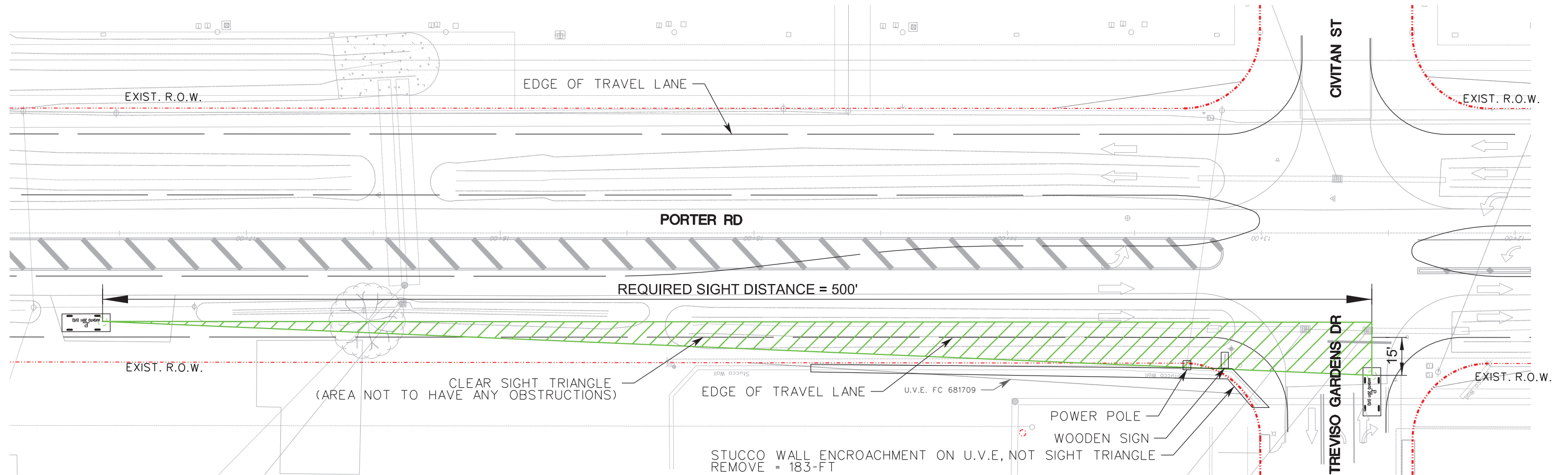
DESIGN CRITERIA (CASE B - INTERSECTIONS WITH STOP CONTROL ON THE MINOR ROAD) <sup>(1)</sup>

- 1) DESIGN VEHICLE - PASSENGER CAR
- 2) DESIGN SPEED - 45 M.P.H.
- 3) SETBACK DISTANCE FROM THE EDGE OF TRAVEL LANE - 15-FT <sup>(2)</sup>
- 4) SIGHT DISTANCE - 500-FT <sup>(2)</sup>
- 5) PORTER RD - MAJOR THOROUGHFARE <sup>(3)</sup>

SOURCES:

- 1-INTERSECTION SIGHT DISTANCES ARE BASED ON THE 6TH EDITION (2011) AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (ASHTO) CRITERIA FOR INTERSECTION SIGHT DISTANCE.
- 2-HARRIS COUNTY STANDARDS AND SPECIFICATIONS.
- 3-2018 MTFP & TRANSIT CORRIDOR STREET HIERARCHY CLASSIFICATION TABLE.

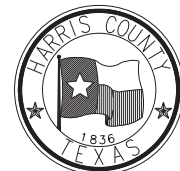
OBSTRUCTIONS IN SIGHT TRIANGLE FROM VIEWING TRAFFIC APPROACHING FROM THE NORTH. RECOMMEND TO REMOVE WOODEN SIGN.



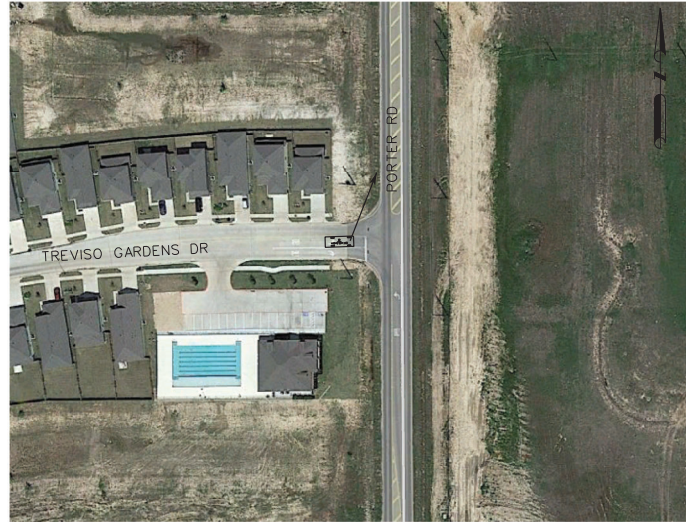
P:\HC03-4410\DCN\PP\Sight Triangle TG EB 15-Offset.dgn  
4/26/2021 11:47:08 AM Kkozakis

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



PROJECT TITLE:		PORTER RD SEGMENT 3	
		TREVISIO GARDENS DR	
SHEET DESCRIPTION:		EASTBOUND SIGHT TRIANGLE	
DRAWN BY:	K. KOZAKIS	DATE:	4/26/2021
CK'D BY:	T. MCDANIEL	SHEET NO.:	
SCALE:	1" = 40'		



EXISTING INTERSECTION  
AERIAL VIEW

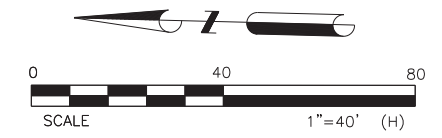


AT TREVISIO GARDENS DR  
FACING EAST, LOOKING NORTH ON PORTER RD  
(@ APPROXIMATELY 25-FT SETBACK)

LEGEND

- DIRECTION OF TRAFFIC FLOW
- EXIST. R.O.W.
- PASSENGER VEHICLE
- SIGHT TRIANGLE

EXIST. POSTED SPEED	
PORTER RD	45 M.P.H.
TREVISIO GARDENS DR	30 M.P.H.



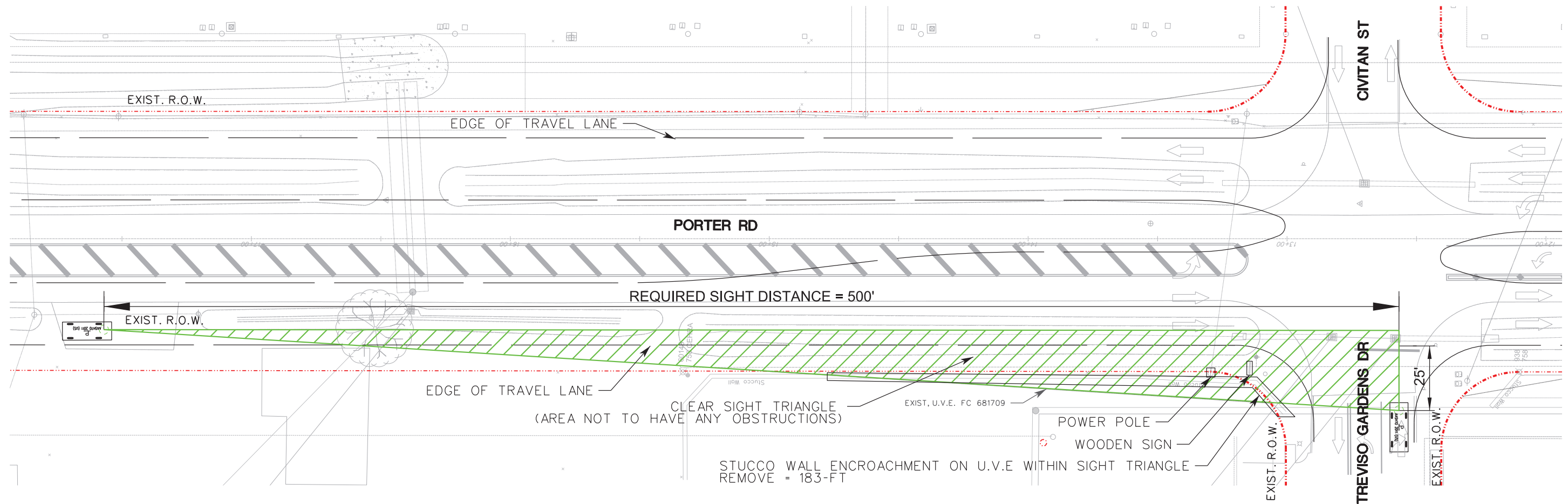
DESIGN CRITERIA (CASE B - INTERSECTIONS WITH STOP CONTROL ON THE MINOR ROAD)<sup>(1)</sup>

- 1) DESIGN VEHICLE - PASSENGER CAR
- 2) DESIGN SPEED - 45 M.P.H.
- 3) SETBACK DISTANCE FROM THE EDGE OF TRAVEL LANE - 25-FT<sup>(2)</sup>
- 4) SIGHT DISTANCE - 500-FT<sup>(2)</sup>
- 5) PORTER RD - MAJOR THOROUGHFARE<sup>(3)</sup>

SOURCES:

- 1-INTERSECTION SIGHT DISTANCES ARE BASED ON THE 6TH EDITION (2011) AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (ASHTO) CRITERIA FOR INTERSECTION SIGHT DISTANCE.
- 2-HARRIS COUNTY STANDARDS AND SPECIFICATIONS.
- 3-2018 MTFP & TRANSIT CORRIDOR STREET HIERARCHY CLASSIFICATION TABLE.

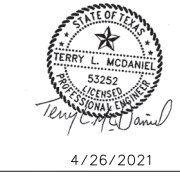
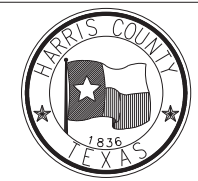
OBSTRUCTIONS IN SIGHT TRIANGLE FROM VIEWING TRAFFIC APPROACHING FROM THE NORTH. RECOMMEND TO REMOVE WOODEN SIGN AND WALL.



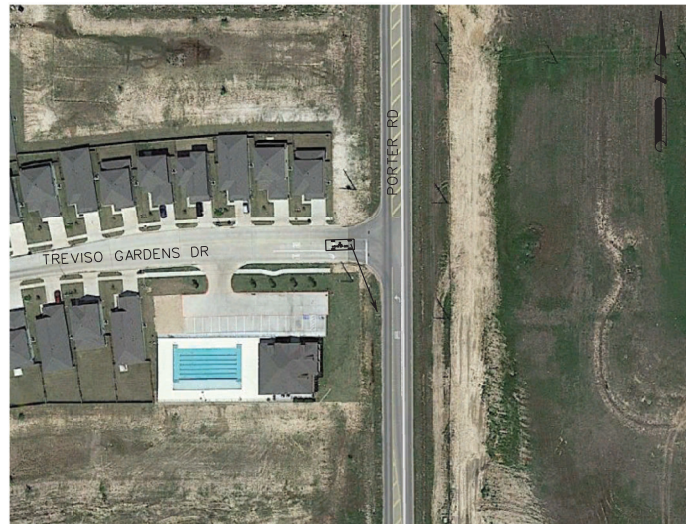
P:\HC03-4410\DCN\CP\ Sight Triangle TG EB 25-Offset.dgn  
4/26/2021 12:22:22 PM kkozakis

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



PROJECT TITLE:		PORTER RD SEGMENT 3 TREVISIO GARDENS DR	
SHEET DESCRIPTION:		EASTBOUND SIGHT TRIANGLE	
DRAWN BY:	K. KOZAKIS	DATE:	4/26/2021
CK'D BY:	T. MCDANIEL	SHEET NO.:	
SCALE:		1" = 40'	
PROJECT TITLE:		25-FT SETBACK	



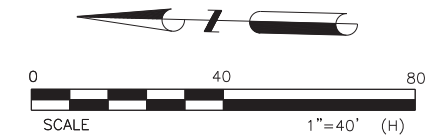
EXISTING INTERSECTION  
AERIAL VIEW



AT TREVISIO GARDENS DR  
FACING EAST, LOOKING SOUTH ON PORTER RD  
(@ APPROXIMATELY 15-FT SETBACK)

- LEGEND**
- DIRECTION OF TRAFFIC FLOW
  - EXIST. R.O.W.
  - PASSENGER VEHICLE
  - SIGHT TRIANGLE

EXIST. POSTED SPEED	
PORTER RD	45 M.P.H.
TREVISIO GARDENS DR	30 M.P.H.



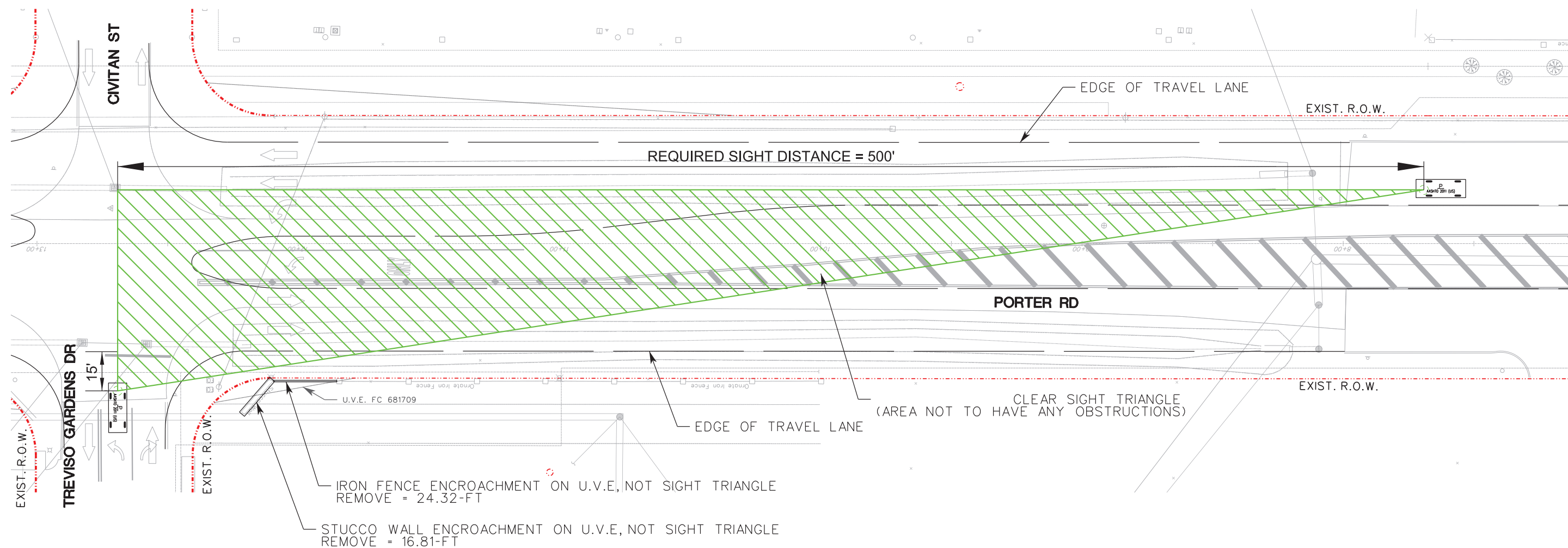
**DESIGN CRITERIA (CASE B - INTERSECTIONS WITH STOP CONTROL ON THE MINOR ROAD)<sup>(1)</sup>**

- 1) DESIGN VEHICLE - PASSENGER CAR
- 2) DESIGN SPEED - 45 M.P.H.
- 3) SETBACK DISTANCE FROM THE EDGE OF TRAVEL LANE - 15-FT<sup>(2)</sup>
- 4) SIGHT DISTANCE - 500-FT<sup>(2)</sup>
- 5) PORTER RD - MAJOR THOROUGHFARE<sup>(3)</sup>

**SOURCES:**

- 1-INTERSECTION SIGHT DISTANCES ARE BASED ON THE 6TH EDITION (2011) AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (ASHTO) CRITERIA FOR INTERSECTION SIGHT DISTANCE.
- 2-HARRIS COUNTY STANDARDS AND SPECIFICATIONS.
- 3-2018 MTFP & TRANSIT CORRIDOR STREET HIERARCHY CLASSIFICATION TABLE.

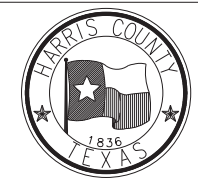
CLEAR SIGHT TRIANGLE FROM VIEWING TRAFFIC APPROACHING FROM THE SOUTH.



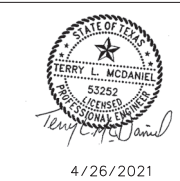
P:\HC03-4410\DCN\PP\Sight Triangle TG EB 15-Offset\Left turn.dgn  
4/26/2021 12:19:58 PM kkozakis

NO.	REVISIONS	DATE	NAME

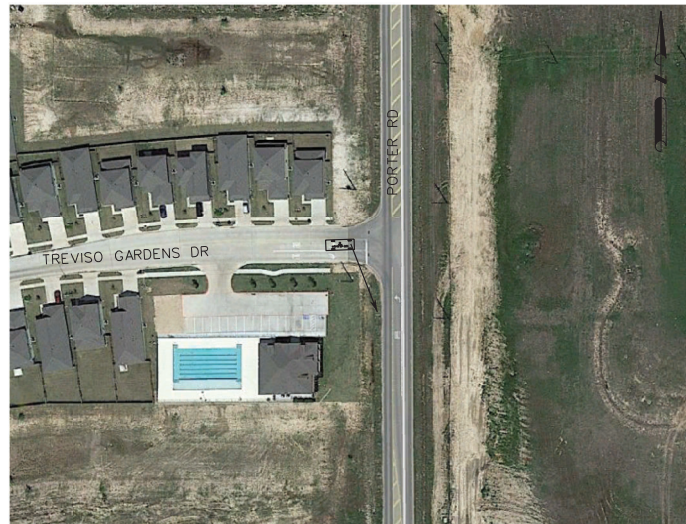
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**Midtown Engineers, LLC**  
5225 KATY FREEWAY, SUITE 400 HOUSTON, TX 77007  
(713) 862-8848 WWW.MIDTOWNEENGINEERS.COM  
TBPE NO. F-8934



PROJECT TITLE:		PORTER RD SEGMENT 3 TREVISIO GARDENS DR	
SHEET DESCRIPTION: EASTBOUND LEFT SIGHT TRIANGLE			
DRAWN BY:	15-FT SETBACK		DATE:
K. KOZAKIS			4/26/2021
CK'D BY:	SCALE:		SHEET NO:
T. MCDANIEL	1" = 40'		/



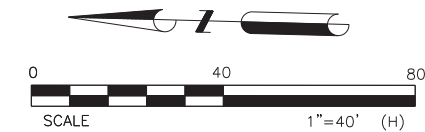
EXISTING INTERSECTION  
AERIAL VIEW



AT TREVISO GARDENS DR  
FACING EAST, LOOKING SOUTH ON PORTER RD  
(@ APPROXIMATELY 25-FT SETBACK)

- LEGEND**
- DIRECTION OF TRAFFIC FLOW
  - EXIST. R.O.W.
  - PASSENGER VEHICLE
  - SIGHT TRIANGLE

EXIST. POSTED SPEED	
PORTER RD	45 M.P.H.
TREVISO GARDENS DR	30 M.P.H.



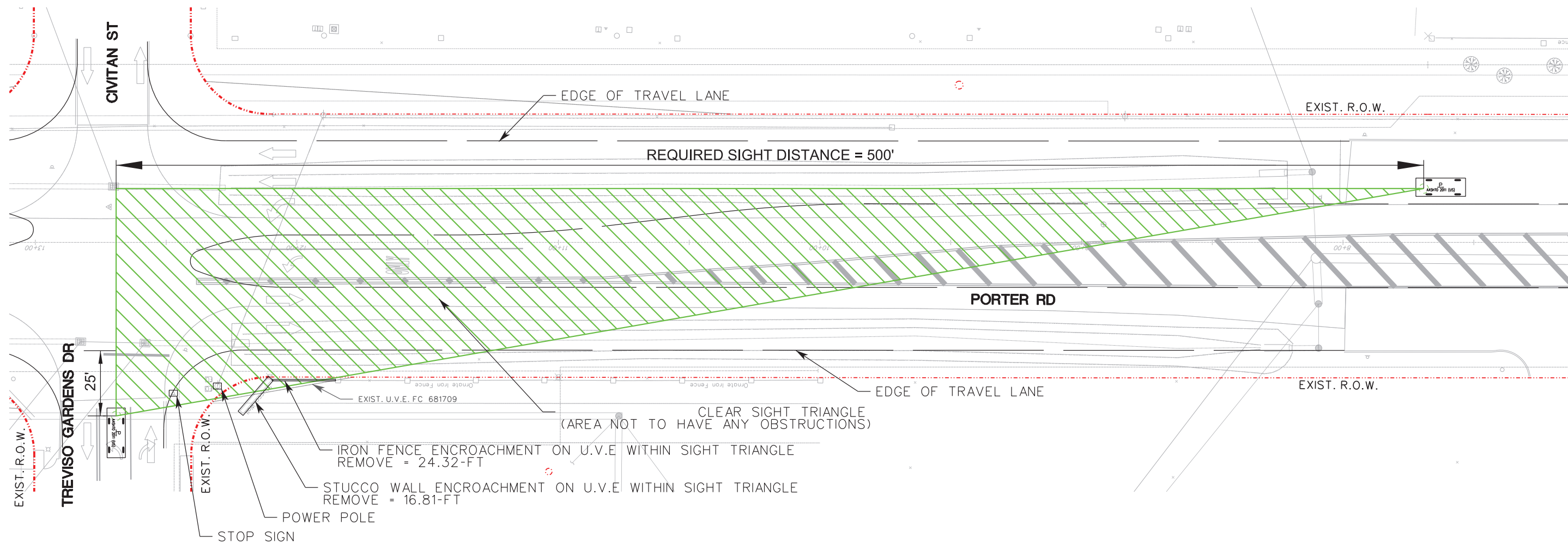
**DESIGN CRITERIA (CASE B - INTERSECTIONS WITH STOP CONTROL ON THE MINOR ROAD)<sup>(1)</sup>**

- 1) DESIGN VEHICLE - PASSENGER CAR
- 2) DESIGN SPEED - 45 M.P.H.
- 3) SETBACK DISTANCE FROM THE EDGE OF TRAVEL LANE - 25-FT<sup>(2)</sup>
- 4) SIGHT DISTANCE - 500-FT<sup>(2)</sup>
- 5) PORTER RD - MAJOR THOROUGHFARE<sup>(3)</sup>

**SOURCES:**

- 1-INTERSECTION SIGHT DISTANCES ARE BASED ON THE 6TH EDITION (2011) AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (ASHTO) CRITERIA FOR INTERSECTION SIGHT DISTANCE.
- 2-HARRIS COUNTY STANDARDS AND SPECIFICATIONS.
- 3-2018 MTFP & TRANSIT CORRIDOR STREET HIERARCHY CLASSIFICATION TABLE.

OBSTRUCTIONS IN RIGHT TRIANGLE FROM VIEWING TRAFFIC APPROACHING FROM THE SOUTH. RECOMMEND TO REMOVE WALL.



P:\HC03-4410\DCN\PP\Sight Triangle TG EB 25-Offset\_Left turn.dgn  
4/26/2021 11:53:09 AM kkozakis

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT

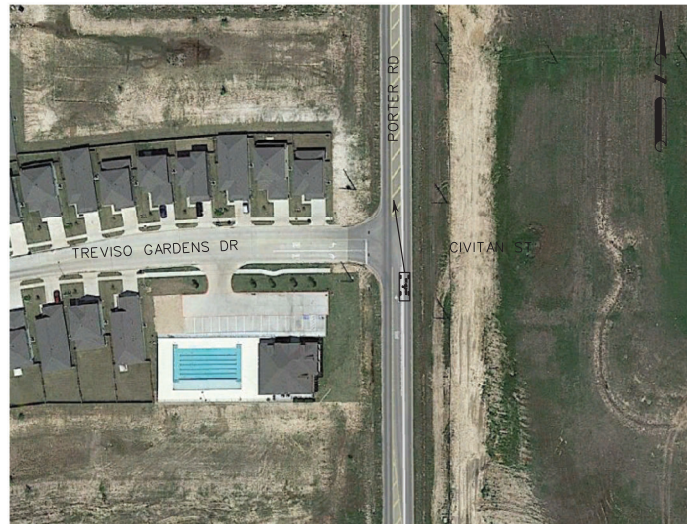


**Midtown Engineers, LLC**  
5225 KATY FREEWAY, SUITE 400 HOUSTON, TX 77007  
(713) 862-8848 WWW.MIDTOWNEENGINEERS.COM  
TBPE NO. F-8934



PROJECT TITLE:		PORTER RD SEGMENT 3 TREVISO GARDENS DR
SHEET DESCRIPTION:		EASTBOUND LEFT SIGHT TRIANGLE 25-FT SETBACK
DRAWN BY:	K. KOZAKIS	DATE:
CK'D BY:	T. MCDANIEL	4/26/2021
SCALE:	1" = 40'	SHEET NO:

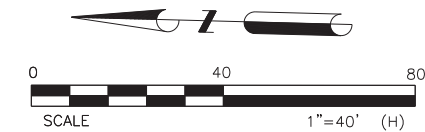




EXISTING INTERSECTION  
AERIAL VIEW

- LEGEND**
- ← DIRECTION OF TRAFFIC FLOW
  - - - - - EXIST. R.O.W.
  - PASSENGER VEHICLE
  - SIGHT TRIANGLE

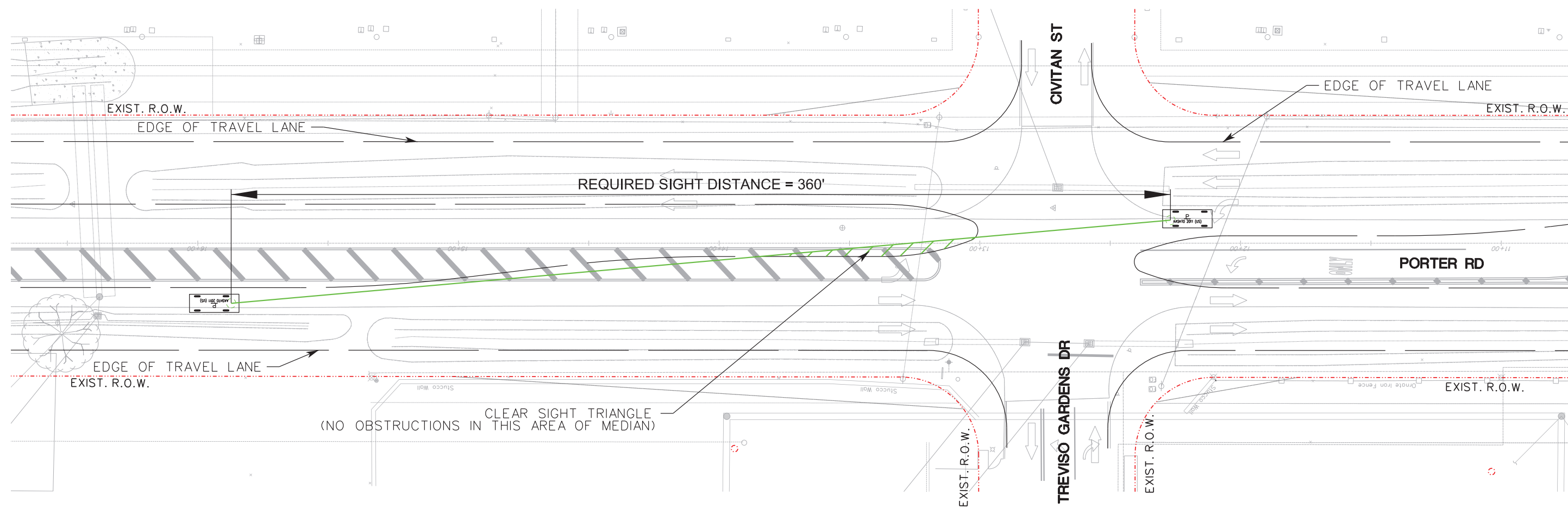
EXIST. POSTED SPEED	
PORTER RD	45 M.P.H.
TREVISIO GARDENS DR	30 M.P.H.



- DESIGN CRITERIA:**
- 1) DESIGN VEHICLE - PASSENGER CAR
  - 2) DESIGN SPEED - 45 M.P.H.
  - 3) SIGHT DISTANCE - 360-FT <sup>(1)</sup>
  - 4) PORTER RD - MAJOR THOROUGHFARE <sup>(2)</sup>

- SOURCES:**
- 1-HARRIS COUNTY STANDARDS AND SPECIFICATIONS
  - 2-2018 MTFP & TRANSIT CORRIDOR STREET HIERARCHY CLASSIFICATION TABLE.

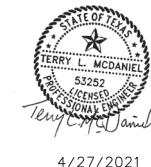
PROP. CLEAR SIGHT TRIANGLE FROM VIEWING TRAFFIC APPROACHING FROM THE NORTH.



P:\HC03-4410.DGN\PP\Sight Triangle TG NB LT.dgn  
4/27/2021 12:04:14 PM Kkozakis

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT



PROJECT TITLE:		PORTER RD SEGMENT 3
		TREVISIO GARDENS DR
SHEET DESCRIPTION:		NORTHBOUND SIGHT TRIANGLE
DRAWN BY:	MEDIAN LEFT TURN LANE	
CK'D BY:	SCALE:	DATE:
T. MCDANIEL	1" = 40'	4/27/2021
		SHEET NO:
		/

APPENDIX G

PORTER ROAD DRAINAGE REPORT

June 3, 2021

Mr. Terry L. McDaniel, P.E.  
Project Manager  
Midtown Engineers, LLC  
5225 Katy Freeway, Suite 400  
Houston, TX 77007

Via email: [TMcDaniel@midtownengineers.com](mailto:TMcDaniel@midtownengineers.com)

Re: Porter Road Drainage Report – Civil Engineering Services Harris County, Texas

Dear Mr. McDaniel:

Pape-Dawson was contracted to conduct a hydrologic and hydraulic analysis of Porter Road. The project limits are west of Grand Parkway, south of Clay Road, and north of Morton Ranch Road. The following provides our evaluation of the proposed drainage alternatives and recommendations of the Porter Road study for submission to Harris County Engineering Department.

### **Existing Conditions**

A HEC-RAS 1D unsteady model was prepared for the area to help create a baseline for the impact study and identify general flow patterns from the roadway and in adjacent drainage areas. **Figure 1** provides the general flow pattern from a 100-year storm event modeled by assigning the NOAA Atlas-14 precipitation values to the Metrologic model in HEC-HMS. The 10- and 2-year events were similarly modeled. The offsite drainage area, west of the site is self-contained, outfalling to U101-08-00. Drainage areas east of the site drain south-easterly, away from Porter Road. The models use 2018 LiDAR. **Figure 2** provides the existing 100- and 2-year water surface profiles along Porter Road along with the existing roadway profile.

Provided as-built data for the surrounding areas and the extended portion of Porter Road was reviewed. The plan sets provided the assumed drainage area and designed flow going to the currently constructed portion of Porter Road north of Morton Ranch Road along with the elevations and size of pipes going into U101-08-00, from the existing developments. The plans for the southern portion of Porter Road indicate that 23.9 cfs has been designed for the 3-year storm event to flow south into tributary T101-13-00. Based on the plans from the as-builts, the designed drainage area was approximately 12.6 acres. This included frontage along the west side of Porter Road. Current as-built conditions have taken this frontage through internal drainage and is no longer required to be served by the Porter Rd system providing additional capacity for Porter Road improvements.

Drainage area 15 (DA\_15), also known as the Marcello Lakes development, was calibrated to match EHRA Engineering effective rainfall conditions at 177 cfs to Porter Road. The EHRA drainage report indicating a design flow rate of 177 cfs flows into Porter Road and was approved in 2019. Our parameters for DA\_15 in HEC-HMS model were adjusted using effective rainfall data to match the flow from the approved EHRA report. The adjusted parameters to produce the 177 cfs were entered into the existing Atlas 14 rainfall model for the Porter Road modeling to update the estimated flow at Porter Road to Atlas 14 conditions. Drainage Area 15 flows to U101-08-00 are controlled at Porter Road by a 48" RCP pipe which connects to a 72" RCP crossing Porter Road.

Drainage area 20 and 21 (DA\_20 & DA\_21), also known as Morton Creek Ranch development, were modeled using data from the RG Miller approved August 2020 report. We used their proposed conditions and approved model as our current existing conditions model. We calibrated our HEC-HMS and HEC-RAS model to match the flows produced in the report that flow into the basin south of U101-08-00. The basin storage and hydraulics were modeled directly in the Porter Road HEC-RAS model. The existing dam located in U101-08-00, downstream of Porter as of the date of this report has been approved to be removed. For the Porter Road modeling the embankment was removed and the channel regraded to provide positive slope downstream. The Morton Creek Ranch basin was modeled and has one spillway and three outfalls going in to U101-08-00. The existing pipes outfalling into U101-08-00 from the basin in DA\_20 are one 30" RCP and one 48" RCP.

Drainage area 14 is conveyed across Porter Road in an existing 2~ 5'X2' RCBs into a ditch that parallels Porter Road along the east ROW and outfalls to U101-08-00 (See **Figure 1**). The south portion of Porter Road between the 2~ 5'X2' RCB crossings and U101-08-00 drains north to U101-08-00 in roadside ditches.

Drainage area Dev\_2, Dev\_3, and Dev\_4 are a part of the 150-foot drainage strip along Porter Road. These drainage areas currently drain away from Porter and enter U101-08-00 further downstream. But for consistency in comparison to proposed conditions and that the existing County criteria is for the existing system to provide capacity for this area we have included them as part of the existing area served by Porter Road. The revised existing conditions model roadside ditch along Porter Road are collected in the existing 72" pipe crossing Porter Road.

South of U101-08-00 only Porter Road ROW is served by existing conditions as area outside of the ROW is self-contained by development.

## Proposed Conditions

The proposed roadway is to be vertically elevated for a curb and gutter system but anticipated to not vary greatly from the existing condition roadway profile. The roadway profile was traced along the existing roadway from LiDAR. The vertical profile has a saw cut and was set to have a minimum sag of 140.93 feet for the south portion and 142.3 feet for the north portion as shown in **Figure 2**. The top of curb of the median will be approximately 1-foot above the gutter elevations. The storm sewer system along Porter Road was sized for the right-of way and the 150' drainage strip east of Porter Road to maintain the proposed Atlas-14 100-year event to be at or below the existing 100-year event and the proposed 2-year event to be at least 1-foot below gutter elevation. **Table 1 & 2** provides the storm sewer system for Alternative 1 and 2. Approximately 1,150 linear feet of Porter Road south of U101-08-00 will drain to U101-08-00. The system is to split at Civitan Road and the existing two 5'X2' RCB crossing that serves Drainage Area 14 will be removed shown on **Figure 1**. This segment north of Civitan Road requires approximately 580 linear feet of 36-inch storm sewer pipe and 480 feet of 24-inch storm sewer pipe. The remaining 630 linear feet of Porter Road will outfall to the existing boulevard section connecting to Morton Ranch Rd and requires approximately 460 linear feet of 24-inch storm sewer.

The proposed ROW is assumed to be 100-foot wide and contain 4 lanes at 12-feet wide with a median of 14-foot wide (**Figure 3**). Impact analysis for existing versus proposed conditions assumes:

- Existing ROW 100' with 24' of pavement and 20' of roadside ditch for impervious cover calculations.
- Proposed ROW 100' with 81' of pavement and 12' of roadside ditch for impervious cover calculations, assuming 1' of ditch depth.
- Existing Time-of-Concentration (Tc) based on travel length in roadside ditches with a 2-fps velocity. The velocity was assumed based on typical flow velocity in a roadside ditch.
- Proposed Tc based on travel length with a 3-fps velocity. The velocity was assumed based on minimum pipe flow velocity.
- Existing calculations for impervious cover along the roadside ditch is 44%. The width of the roadway and roadside ditch is 44 ft out of 100 ft.
- Proposed impervious cover along the road way is assumed to be 93%. The width of the roadway and roadside ditch is 93 ft out of 100 ft.
- Storm sewer size approximated based on 100-year flow to be below existing 100-year with a minimum pipe slope of 0.0018 ft/ft.

Mitigation volume for the Atlas-14 100-year event is estimated to be 4 ac-ft.

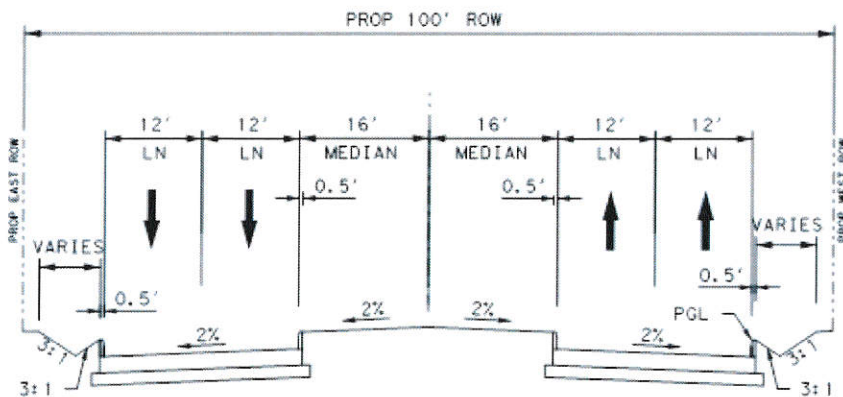


Figure 3: Typical cross section for proposed conditions for Porter Road.

### Proposed Conditions Alternative 1

Alternative 1 assumes that Porter Road will provide conveyance capacity for a 150-foot development strip along the east side of Porter between Clay Road and U101-08-00 in an undeveloped condition. The development strip is assumed in this analysis to provide on-site mitigation limiting flows to an existing conditions C-value of 0.2. Limiting the 100-year WSE to existing conditions controlled the pipe sizing shown in **Figure 4**. The approximated Alternative 1 storm sewer required for the project is shown in **Figures 5, 6 & Table 1**.

Alternative 1 Proposed Storm Sewer System				HGL		
Upstream Manhole	Downstream Manhole	Pipe Size	Linear Feet	2 year	10 year	100 year
MH2	MH3	30"	360'	137.61'	138.52'	141.61'
MH3	MH4	36"	600'	137.46'	138.13'	140.66'
MH4	MH5	42"	630'	137.26'	137.68'	139.56'
MH5	MH_OUT	42"	500'	137.10'	137.35'	138.75'
MH_OUT	U101-08-00	72"	210'	136.90'	136.90'	137.65'
MH7	MH_OUT	36"	580'	137.13'	137.40'	138.88'
MH7B	MH7	24"	348'	137.26'	137.69'	139.57'

Table 1: Proposed Storm Sewer System for Alternative 1.

### Proposed Conditions Alternative 2

Alternative 2 is based on the same drainage area as Alternative 1 but assumes an unmitigated 150-foot development strip based on a C-value of 0.65 for un-developed areas adjacent to the ROW. The storm sewers were sized to maintain the 100-year proposed peak flow conditions WSE below the 100-year existing peak flows WSE in the ROW and have the proposed 2-year be at least 1-foot below gutter elevations. **Figure 7** provides a schematic profile plot of the proposed roadway profile, cross culverts, and base storm sewer profile. **Appendix A** shows storm sewer calculations. **Appendix B** shows the rational method and BDF parameters used. As with proposed Alternative 1 no increases in flow on U101-08-00 was noted even with the increased drainage area/development due to timing of offsite area flows. The approximated Alternative 2 storm sewer required for the project is shown in **Figures 8, 9 & Table 2**.

Alternative 2 Proposed Storm Sewer System				HGL		
Upstream Manhole	Downstream Manhole	Pipe Size	Linear Feet	2 year	10 year	100 year
MH2	MH3	36"	360'	137.63'	139.28'	141.64'
MH3	MH4	42"	600'	137.42'	138.82'	140.52'
MH4	MH5	54"	630'	137.31'	138.54'	139.84'
MH5	MH_OUT	54"	500'	137.20'	138.32'	139.29'
MH_OUT	U101-08-00	72"	210'	136.90'	137.65'	137.65'
MH7	MH_OUT	36"	580'	137.25'	138.33'	138.93'
MH7B	MH7	24"	348'	137.43'	138.78'	140.26'

Table 2: Proposed Storm Sewer System and High Grade Line for Alternative 2.

The peak 100-year flow into U101-08-00 from the Porter Road ROW is approximately 45 cfs and the proposed conditions peak 100-yr flow is approximately 130 cfs. Despite the increase in flows from the ROW there is no impact to stage or peak flow in U101-08-00. This is due to the large offsite areas being drained through internal detention basins and the timing of the peak flow in the channel. **Figure 10** provides the 100-year hydrograph comparison of existing and proposed conditions just downstream of Porter Road. The initial spike in peak in flows is from the Porter Road ROW which can be seen to occur well ahead of the larger peak flow from the upstream drainage areas.

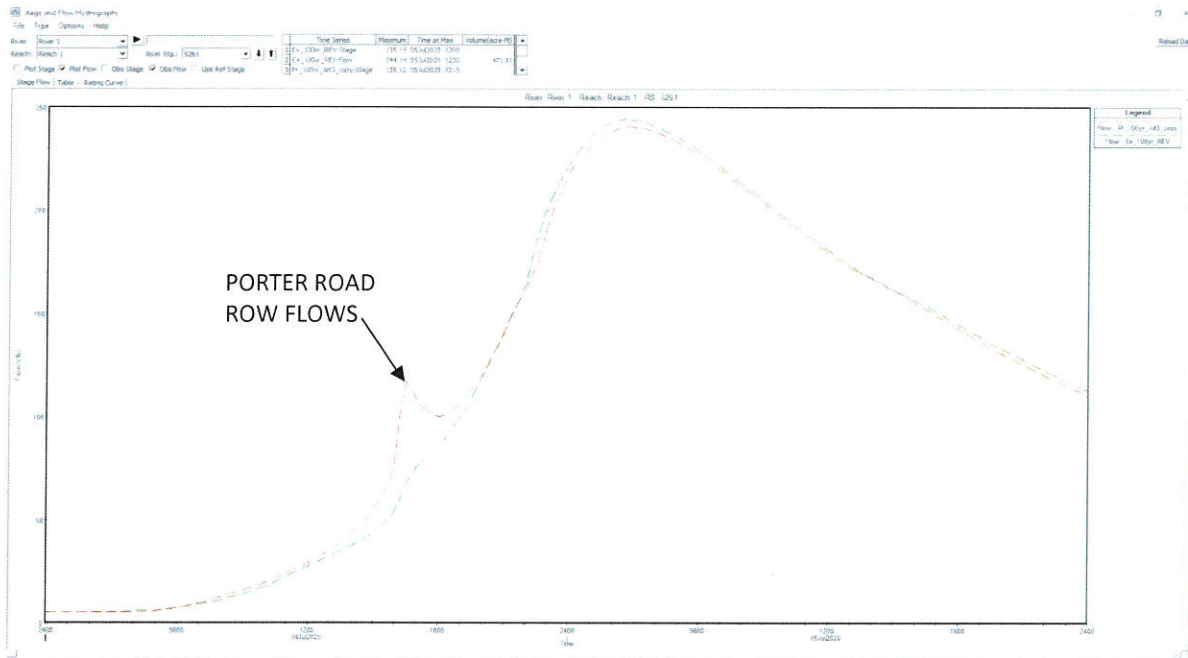


Figure 10: 100-Year hydrograph comparison of proposed alternative 2 and existing conditions.

Mitigation for the ROW increase in flows is estimated to require approximately 4-acft of volume. This volume was estimate assuming a 1acft/ac rate for the increased impervious cover [approximately 3.6 ac of increased impervious cover]. As noted above this mitigation is not required to mitigate flows within U101-08-00 but would be required considering ROW only flow. Due to the ROW only flows not having an impact on U101-08-00 this volume could be located anywhere within the vicinity of the project. For the south outfall to Morton Ranch Road no addition volume is required as the system has been designed to accommodate the ultimate condition as the adjacent frontage is no longer required to be served. The system was designed to convey a 3-year flow of 23.9-cfs and ultimate 100-year flow is estimated to be 9.4 cfs for the 100-ft ROW.

## Conclusion

The current drainage area served by Porter Road is limited to the proposed ROW as all offsite areas are either self-contained or drain away from the roadway. Mitigation is not necessary to mitigate for peak flows/stage in U101-08-00 but would require approximately 4-acft to mitigate peak flow from the ROW only. Approximately 1 acre of the southern end of Porter Road will outfall to the existing constructed portion of Porter Road at Morton Ranch. This outfall was previously sized for adjacent drainage area that has been accommodated internally by development allowing the existing outfalls to have sufficient capacity for the proposed improvements.

Alternative 2 is the selected alternative as it meets existing County criteria to provide developed conditions capacity for a 150-foot strip adjacent to the ROW. Due to the timing of peak flows and stage in

Mr. Terry L. McDaniel  
Porter Road Preliminary Evaluation  
Civil Engineering Services  
June 3, 2021  
Page 6 of 6

U101-08-00 the 4 ac-ft of volume could be located anywhere within the vicinity of the project as it is largely mitigation for impervious cover increase only. It is proposed that this volume be accounted for within the MUD 432 basin located within the Morton Creek Ranch subdivision. The MUD has stated that there is excess volume available within their basin. An agreement between the County and the MUD is currently being drafted to allow for this accommodation of 4 ac-ft.

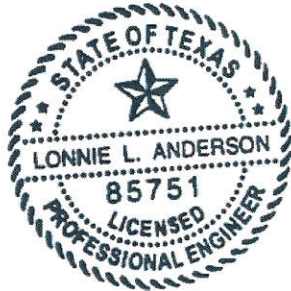
Sincerely,

Pape-Dawson Engineers, Inc.



6/3/2021

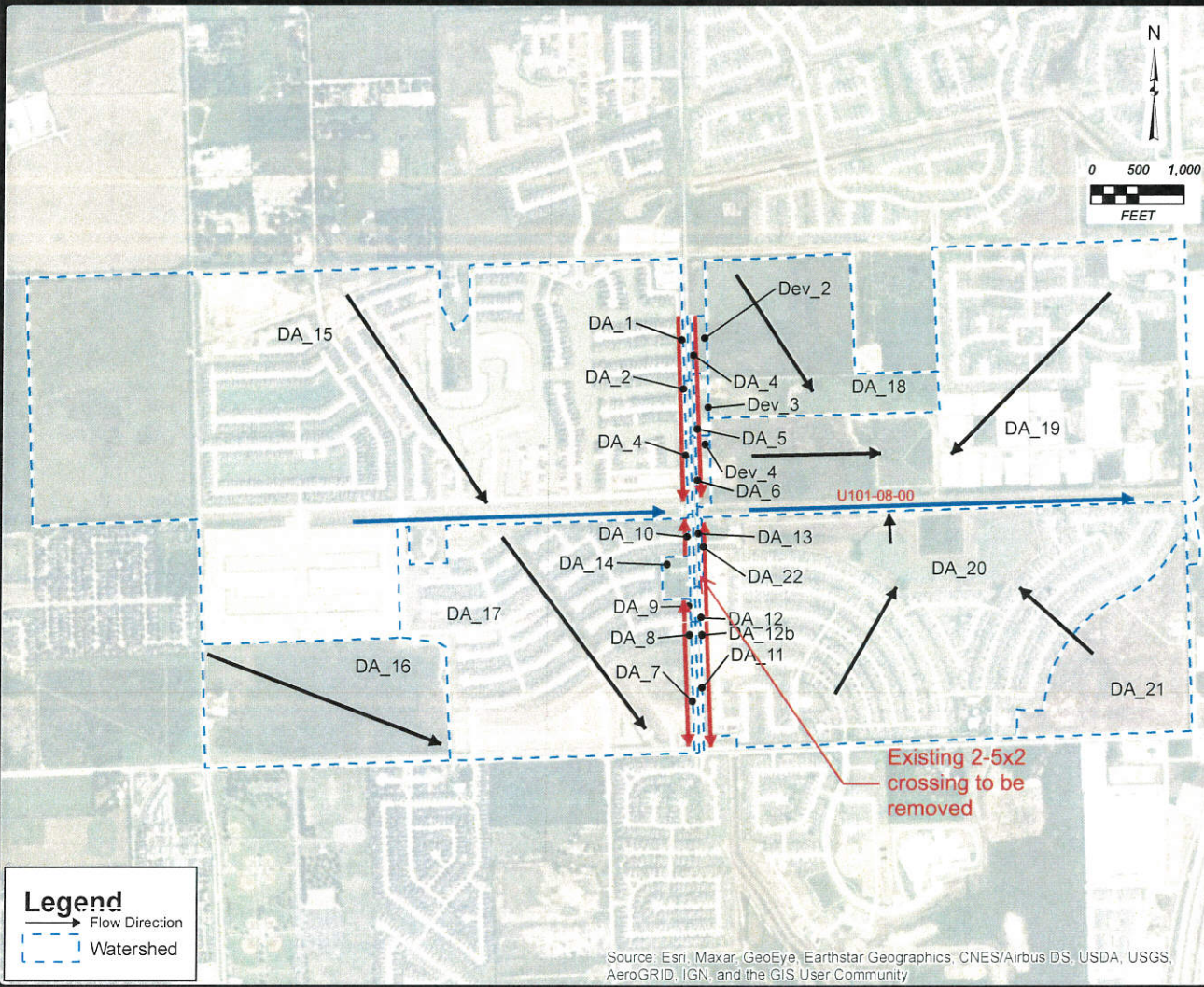
Lonnie Anderson, P.E.  
Practice Leader



Attachment



Date: Apr 19, 2021 9:09:25 AM User: kbrown  
 File: K:\Projects\60333\60333.dwg\60333\_General\_Flow.mxd



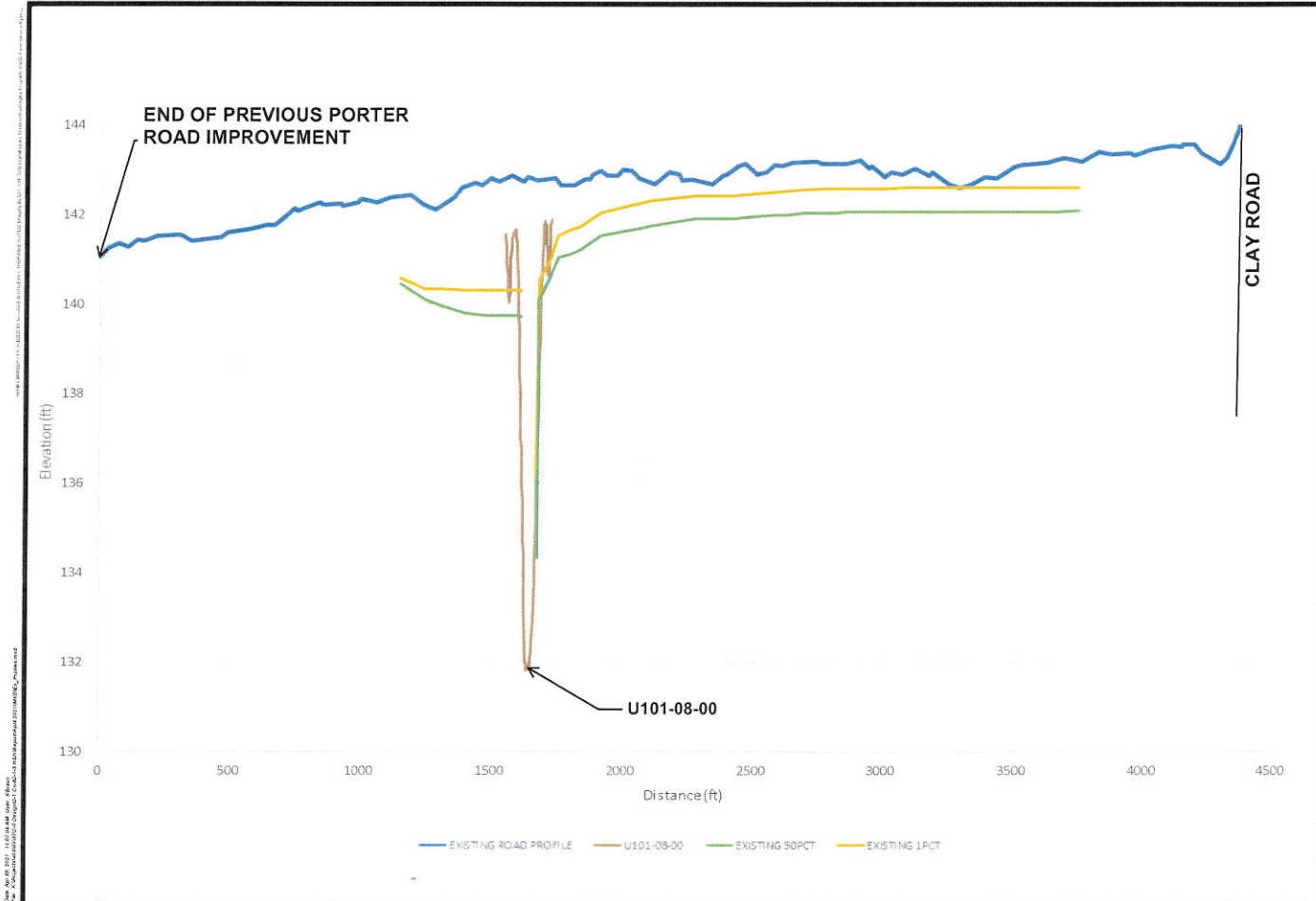
**PAPE-DAWSON**  
**ENGINEERS**

10333 RICHMOND AVE | HOUSTON, TEXAS 77042 | PHONE: 713.465.1600  
 SUITE 500 | HOUSTON, TEXAS 77042 | FAX: 713.428.2400  
 LICENSED PROFESSIONAL ENGINEERS, FIRM REGISTRATION #0191

**PORTER ROAD**  
**HARRIS COUNTY, TEXAS**  
**GENERAL FLOW FOR 100-YR EVENT**

JOB NO.	40235P-50
DATE	Apr 2021
DESIGNER	KB
CHECKED	LA, DRAWN KB
FIGURE	1

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT HAS BEEN CHECKED FOR ACCURACY AND MAY HAVE BEEN REPRODUCED FROM ORIGINAL SOURCE MATERIALS. THE USER SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE INFORMATION SHOWN HEREON.

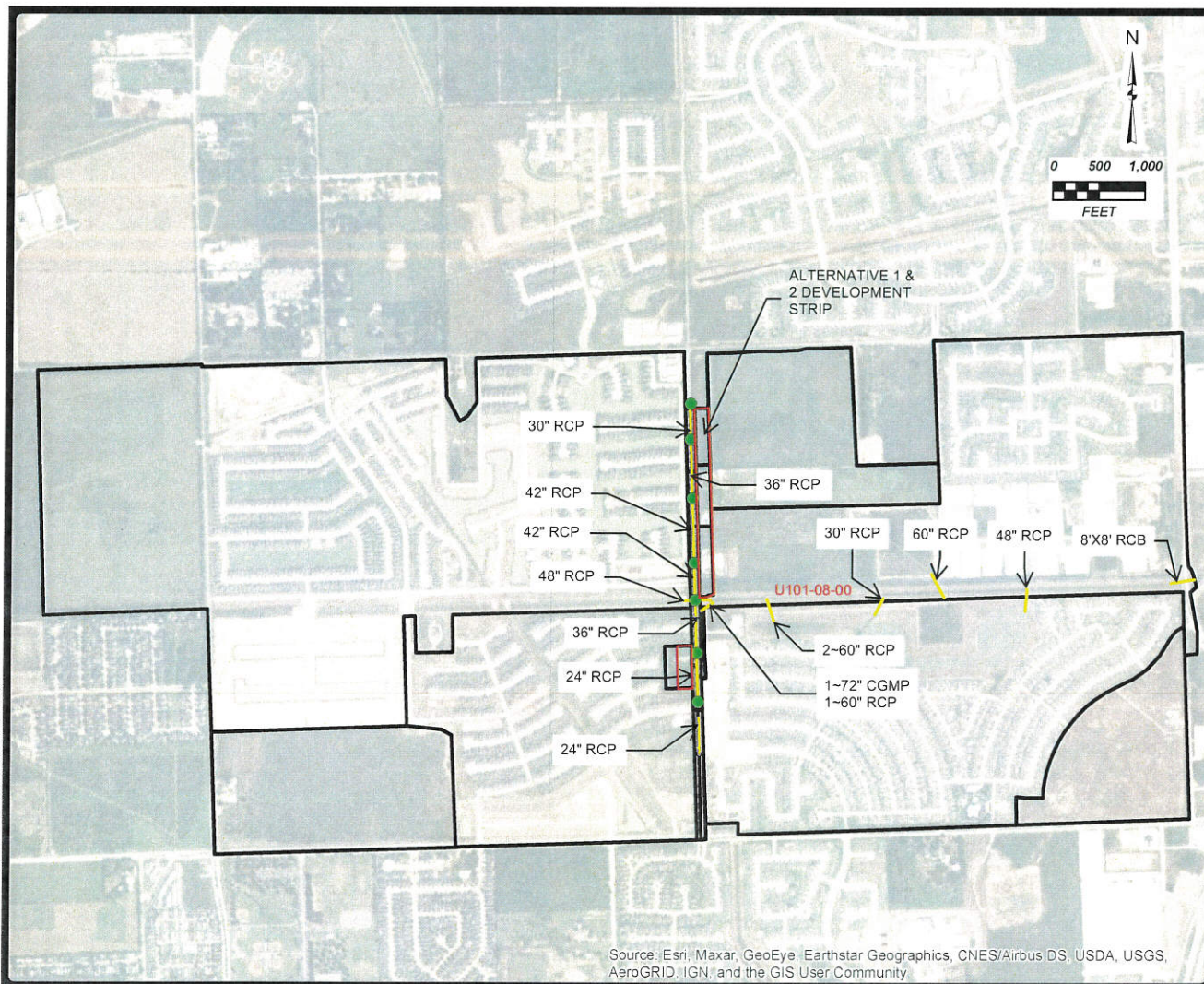


**PORTER ROAD**  
 HARRIS COUNTY, TEXAS  
 EX 2 - & 100-YR WATER SURFACE PROFILES

JOB NO.	40338-30
DATE	Apr 2021
DESIGNED	LA
DRAWN	KB
CHECKED	LA
FIGURE	2

THIS DOCUMENT AND ANY INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE.

DATE: Apr 20 2021 14:25:44 User: KBRain  
 File: K:\Projects\2021\Porter\DWG\210401\DWG\210401.dwg



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**PAPE-DAWSON ENGINEERS**

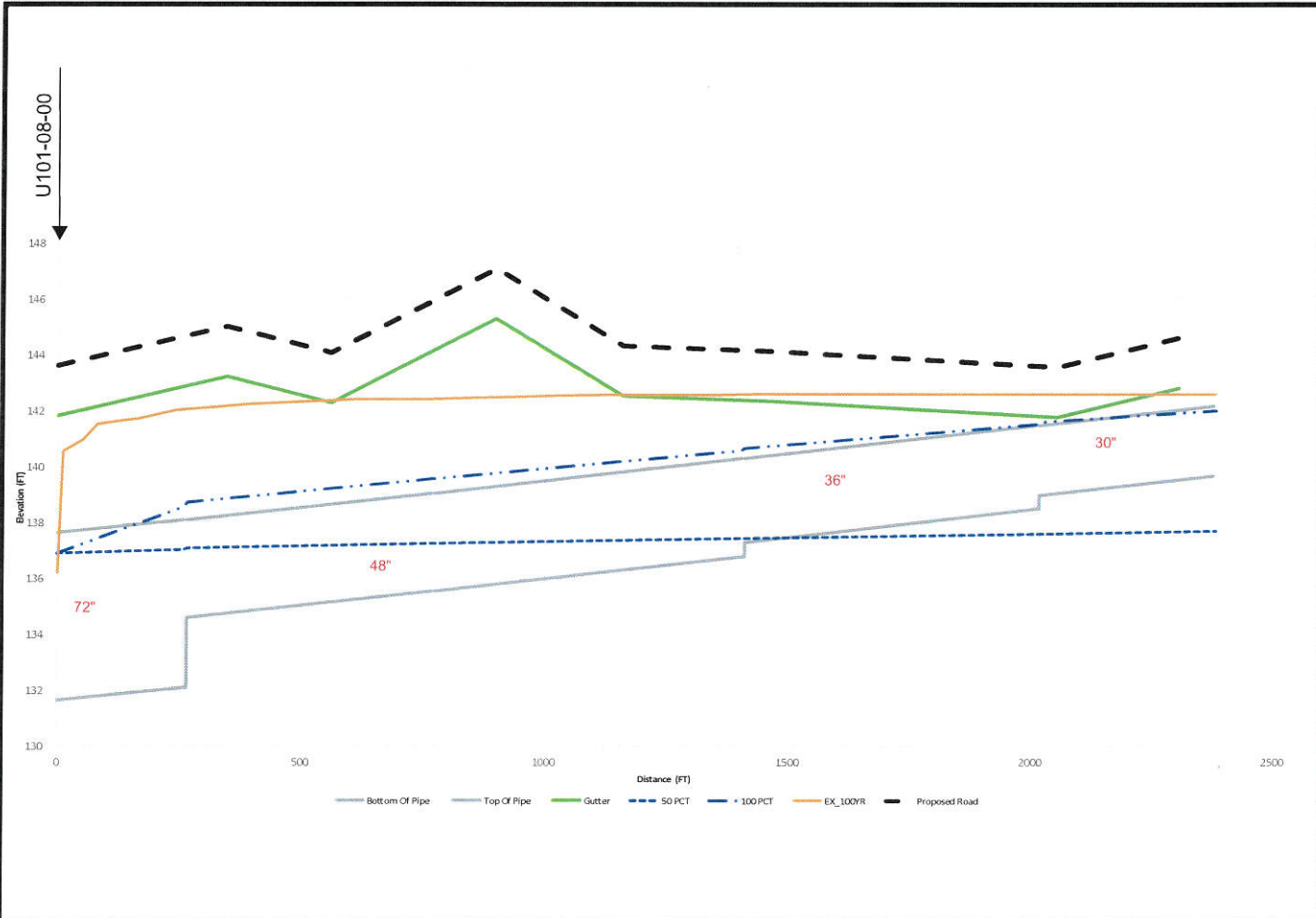
9033 RICHMOND AVE | HOUSTON, TEXAS 77042 | PHONE: 713.428.2400  
 SUITE 900 | FAX: 713.428.2420  
 TEXAS BOARD OF PROFESSIONAL ENGINEERS, P.E.M. REGISTRATION # 479

**PORTER ROAD  
 HARRIS COUNTY, TEXAS  
 Alternative 1 Storm Sewer System**

JOB NO.	40339-30
DATE	Apr 2021
DESIGNER	KB
CHECKED	LA DRAWN KB
FIGURE	4

THIS DOCUMENT HAS BEEN PRODUCED BY PROFESSIONAL ENGINEERS REGISTERED UNDER THE PROFESSIONAL ENGINEERING ACT. IT IS THE PROPERTY OF PAPE-DAWSON ENGINEERS AND MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING.

Job: May 2021 - 40338-30 - Porter Road - Alternative 1 - Water Surface Profiles (North System)  
 Date: May 2021  
 Design: LA  
 Drawn: KB  
 Checked: LA  
 Figure: 5

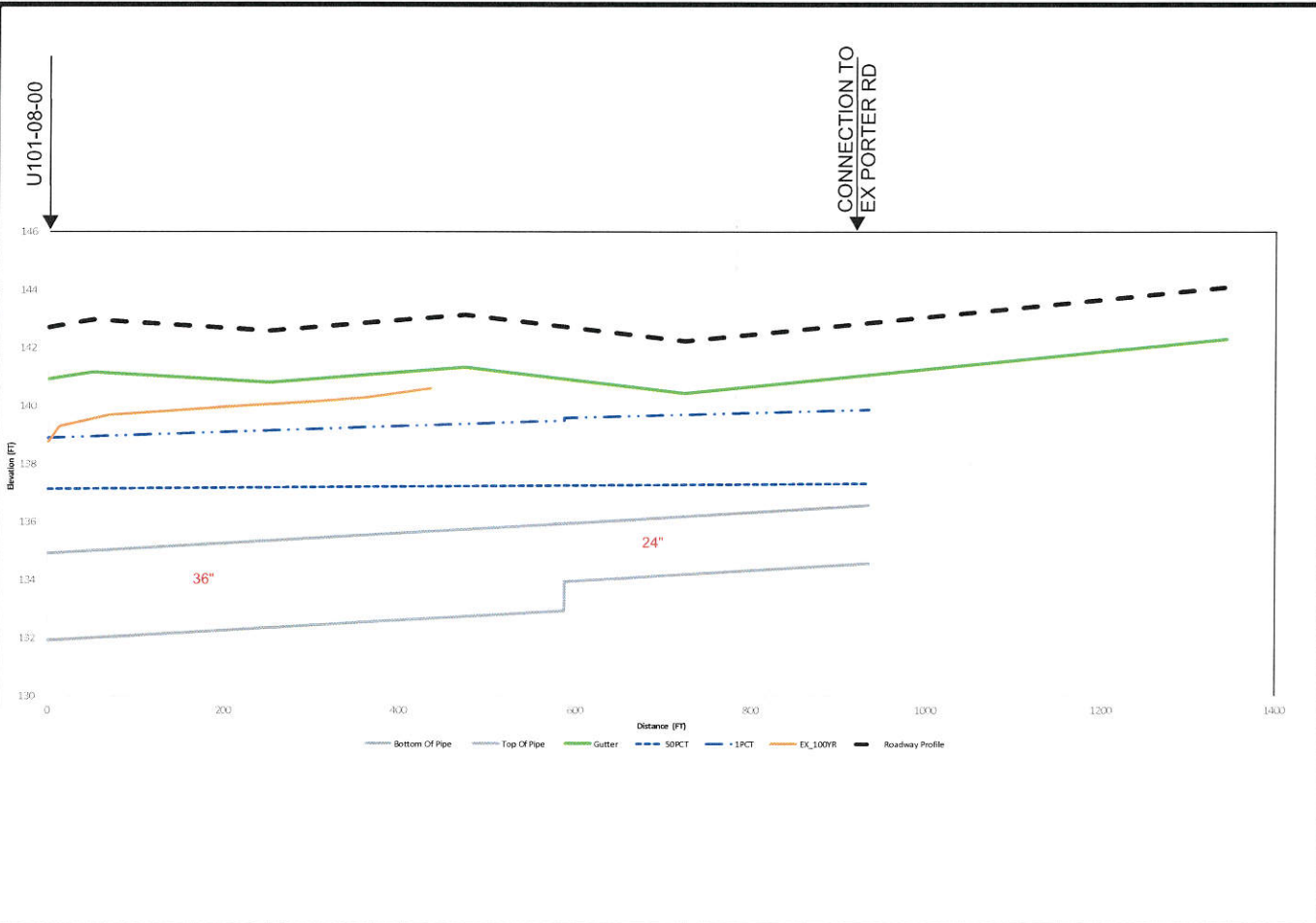


**PORTER ROAD**  
 HARRIS COUNTY, TEXAS  
**ALTERNATIVE 1 WATER SURFACE PROFILES (NORTH SYSTEM)**

JOB NO.	40338-30
DATE	May 2021
DESIGNED	LA
DRAWN	KB
CHECKED	LA
FIGURE	5

THIS DOCUMENT AND ANY INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE. IT IS THE PROPERTY OF PAPER ENGINEERS AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF PAPER ENGINEERS.

Job No. 40339-30, Date: May 2021, Scale: 1"=40', Project: PORTER ROAD WATER SURFACE PROFILES (SOUTH SYSTEM), Location: HARRIS COUNTY, TEXAS, Drawing Title: ALTERNATIVE 1 WATER SURFACE PROFILES (SOUTH SYSTEM), Figure: 6.

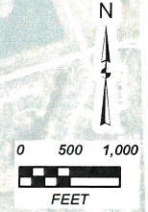
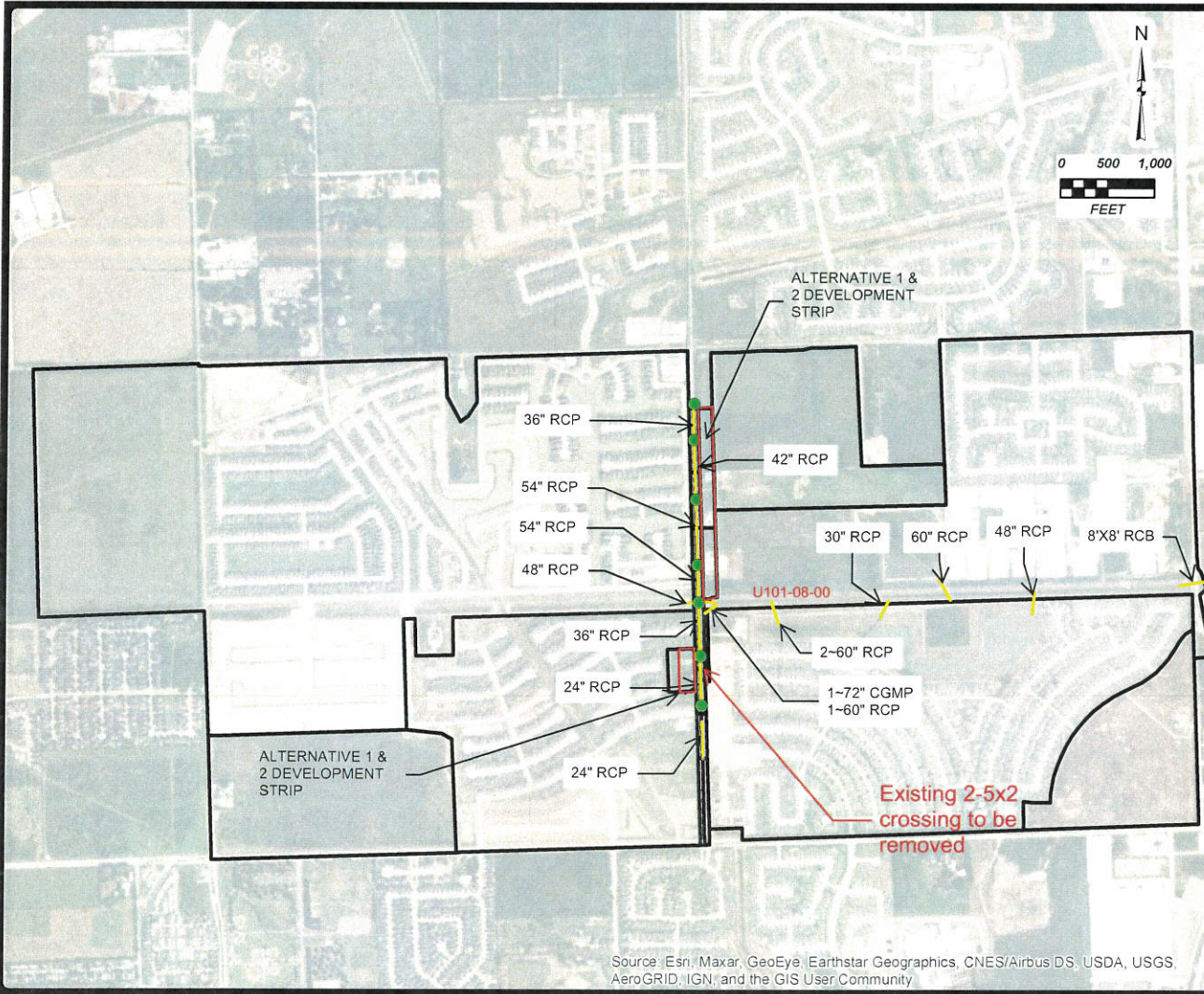


**PORTER ROAD**  
**HARRIS COUNTY, TEXAS**  
**ALTERNATIVE 1 WATER SURFACE PROFILES (SOUTH SYSTEM)**

JOB NO.	40339-30
DATE	May 2021
DESIGNED	LA
DRAWN	KB
CHECKED	LA
FIGURE	6

THIS DOCUMENT HAS BEEN PREPARED FROM MATERIAL THAT HAS BEEN SUBMITTED ELECTRONICALLY. ALL DATA HAS BEEN REPRODUCED AS SHOWN, WITH THE EXCEPT THAT MATERIALS BEARING THE CHECKED OR CORRECTED SIGNATURE AND DATE.

Date: Apr 30, 2021 9:22:57 AM User: c68waw  
 File: K:\Projects\4333333333\Design\7\_Cover\2-1.dwg\NewApr1021\1007.dwg.mxd



**PAPE-DAWSON ENGINEERS**  
 15105 WILKINSON AVE | HOUSTON, TEXAS 77042 | PHONE: 713.433.6450  
 SUITE 800 | FAX: 713.433.6220  
 TEXAS BOARD OF PROFESSIONAL ENGINEERS, P.E.M. REGISTRATION # 070

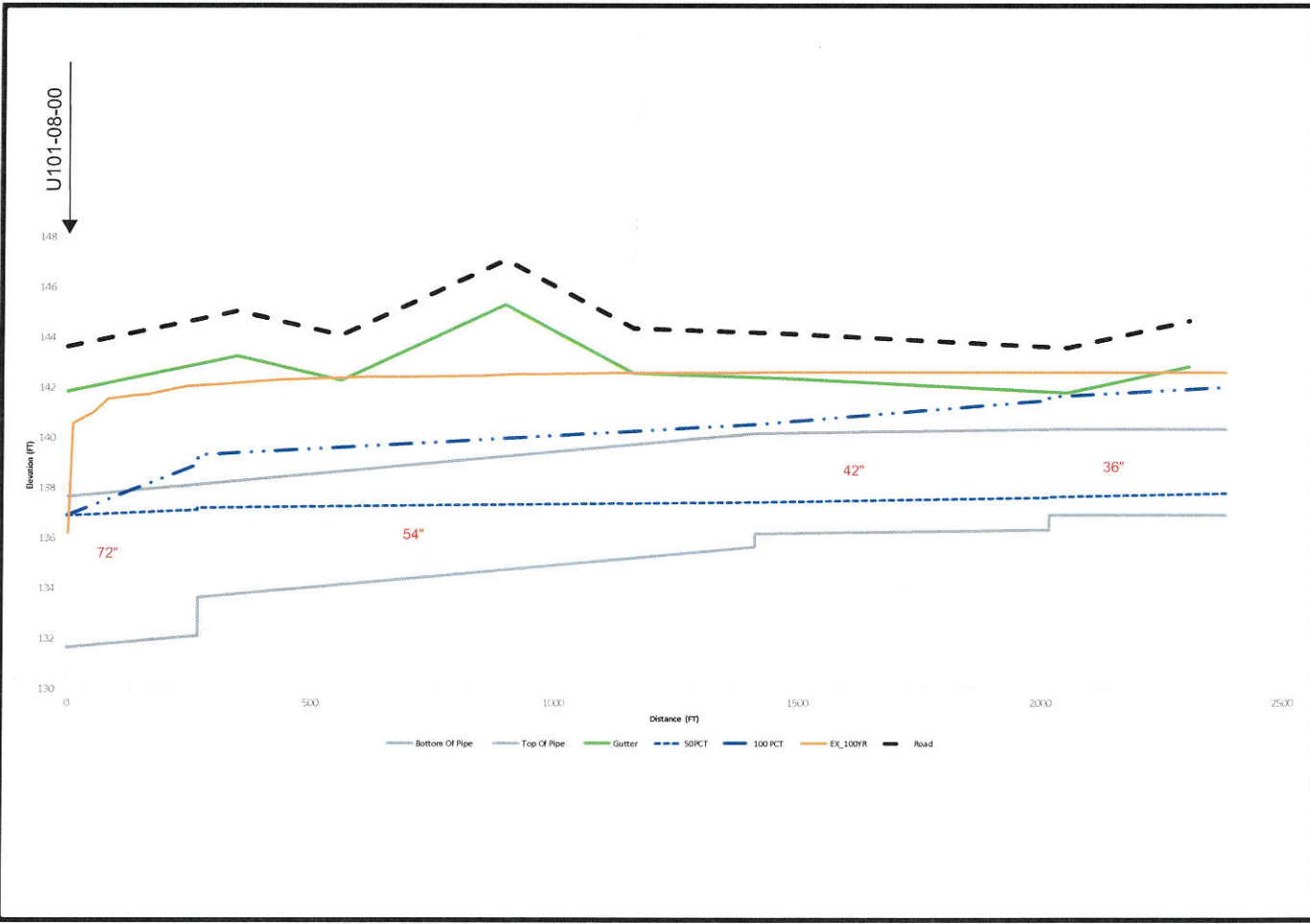
**PORTER ROAD**  
**HARRIS COUNTY, TEXAS**  
**Alternative 2 Storm Sewer System**

JOB NO.	40339-30
DATE	Apr 2021
DESIGNER	KB
CHECKED	LA DRAWN KB
Figure	7

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT HAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY NOT BE REPRODUCED FROM ANY OTHER SOURCE WITHOUT THE WRITTEN PERMISSION OF THE CONSULTANT'S ORIGINAL, SHARITONE, AND S&A.

Date: May 18, 2021 7:12:22 AM User: C:\Users\jldawson\OneDrive\Documents\2021\0518\PorterRoad\PorterRoad.dwg  
 Job: C:\Users\jldawson\OneDrive\Documents\2021\0518\PorterRoad\PorterRoad.dwg

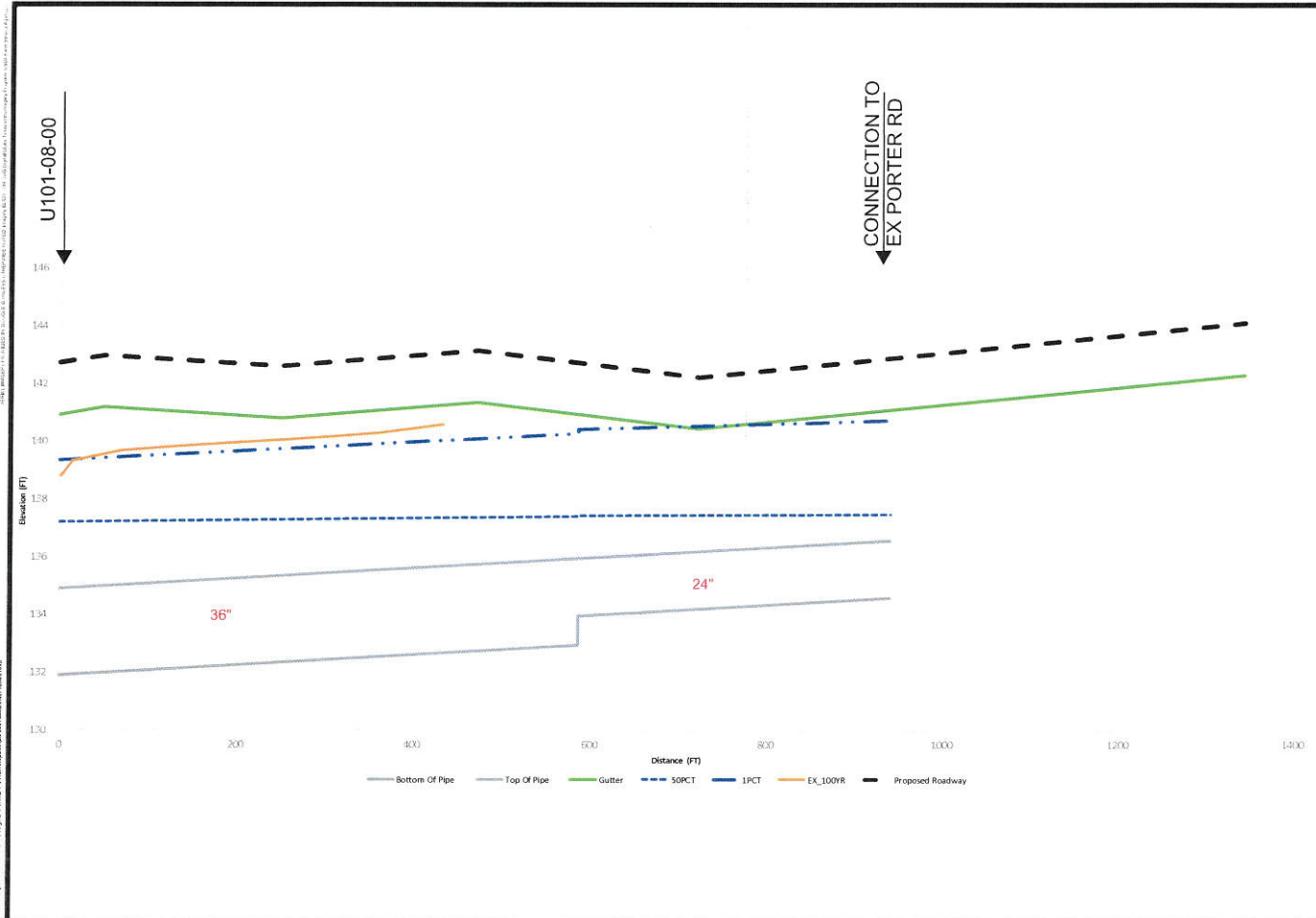


**PORTER ROAD**  
 HARRIS COUNTY, TEXAS  
 ALTERNATIVE 2 WATER SURFACE PROFILES (NORTH SYSTEM)

JOB NO.	40338-30
DATE	May 2021
DESIGNER	LA
DRAWN	KB
CHECKED	LA
FIGURE	8

THIS DOCUMENT HAS BEEN PREPARED FROM MATERIAL THAT HAS NOT BEEN AND IS NOT INTENDED TO BE VERIFIED BY THE CONSULTANT. CONSULTANT'S LIABILITY IS LIMITED TO THE PROFESSIONAL SERVICES PROVIDED BY THE CONSULTANT.

Job No. 2021-0110 - 3D Model for U101-08-00  
 File: C:\Users\jldavis\OneDrive\Documents\2021\0110\3D Model\U101-08-00.dwg  
 Date: 05/11/2021 10:10:00 AM



**PORTER ROAD**  
**HARRIS COUNTY, TEXAS**  
**ALTERNATIVE 2 WATER SURFACE PROFILES (SOUTH SYSTEM)**

JOB NO.	40338-30
DATE	May 2021
DESIGNER	LA
DRAWN	KB
CHECKED	LA
FIGURE	9

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT HAS BEEN TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN MODIFIED, ALTERED, DELETED OR FINAL HARD COPY MATERIAL BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL.



## **APPENDIX A**



PORTER ROAD  
HARRIS COUNTY, TEXAS  
ALTERNATIVE 1 STORM SEWER CALCULATIONS

JOB NO. 40330-30  
DATE May 2021  
CITY LA  
DRAWN JLR  
CHECKED JLR  
SHEET 2

Project Name: Porter Road Alternative 1  
Region: Harris County  
Design Storm: 3 Year  
Design W.V. Excess: 1.00  
Sizing W.V. Excess: 100.00 feet

Storm Sewer Design Calculations

Table with columns: Manhole No., Drainage Area, Runoff, Pipe Size, Slope, Manning's n, etc. Includes data for manholes U101 through U105.

\*Drainage area was adjusted to match the flows at a specific time going to U101-08-00.

Project Name: Porter Road Alternative 1 - DRAINAGE DISTRICT U101-08-00  
Region: Harris County  
Design Storm: 3 Year  
Design W.V. Excess: 1.00  
Sizing W.V. Excess: 100.00 feet

Storm Sewer Design Calculations

Table with columns: Manhole No., Drainage Area, Runoff, Pipe Size, Slope, Manning's n, etc. Includes data for manholes U101 through U105.

\*Drainage area was adjusted to match the flows at a specific time going to U101-08-00.

THIS DOCUMENT AND ANY INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE. IT IS THE PROPERTY OF PAPER-DAWSON ENGINEERS AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.

Manhole No. From	Manhole No. To	Drainage Area (sq ft)	Total Drainage Area (sq ft)	Runoff Coeff. C	Sum of C-A	Time of Conc. (min)	System Intensity (in/hr)	Drainage Area Flow (cfs)	Sum of Flow (cfs)	Pipe Type	Reach Length (ft)	Diameter (in)	Box Span (ft)	Number of Barrels	Manning's Roughness Coeff. n	Design Capacity (cfs)	Design Velocity (ft/sec)	Fall (ft)	Manhole Drop (ft)	Upstream Elev. (ft)	Downstream Elev. (ft)	Actual Velocity (ft/sec)	Hydraulic Gradient	Change in Head (ft)	IS MR Loss Coeff. K	Energy Grade Line Upstream Elev. (ft)	Energy Grade Line Downstream Elev. (ft)	Hydraulic Grade Line Upstream Elev. (ft)	Hydraulic Grade Line Downstream Elev. (ft)	Infiltration Top of Curb / Point (ft)	Curb Height (ft)	Gutter Elevation (ft)	Flowing Depth (ft)
A1	001	50.00	67.51	0.37	25.11	34.9	36.0	3.06	41.1	77.3	CCP	110	75	1	0.150	0.024	37.3	3.4	0.38	132.0	131.65	3.96	0.103	0.12	131.75	131.54	137.12	136.99	142.00	6	141.50		
A2	A1	0.00	11.80	0.90	11.80	30.4	33.0	0.8	38.2	109	500	54	1	0.150	0.013	35.4	5.2	0.49	134.42	133.52	1.76	0.011	0.18	137.36	137.26	137.31	137.20	142.50	6	142.00			
A3	A2	4.50	11.80	0.71	5.38	30.4	33.0	0.7	38.2	109	500	54	1	0.150	0.013	35.4	5.2	1.15	134.75	133.90	1.22	0.021	0.13	137.49	137.36	137.42	137.31	142.50	6	142.00			
A4	A3	3.04	7.30	0.71	5.18	27.6	29.2	0.49	34.9	82	100	42	1	0.150	0.013	42.7	4.4	1.08	135.76	134.68	1.22	0.039	0.11	137.70	137.49	137.62	137.42	142.50	6	142.00			
A5	A4	3.06	3.06	0.71	2.60	27.6	27.6	0.56	9.3	9.3	100	36	1	0.150	0.013	35.1	4.0	0.45	136.41	135.76	0.51	0.039	0.14	137.83	137.77	137.83	137.42	142.50	6	142.00			
B1	A1	4.74	5.71	0.54	3.33	28.2	28.6	0.48	9.0	11.0	100	36	1	0.150	0.013	38.3	4.0	1.04	132.94	131.90	0.95	0.030	0.18	137.03	137.25	137.29	137.31	141.30	6	140.80			
B2	B1	0.97	0.97	0.80	0.78	24.9	24.9	0.78	2.7	2.7	100	24	1	0.150	0.013	9.6	3.1	0.63	133.57	132.94	0.93	0.017	0.26	137.49	137.43	137.47	137.42	141.30	6	140.80			

\*Drainage area was adjusted to match the flows at a specific time going to U101-08-00.

Manhole No. From	Manhole No. To	Drainage Area (sq ft)	Total Drainage Area (sq ft)	Runoff Coeff. C	Sum of C-A	Time of Conc. (min)	System Intensity (in/hr)	Drainage Area Flow (cfs)	Sum of Flow (cfs)	Pipe Type	Reach Length (ft)	Diameter (in)	Box Span (ft)	Number of Barrels	Manning's Roughness Coeff. n	Design Capacity (cfs)	Design Velocity (ft/sec)	Fall (ft)	Manhole Drop (ft)	Upstream Elev. (ft)	Downstream Elev. (ft)	Actual Velocity (ft/sec)	Hydraulic Gradient	Change in Head (ft)	IS MR Loss Coeff. K	Energy Grade Line Upstream Elev. (ft)	Energy Grade Line Downstream Elev. (ft)	Hydraulic Grade Line Upstream Elev. (ft)	Hydraulic Grade Line Downstream Elev. (ft)	Infiltration Top of Curb / Point (ft)	Curb Height (ft)	Gutter Elevation (ft)	Flowing Depth (ft)
A1	001	50.00	67.51	0.37	25.11	34.9	36.0	3.06	41.1	77.3	CCP	110	75	1	0.150	0.024	37.3	3.4	0.38	132.0	131.65	3.96	0.103	0.12	131.75	131.54	137.12	136.99	142.00	6	141.50		
A2	A1	0.00	11.80	0.90	11.80	30.4	33.0	0.8	38.2	109	500	54	1	0.150	0.013	35.4	5.2	0.49	134.42	133.52	1.76	0.011	0.18	137.36	137.26	137.31	137.20	142.50	6	142.00			
A3	A2	4.50	11.80	0.71	5.18	27.6	29.2	0.49	34.9	82	100	42	1	0.150	0.013	42.7	4.4	1.08	135.76	134.68	1.22	0.039	0.11	137.70	137.49	137.62	137.42	142.50	6	142.00			
A4	A3	3.04	7.30	0.71	5.18	27.6	27.6	0.56	9.3	9.3	100	36	1	0.150	0.013	35.1	4.0	0.55	136.41	135.76	0.51	0.039	0.14	137.83	137.77	137.83	137.42	142.50	6	142.00			
A5	A4	3.06	3.06	0.71	2.60	27.6	27.6	0.56	9.3	9.3	100	36	1	0.150	0.013	35.1	4.0	0.55	136.41	135.76	0.51	0.039	0.14	137.83	137.77	137.83	137.42	142.50	6	142.00			
B1	A1	4.74	5.71	0.54	3.33	28.2	28.6	0.48	9.0	11.0	100	36	1	0.150	0.013	38.3	4.0	1.04	132.94	131.90	0.95	0.030	0.18	137.03	137.25	137.29	137.31	141.30	6	140.80			
B2	B1	0.97	0.97	0.80	0.78	24.9	24.9	0.78	2.7	2.7	100	24	1	0.150	0.013	9.6	3.1	0.63	133.57	132.94	0.93	0.017	0.26	137.49	137.43	137.47	137.42	141.30	6	140.80			

\*Drainage area was adjusted to match the flows at a specific time going to U101-08-00.

Date: May 10, 2021, 2:34:42 PM User: Admin  
 Path: C:\ProgramData\pape-dawson\Projects\15000 Westshore\Porter Road\15000 Westshore\Storm Sewer\40339-30\40339-30-02.dwg

This document has been produced from a digital file that has been scanned electronically and may have been inadvertently altered. We warrant only the original digital file and not this scanned copy.

## **APPENDIX B**

Rational Method	Alternative 1					
	Drainage Area	Tc (hr)	C	i2 (in/hr)	i100 (in/hr)	Q2 (cfs)
DA_1	0.17	0.8	5.44	11.2	3.4	7
DA_2	0.17	0.8	5.44	11.2	2.9	6.1
DA_3	0.17	0.8	5.44	11.2	4.2	8.6
DA_4	0.17	0.8	5.44	11.2	3.4	7
DA_5	0.17	0.8	5.44	11.2	2.9	6.1
DA_6	0.17	0.8	5.44	11.2	4.1	8.5
DA_7	0.17	0.8	5.44	11.2	4.6	9.5
DA_8	0.17	0.8	5.44	11.2	2.4	4.9
DA_9	0.17	0.8	5.44	11.2	2.4	4.9
DA_10	0.17	0.8	5.44	11.2	3.3	6.8
DA_11	0.17	0.8	5.44	11.2	4.6	9.5
DA_12	0.17	0.8	5.44	11.2	1.8	3.8
DA_12B	0.17	0.8	5.44	11.2	2.4	4.9
DA_13	0.17	0.8	5.44	11.2	3.9	8.1
DA_14	0.17	0.2	5.44	11.2	6.5	13.8
DA_22	0.17	0.2	5.44	11.2	0.8	1.6
DEV_2	0.17	0.2	5.44	11.2	2.5	4.7
DEV_3	0.17	0.2	5.44	11.2	2.8	5.1
DEV_4	0.17	0.2	5.44	11.2	2.8	5.8

Rational Method	Alternative 2					
	Drainage Area	Tc (hr)	C	i2 (in/hr)	i100 (in/hr)	Q2 (cfs)
DA_1	0.17	0.8	5.44	11.2	3.4	7
DA_2	0.17	0.8	5.44	11.2	2.9	6.1
DA_3	0.17	0.8	5.44	11.2	4.2	8.6
DA_4	0.17	0.8	5.44	11.2	3.4	7
DA_5	0.17	0.8	5.44	11.2	2.9	6.1
DA_6	0.17	0.8	5.44	11.2	4.1	8.5
DA_7	0.17	0.8	5.44	11.2	4.6	9.5
DA_8	0.17	0.8	5.44	11.2	2.4	4.9
DA_9	0.17	0.8	5.44	11.2	2.4	4.9
DA_10	0.17	0.8	5.44	11.2	3.3	6.8
DA_11	0.17	0.8	5.44	11.2	4.6	9.5
DA_12	0.17	0.8	5.44	11.2	1.8	3.8
DA_12B	0.17	0.8	5.44	11.2	2.4	4.9
DA_13	0.17	0.8	5.44	11.2	3.9	8.1
DA_14	0.17	0.4	5.44	11.2	6.5	13.8
DA_22	0.17	0.2	5.44	11.2	0.8	1.6
DEV_2	0.17	0.65	5.44	11.2	7.4	15.3
DEV_3	0.17	0.65	5.44	11.2	8.1	16.7
DEV_4	0.17	0.65	5.44	11.2	9.2	18.9



APPENDIX H  
UTILITY CONFLICT TABLE

**Utility Contact/Conflict Table**

**Project Name:** Porter Rd Segment 3

**Project Limits:** Morton Ranch Rd to Clay Rd

**UPIN No.** 21103N302030003

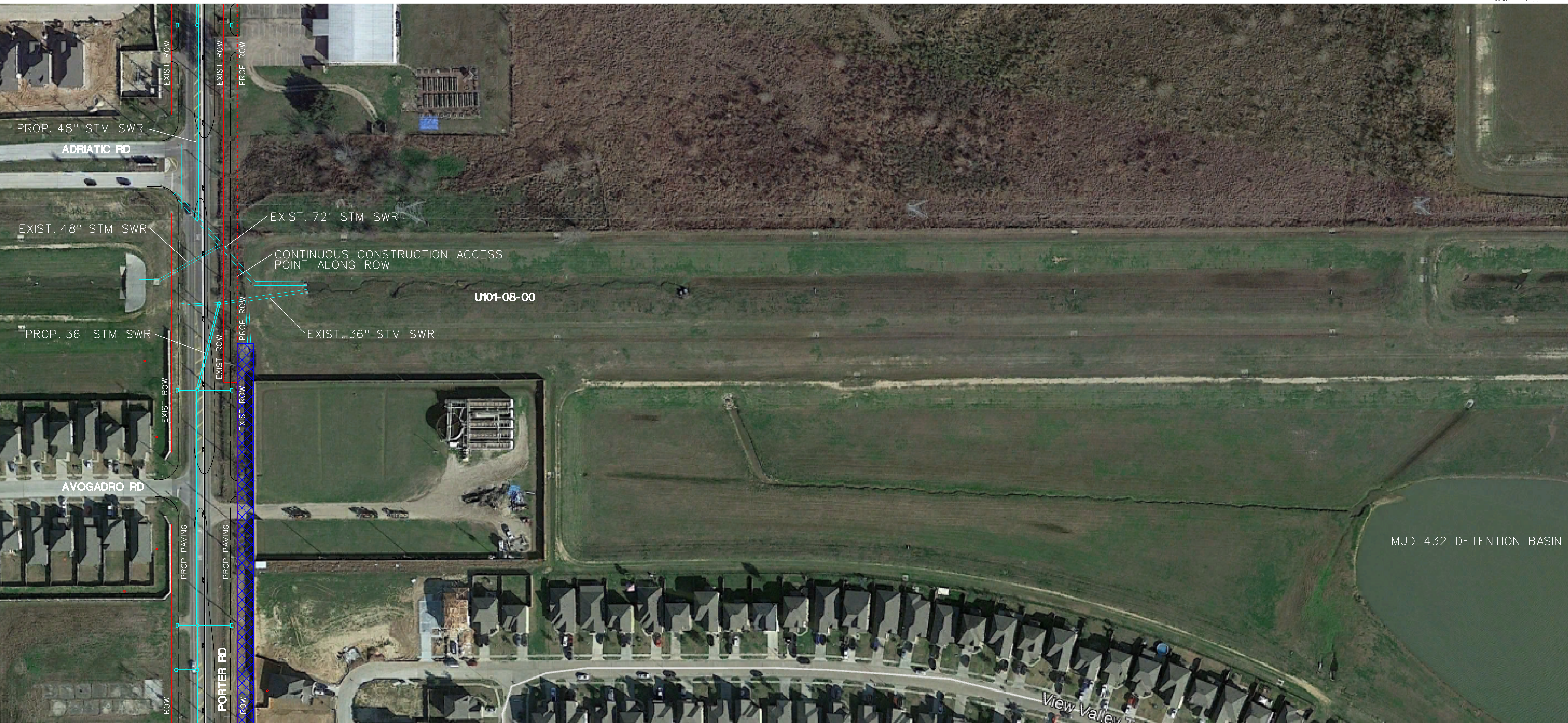
**Consultant Name/Project Mgr:** Midtown Engineers/ Terry McDaniel

No.	Beginning Station	End Station	Utility Type	Owner	Is facility located in an easement?	Conflict	Probed	SUE	Contact Name	Address	Phone No.	Email	Describe Conflict (if applicable)	Est. Cost	Reloc.	Reloc.
					Yes/No	Yes/No	Yes/No	Yes/No							Start Date	Com. Date
1	1+00, 54.96' RT	20+08.30, 41.28' RT	Sanitary Sewer	MUD 432	No	No	No	No	Justin Wagner	16340 Park Ten Place Suite 350, Houston TX 77084	713-461-9600	<a href="mailto:jwagner@rgmiller.com">jwagner@rgmiller.com</a>				
2	21+20.95, 66.80' LT	27+03.80, 83.02' LT	Sanitary Sewer	MUD 536	Yes	No	No	No	Joshua Campbell	10011 Meadowglen Lane, Houston, TX 77042	713-784-4500	<a href="mailto:icampbell@ehroinc.com">icampbell@ehroinc.com</a>				
3	1+00, 42.72' LT	11+00, 47.64' LT	Gas	CenterPoint Gas	No	No	No	No	Lory Simmons	1111 Louisiana, 12th Floor, Houston, Texas 77002	713-207-4622	<a href="mailto:lory.simmons@centerpointenergy.com">lory.simmons@centerpointenergy.com</a>				
4	1+00, 67.74' RT	18+88.88, 68.2' RT	Gas	CenterPoint Gas	No	No	No	No	Lory Simmons	1111 Louisiana, 12th Floor, Houston, Texas 77002	713-207-4622	<a href="mailto:lory.simmons@centerpointenergy.com">lory.simmons@centerpointenergy.com</a>				
5	21+18.29, 62.88' LT	21+63.42, 62.96 LT	Gas	CenterPoint Gas	No	No	No	No	Lory Simmons	1111 Louisiana, 12th Floor, Houston, Texas 77002	713-207-4622	<a href="mailto:lory.simmons@centerpointenergy.com">lory.simmons@centerpointenergy.com</a>				
6	10+00, 49.01' LT	15+34.32, 49.69' LT	Water	MUD 536	No	No	No	No	Joshua Campbell	10011 Meadowglen Lane, Houston, TX 77042	713-784-4500	<a href="mailto:icampbell@ehroinc.com">icampbell@ehroinc.com</a>				
7	19+73.85, 47.98' LT	48+00, 51.56' LT	Water	MUD 536	Yes	No	No	No	Joshua Campbell	10011 Meadowglen Lane, Houston, TX 77042	713-784-4500	<a href="mailto:icampbell@ehroinc.com">icampbell@ehroinc.com</a>				
8	9+72.43, 43.95' RT	23+50.60, 46.59' RT	Telecom	Consolidated Communication	No	Yes	No	No	Brandon Tumis	24404 Rosener Road, Katy, TX 77494	281-396-5070	<a href="mailto:Brandon.Tumis@consolidated.com">Brandon.Tumis@consolidated.com</a>	Current buried cable under proposed roadway.			
9	34+04.15, 33.76' LT	48+00, 28.89' LT	Telecom	Consolidated Communication	No	Yes	No	No	Brandon Tumis	24404 Rosener Road, Katy, TX 77494	281-396-5070	<a href="mailto:Brandon.Tumis@consolidated.com">Brandon.Tumis@consolidated.com</a>	Current buried cable under proposed roadway.			
10	19+32.35, 38.18' RT	27+42.79, 28.83' RT	Telecom	Comcast	No	Yes	No	No	David Miller	8590 West Tidwell Rd, Houston, TX 77040	713-341-8689	<a href="mailto:David_Miller4@cable.comcast.com">David_Miller4@cable.comcast.com</a>	Current buried cable under proposed roadway.			
11	23+00, 28.89' RT	41+75.85, 27.20' RT	Overhead electric	CenterPoint Electric	No	Yes	No	No	CenterPoint Map request	1111 Louisiana	713-207-6555	<a href="mailto:tmaprequest@centerpointenergy.com">tmaprequest@centerpointenergy.com</a>	Power poles in proposed roadway.			



APPENDIX I

TEMPORARY CONSTRUCTION EASEMENT



 MUD 432 SWALE CONSTRUCTION LIMITS



APPENDIX J  
GEOTECHNICAL REPORT

**GEOTECHNICAL INVESTIGATION  
PORTER ROAD, SEGMENT 3  
(UPIN 21103N302030003)  
PRECINCT NO. 3  
HARRIS COUNTY, TEXAS**

REPORT NO. 1140257101

*Reported to:*

**Midtown Engineers, LLC.**

Houston, Texas

*Submitted by*

**GEOTEST ENGINEERING, INC.**  
TBPE Registration No. F-410

Houston, Texas

Key Map No. 445 J



# GEOTEST ENGINEERING, INC.

*Geotechnical Engineers & Materials Testing*

5600 Bintliff Drive

Houston, Texas 77036

Telephone: (713) 266-0588

Fax: (713) 266-2977

**Report No. 1140257101**

March 29, 2021

Mr. Terry L. McDaniel, P.E.  
Principal  
Midtown Engineers, LLC.  
5225 Katy Freeway, Suite 400  
Houston, Texas 77007

Reference: **Geotechnical Investigation  
Porter Road, Segment 3  
UPIN 21103N302030003  
Precinct No. 3  
Harris County, Texas**

Dear Mr. McDaniel:

Presented herein is our final geotechnical investigation report for the above referenced project. Preliminary logs were submitted to you on December 11, 2020. Preliminary design recommendations for rigid pavement were provided to you on January 14, 2021. A draft report was submitted to you on January 20, 2021. This final report supersedes all previously submitted reports, transmittals, e-mails, etc. for the referenced project. This study was authorized by Contract for Subconsultant Services on October 1, 2020 by accepting our Proposal No. 1140509499 dated September 3, 2020.

We appreciate this opportunity to be of service to you. If you have any questions regarding the report, or if we can be of further service to you, please call us.

Very truly yours,  
**GEOTEST ENGINEERING, INC.**  
TBPE Registration No. F-410

*D. Guruprasad Varma*

Guruprasad Varma Dommaraju, E.I.T.  
Graduate Engineer

*B.C. K*

Mohan Ballagere, P.E.  
Vice President



MB/GD/ego  
Copies Submitted: (1-pdf)  
PC38\Geotechnical\40257101F.DOC

# TABLE OF CONTENTS

	<u>Page</u>
1.0 EXECUTIVE SUMMARY.....	1
2.0 INTRODUCTION	
2.1 Authorization .....	3
2.2 Background.....	3
3.0 PURPOSE AND SCOPE OF WORK	
3.1 Purpose.....	4
3.2 Scope of Work .....	4
4.0 SITE EXPLORATION	
4.1 Physical Description .....	5
4.2 Geology.....	5
4.3 Faults Review .....	6
5.0 FIELD WORK	
5.1 Soil Borings and Sampling .....	7
5.2 Piezometer Installation .....	8
5.3 Environmental Issues.....	8
6.0 LABORATORY TESTING.....	9
7.0 SUBSURFACE SOIL AND GROUND WATER CONDITIONS	
7.1 Existing Pavement Section .....	10
7.2 Soil Stratigraphy .....	10
7.3 Groundwater Conditions.....	11
7.4 Summary of Laboratory Test Results.....	12
8.0 ENGINEERING ANALYSES AND RECOMMENDATIONS	
8.1 Engineering Methods and Assumptions.....	13
8.2 Storm Sewer.....	13
8.2.1 Excavation .....	13
8.2.2 Groundwater Control.....	15
8.2.3 Bedding and Backfill .....	15
8.2.4 Structures .....	16
8.3 Pavement Analysis and Subgrade Design.....	17
8.3.1 Design Parameters .....	17

## TABLE OF CONTENTS (continued)

	<u>Page</u>
8.3.2 Recommended Pavement Section for Porter Road .....	18
8.3.3 Preparation of Pavement Subgrade .....	19
9.0 CONSTRUCTION CONSIDERATION .....	21
9.1 Excavation Safety .....	21
9.2 Groundwater Control .....	21
10.0 PROVISIONS .....	22

### APPENDIX A

	<u>Figure</u>
Site Vicinity Map.....	A-1
Fault Location Map .....	A-2
Plan of Borings .....	A-3.1 thru A-3.8
Boring Log Profile .....	A-4
Symbols and Abbreviations Used on Boring Log Profile .....	A-5
Excavation Support Earth Pressure.....	A-6
Stability of Bottom for Braced Cut.....	A-7
Lateral Earth Pressure Diagram for Permanent Wall .....	A-8
Uplift Pressure and Resistance.....	A-9

### APPENDIX B

	<u>Table</u>
Summary of Boring Information .....	B-1
Geotechnical Design Parameter Summary: Open-Cut Excavation .....	B-2

### APPENDIX C

	<u>Figure</u>
Log of Borings .....	C-1 thru C-9
Symbols and Terms Used on Boring Logs .....	C-10
Piezometer Installation Reports .....	C-11 and C-12

**APPENDIX D**

Figure

Summary of Laboratory Test Results ..... D-1 thru D-9  
Grain Size Distribution Curves ..... D-10



## 1.0 EXECUTIVE SUMMARY

A geotechnical investigation was conducted by Geotest Engineering, Inc. for Midtown Engineers, LLC. for Porter Road Segment 3 Project (UPIN 21103N302030003) in Harris County Precinct 3, Texas. The detailed project description is presented in Section 2.2 of this report.

The principal findings and conclusions developed from this investigation are summarized below:

- Based on the review of available information from US Geological Survey (USGS) Maps and information contained in our files relating to geologic faults for the project alignment, no documented faults were located within the project alignment and the closest faults are the faults associated with Katy Saltdome located 0.7 miles west of the project location.
- The existing pavement, as obtained in borings GB-1 through GB-9, consists of 4 to 5 inches of asphalt over 0 to 20 inches of non stabilized base consisting of sand with gravel, shell fragments, silty sand with gravel and with/without shell fragments.
- The subsurface soil conditions below the existing pavement, as encountered in borings GB-1 through GB-9 drilled for the proposed storm sewer, consists predominantly of cohesive soils to the explored depth of 20 feet, except borings GB-1 and GB-4. In borings GB-1 and GB-4, the subsurface soil below the existing pavement consists of cohesive soils underlain by cohesionless soils to the explored depth of 20 feet. The cohesive soils consist of medium stiff to hard gray, brown, reddish brown and yellowish brown fat clay, fat clay with sand, lean clay, lean clay with sand and sandy lean clay. The cohesionless soils consist of medium dense gray, brown and reddish brown silty sand and silt with sand. A stratum of gray and brown silty sand was encountered to a depth of 2 feet beneath pavement section in boring GB-2P. Fill material consisting of very stiff to hard gray and yellowish brown lean clay with sand was encountered in boring GB-4 to a depth of 2 feet beneath existing pavement section.

- Groundwater was encountered at depth of 20.0 feet during drilling in boring GB-7. The water level measured, 20 minutes after first encounter, was at depth of 17.8 feet below grade in this boring. No groundwater was encountered during drilling in the rest of the borings drilled for this study. The water level, measured 24 hours or more after completion of drilling, was at depths ranging from 13.7 to 19.5 feet in piezometers GB-2P and GB-8P, respectively on January 15, 2021.
- All excavation and trenching operations for storm sewer should be in accordance with OSHA and Harris County Standards.
- Bedding and backfill for the storm sewer should be designed and constructed in accordance with the Harris County Standard Specifications Item 430 and Harris County Specification Drawing "Storm Sewer Construction Details."
- The storm sewer manholes and inlet structures constructed as part of this project, placed at maximum depth of 10 feet, may be designed for an allowable (net) bearing pressure of 4,000 psf.
- The recommended rigid pavement section for the proposed Porter Road is given below:

<b><u>Pavement Course</u></b>	<b><u>Thickness, inches</u></b>
Reinforced Concrete slab	10
5% Lime Stabilized Subgrade	8

The details of the pavement section and subgrade stabilization are presented in Section 8.3 of this report.

## **2.0 INTRODUCTION**

### 2.1 Authorization

Midtown Engineers, LLC. was selected by Harris County Engineering Department (HCED) for Porter Road Segment 3 Project (UPIN 21103N302030003) in Harris County Precinct 3, Texas. Geotest Engineering, Inc. (Geotest) was in-turn retained by Midtown to perform geotechnical investigation services for the referenced project. This study was authorized by Mr. Terry L. McDaniel of Midtown by signing Contract for Subconsultant Services on October 1, 2020 by accepting our Proposal No. 1140509499 dated September 3, 2020.

### 2.2 Background

The project involves reconstruction of Porter Road for approximately 0.9 miles, from 270 feet north of Morton Ranch Road to 545 feet south of Clay Road in Katy, Harris County Precinct 3, Texas. The project includes the design and reconstruction of existing asphalt roadway to a four (4) lane concrete boulevard with curb and gutter and storm sewers. The maximum invert depth of the proposed storm sewer will be about 10 feet, and will be primarily installed by open cut method of construction. The project also includes construction of a new offsite detention pond facility (Optional) for mitigation, to be dedicated to and maintained by Harris County Flood Control District (HCFCD). The proposed detention pond is about 2 acres in area, and about 10 feet deep. The geotechnical recommendations for the new offsite detention pond will be submitted later under a different cover after receiving additional authorization.

### **3.0 PURPOSE AND SCOPE OF WORK**

#### **3.1 Purpose**

The purpose of this investigation was to provide geotechnical engineering support for the design and construction activities associated with Porter Road Segment 3 Project (UPIN 21103N302030003) in Harris County Precinct 3, Texas.

#### **3.2 Scope of Work**

The scope of the geotechnical investigation consists of the following tasks:

- drilled and sampled nine (9) soil borings each to a depth of 20 feet for storm sewer and pavement to determine site soil stratigraphy and soil properties and ground water conditions;
- performing appropriate laboratory tests on selected recovered soil samples to evaluate pertinent geotechnical engineering properties of the soils;
- performing engineering analyses to develop geotechnical recommendations for the paving reconstruction with the concrete pavement section including the pavement subgrade preparation and stabilization and the open cut construction of the proposed storm sewer line including bedding, groundwater control, trench safety and construction considerations; and
- preparing a geotechnical report summarizing the results of our field investigation, laboratory testing, and geotechnical analyses, and providing recommendations as outlined above for the proposed improvements.

## 4.0 SITE EXPLORATION

### 4.1 Physical Description

The subject of this study is Porter Road Segment 3, approximately 0.9 miles, from 270 feet north of Morton Ranch Road to 545 feet south of Clay Road in Katy, Harris County Precinct 3, Texas. The proposed Porter Road is Harris County Principal Thoroughfare (based on the information provided by Midtown). The existing Porter Road is flexible pavement with one lane each way (north bound and south bound). There is a dedicated no pass lane with left/right turn lane from Morton Ranch Road to 550 feet north of HCFCU Unit U101-08-00 north bound. There are existing roadside ditches on either side of Porter Road with Reinforced Concrete Pipe (RCP) culverts. The site vicinity map is shown on Figure A-1 in Appendix A.

### 4.2 Geology

The geology of Harris County is characterized by two formations. The Beaumont, located in the southeastern portion of the county, and the Lissie, located in the northwest.

Both the Beaumont and Lissie formations are a part of the fluvial and marine coastal complex resulting from the glacial cycles within the Pleistocene/Holocene epoch. Seaward the lithologies are primarily dominated by clays, often interspersed with coarser sediments, primarily silts and sands. The clays of the Beaumont formation are overconsolidated and slickensided as a result of exposure to weathering during glacial retrenchment and cyclic wetting and drying. Northern portions of Harris County are under the influence of the drainage systems established by rivers such as the Brazos and the San Jacinto. The lithologic pattern generally includes silt, sand and clay with minor amounts of calcareous nodules and iron oxide. Various mineral impregnations are associated with the lithologies. Primary among these are the ferruginous-iron-based and calcareous minerals, which include calcium carbonate. These minerals impart an acidic or alkaline characteristic to soils.

Based on the Houston Sheet, Texas, Geologic Atlas of Texas (Bureau of Economic Geology, University of Texas, 1982), the proposed Porter Road Segment 3 lies within the boundaries of the Lissie Formation surface exposure. The clays and sand of Lissie Formation are

overconsolidated as a result of desiccation or frequent raising and lowering of the sea level and subsequently the groundwater table. Consequently, clays of Lissie Formation have moderate to high shear strength and relatively low compressibility. Sands of the Lissie Formation are occasionally somewhat coarser.

#### 4.3 Faults Review

A review of information in the Geotest Library relating to known surface and subsurface geologic faults in the general area of the project site was undertaken. The available information consisted of U. S. Geological Survey and NASA maps, open file reports, and information contained in our files relating to geologic faults in this area. Based on this available information (source from U. S. Geological Survey and NASA maps – A.M. Braswell, Martin Sheets, Carl Norman and Travis Allen), no documented faults were located within the project alignment and the closest faults are the faults associated with Katy Saltdome located 0.7 miles west of the project alignment. A fault location map with the project alignment location is presented on Figure A-2 in Appendix A.

## 5.0 FIELD WORK

### 5.1 Soil Borings and Sampling

Subsurface conditions for the storm sewer alignment were explored by drilling a total of nine (9) soil borings (designated as GB-1 through GB-9) each to a depth of about 20 feet. All borings were drilled using a truck mounted drill rig using dry-auger technique. The location of each of the borings is shown on the Plan of Borings on Figure A-3 in Appendix A. The survey information (northing, easting and ground surface elevation) of the completed borings was provided to us by Midtown Engineers, LLC. The summary of boring information is given in Table B-1 in Appendix B.

Samples were obtained continuously to 20-foot depth. Cohesive samples were obtained with a 3-inch diameter thin-walled tube sampler in general accordance with ASTM Method D1587. Cohesionless samples were obtained with a 2-inch diameter split spoon barrel in general accordance with ASTM Method D 1586. At each of the boring locations, samples were removed from the sampler in the field and carefully examined and logged by an experienced soils technician. Suitable portions of each sample were then sealed and packaged for transportation to Geotest's laboratory. Undrained shear strengths of cohesive soil samples were estimated using a calibrated hand penetrometer in the field. Driving resistances for the split-barrel sampler were recorded as "blows per foot" on the boring logs. All borings with exception of piezometers were backfilled with cement-bentonite grout at end of drilling and after completion of water level measurements. The log of borings GB-1 through GB-9 are presented on Figures C-1 through C-9 in Appendix C. The symbols and terms used on the boring logs GB-1 through GB-9 is presented Figure C-10 in Appendix C.

The measurements of the depth of water were taken in the open bore holes at the time during drilling and 24-hour and more after completion of drilling in the piezometer. The results of these observations are noted at the bottom of the boring logs and in piezometer installation report included in Appendix C.

## 5.2 Piezometer Installation

During the field investigation, piezometers were installed in the open bore holes of borings designated as GB-2P and GB-8P and are shown on Plan of Borings on Figures A-3.2 and A-3.7 in Appendix A. The piezometer installation reports showing the details (diameter, screen interval, sand interval and development procedures) of the construction of piezometer and water level measurements at different dates are provided on Figures C-11 and C-12 in Appendix C.

## 5.3 Environmental Issues

Based on the field observations and visual examination of soil samples retrieved from borings GB-1 through GB-9, Geotest did not notice any hydrocarbons during drilling of soil borings.



## **6.0 LABORATORY TESTING**

The laboratory test program was designed to evaluate the pertinent physical properties and shear strength characteristics of the subsurface soils. Classification tests were performed on selected samples to aid in soil classification.

Undrained shear strengths of selected cohesive samples were measured by unconsolidated undrained (UU) triaxial compression tests (ASTM D2850). The results of the UU triaxial compression tests are plotted on the boring logs as solid squares. The shear strength of cohesive samples was measured in the field with a calibrated pocket penetrometer and also in the laboratory with a Torvane. The shear strength values obtained from the penetrometer and Torvane are plotted on the boring logs as open circles and triangles respectively.

Moisture content and dry density were determined as part of U-U triaxial compression test sample. Moisture content (ASTM D2216) determinations were also made on most of the other samples to define the moisture profile at each boring location. Liquid and plastic limit tests (ASTM D4318) were performed on selected samples to determine soil plasticity characteristics. Sieve analyses (ASTM D6913) and measurement of the percent passing the No. 200 sieve (ASTM D1140) were performed to aid in classification of cohesionless and cohesive soils.

The results of all tests are tabulated on the boring logs presented on Figure C-1 through Figure C-9 in Appendix C. The summary of laboratory test results is also presented in a tabular format on Figures D-1 through D-9 in Appendix D. Grain size distribution curves developed from sieve analyses are presented on Figure D-10 in Appendix D.

## 7.0 SUBSURFACE SOIL AND GROUND WATER CONDITIONS

### 7.1 Existing Pavement Section

The existing pavement, as obtained in borings GB-1 through GB-9, consists of 4 to 5 inches of asphalt over 0 to 20 inches of non stabilized base consisting of sand with gravel, shell fragments, silty sand with gravel and with/without shell fragments. A summary of existing pavement component thickness is shown below.

#### Summary of Pavement Component Thickness

<u>Boring No.</u>	<u>Surface Course</u>	<u>Base Course</u>
GB-1	4" Asphalt	6" Sand w/shell fragments
GB-2P	4" Asphalt	6" Sand w/gravel
GB-3	4" Asphalt	6" Silty sand w/gravel
GB-4	4" Asphalt	6" Sand w/gravel, shell fragments and clay
GB-5	5" Asphalt	7" Sand w/gravel
GB-6	5" Asphalt	19" Silty sand w/gravel
GB-7	4" Asphalt	20" Silty sand w/gravel
GB-8P	5" Asphalt	19" Silty sand w/gravel and shell fragments
GB-9	5" Asphalt	--

### 7.2 Soil Stratigraphy

Based on the laboratory test results and the location of borings along the alignment, a boring log profile was developed and is presented on Figure A-4 in Appendix A. To the right of each boring shown on the profile, is the overall classification of the soil contained within each stratum. The classification is based on ASTM Designation D-2487. The symbols and abbreviations used on the boring log profile is given on Figure A-5 in Appendix A. The interpreted soil stratigraphy is given below.

The subsurface soil conditions below the existing pavement, as encountered in borings GB-1 through GB-9 drilled for the proposed storm sewer, consists predominantly of cohesive soils to the explored depth of 20 feet, except borings GB-1 and GB-4. In borings GB-1 and GB-4, the subsurface soil below the existing pavement consists of cohesive soils underlain by cohesionless

soils to the explored depth of 20 feet. The cohesive soils consist of medium stiff to hard gray, brown, reddish brown and yellowish brown fat clay, fat clay with sand, lean clay, lean clay with sand and sandy lean clay. The cohesionless soils consist of medium dense gray, brown and reddish brown silty sand and silt with sand. A stratum of gray and brown silty sand was encountered to a depth of 2 feet beneath pavement section in boring GB-2P. Fill material consisting of very stiff to hard gray and yellowish brown lean clay with sand was encountered in boring GB-4 to a depth of 2 feet beneath existing pavement section.

The fat clay, fat clay w/sand is of high to very high plasticity with a liquid limits ranging from 50 to 73 and plasticity indices ranging from 28 to 46. The lean clay, lean clay with sand and sandy lean clay is of slight to high plasticity with liquid limits ranging from 28 to 49 and plasticity indices ranging from 10 to 28. The fines content (percent passing No. 200 sieve) of fat clay and lean clay ranged from 85.6 to 99.6 percent. The fines content of fat clay with sand and lean clay with sand ranged from 74.8 to 83.9 percent. The fines content of silt w/sand ranges from 74.7 to 75.5 percent. The fines content of silty sand was about 37.8 percent.

### 7.3 Groundwater Conditions

Groundwater was encountered at depth of 20.0 feet during drilling in boring GB-7. The water level measured, 20 minutes after first encounter, was at depth of 17.8 feet below grade in this boring. No groundwater was encountered during drilling in the rest of the borings drilled for this study. The water level, measured 24 hours or more after completion of drilling, was at depths ranging from 13.7 to 19.5 feet in piezometers GB-2P and GB-8P, respectively on January 15, 2021. The details of the water level measurements as encountered at each of the above mentioned borings are summarized below:

Boring No.	Groundwater Encountered during drilling, feet	Groundwater measured 15 to 20 minutes after water was first encountered, feet	Groundwater Measured 24 Hours or More After Completion of Drilling, feet
	Depth	Depth	Depth
GB-1	--	--	N/A
GB-2P*	--	--	20.0 (11/04/2020) 19.2 (12/03/2020) 19.5 (01/15/2021)
GB-3	--	--	N/A

Boring No.	Groundwater Encountered during drilling, feet	Groundwater measured 15 to 20 minutes after water was first encountered, feet	Groundwater Measured 24 Hours or More After Completion of Drilling, feet
	Depth	Depth	Depth
GB-4	--	--	N/A
GB-5	--	--	N/A
GB-6	--	--	N/A
GB-7	20.0	17.8	N/A
GB-8P*	--	--	16.3 (11/04/2020) 14.6 (12/03/2020) 13.7 (01/15/2021)
GB-9	--	--	N/A

Note: \* Water level readings in piezometer.  
 P – Piezometer

However, various environmental and man-made factors such as amount of precipitation, changes in drainage, and adjacent construction activities can substantially influence the depth of water.

#### 7.4 Summary of Laboratory Test Results

The summary of lab results including the soil strength parameters are presented on Figures D-1 through D-9 in Appendix D.

## 8.0 ENGINEERING ANALYSES AND RECOMMENDATIONS

### 8.1 Engineering Methods and Assumptions

The engineering methods used in each geotechnical analysis are provided below.

- The bedding and backfill for the storm sewer should be designed and constructed in accordance with the Harris County Standard Specification Item 430 and Harris County Specification Drawing "Storm Sewer Construction Details."

The general assumptions used for the engineering analyses are described below.

- Design ground water level – at ground surface. (Since these conditions may exist after a heavy rain or flooding.)

More details of the methods and assumptions used for each of the geotechnical engineering analyses are discussed in the following sections.

### 8.2 Storm Sewer

The proposed storm sewers (sizes unknown) will be placed at maximum depth of 10 feet along Porter Road Segment 3 from 270 feet north of Morton Ranch Road to 545 feet south of Clay Road. The storm sewer will be constructed by open cut method of construction.

8.2.1 Excavation. The following subsections provide information for the design and construction of the storm sewer and the excavations required for the proposed open trench installations. In accordance with Harris County Standard Specifications for Construction and Maintenance of Roads and Bridges, Item 430, "Construction of Underground Utilities", the minimum width of the trench for pipes less than 30 inches in diameter, shall be the width of the outside barrel of the pipe plus 24 inches and the maximum width shall be the width of the outside barrel of the pipe plus 36 inches. In case where pipe diameters are 30 inches and larger, the minimum trench width shall be the width of the outside barrel of the pipe plus 36 inches, and the maximum width of the trench shall be the width of the outside barrel of the pipe plus 48 inches. Geotechnical parameters for the open excavations were developed and are provided in Table B-2 in Appendix B. For design, groundwater should be assumed at surface, since these conditions may

exist after a heavy rain or flooding.

Excavation Stability. The excavation stability may be shored, laid back to a stable slope or some other equivalent means used to provide safety for workers and adjacent structures. The excavating and trenching operations should be in accordance with OSHA Standards, OSHA 2207, Subpart P (latest revision) and as per Harris County Engineering Department (HCED) requirements.

- Excavation Shallower Than 5 Feet – For excavations that are less than 5 feet, the need for protection should be evaluated by a competent person to examine the ground for any indication of ground movement or potential cave-in. When any indication of hazardous ground movement or potential cave-in is anticipated during construction, adequate protective system should be provided even for the excavations that are shallower than 5 feet.
- Excavation Deeper Than 5 Feet – Excavations that are deeper than 5 feet should be sloped, shored, shielded or provided with some appropriate means of protection where workers might be exposed to moving ground or cave-ins. The slopes and shoring should be in accordance with HCED and OSHA requirements. The following items provide design criteria for trench stability.
  - (i) OSHA Soil Type. Based on the soil conditions revealed by the geotechnical borings and assumed groundwater level at surface, OSHA’s soil type “C” should be used for the design and construction of trench operations to a depth of 20 feet below existing grade. For shoring deeper than 20 feet, an engineering evaluation is required.
  - (ii) Excavation Support Earth Pressure. Lateral earth pressure diagrams were developed based on the subsurface conditions indicated by our field and laboratory investigations. The earth pressure diagram developed for excavation support is presented on Figure A-6 in Appendix A. The pressure diagram can be used for the design of temporary trench bracing. Design of trench boxes for resisting lateral earth pressures can be based on an equivalent fluid unit weight of 99 pcf. The computation of the equivalent fluid pressure assumes that

groundwater level is at ground surface, since these conditions may exist after a heavy rain or flooding. The effects of any surcharge loads at the ground surface should be added to the computed lateral earth pressures. A surcharge load,  $q$ , will typically result in a lateral load equal to  $0.5q$ .

- (iii) Bottom Stability. In braced cuts, if tight sheeting is terminated at the base of the cut, the bottom of the excavation can become unstable under certain conditions. The stability of the excavation bottom is governed by the shear strength of the soils and by the differential hydrostatic head. For cuts in cohesive soils (such as fat clay, fat clay with sand and lean clay with sand) as encountered in all the borings drilled for this study, for the excavation depths of about 10 feet, stability of the bottom can be evaluated in accordance with these procedure outlined on Figure A-7 in Appendix A.

8.2.2 Groundwater Control. Excavations for the proposed storm sewer will encounter groundwater seepage to varying degrees depending upon groundwater conditions at the time of construction and the location and depth of excavation. In cohesive soils (such as fat clay, fat clay with sand, lean clay with sand and silty clay with sand) as encountered in all the borings drilled for this study for the excavation depth of 10 feet, groundwater may be managed by collection in trench bottom sumps for pumped disposal. It is recommended that the actual groundwater conditions should be verified by the contractor at the time of construction and appropriate groundwater control be applied.

8.2.3 Bedding and Backfill. In general, bedding and backfill for the storm sewer should be designed and constructed in accordance with the Harris County Standard Specification Item 430 and Harris County Specification Drawing "Storm Sewer Construction Details." Based on the storm sewer pipe diameter, 4 to 6 inches of Cement Stabilized Sand should be installed for the entire width of trench (as outlined in Section 8.2.1 Excavation) on firm soil at grade. After the pipe is placed, Cement Stabilized Sand is placed up to the midpoint of the pipe and up to 1 feet above the top of the pipe, if storm sewer is installed under roadway. The remaining depth can be backfilled with in-situ material, compacted to 90% of standard proctor density and conform to Harris County Specification Item 430.5. The installation of Cement Stabilized Sand should be in accordance with Harris County Standard Specification Item 433 "Cement Stabilized Sand Bedding and Backfill

Material."

8.2.4 Structures. It is understood that the structures associated with this project will be inlet structures and manholes. The following items provide recommendations and design criteria for construction of the proposed structures.

Allowable Bearing Pressures. The foundation for supporting the mat foundation of manholes placed at approximate depth of 10 feet may be designed for an allowable (net) bearing pressure of 4,000 psf for total loads. The allowable bearing pressure includes a safety factor of 2.0. The above recommendations assume that the final bearing surfaces consist of undisturbed natural soils and that any underlying semi-transmissive zones are properly pressure-relieved prior to and during construction.

- Bottom Stability. Bottom stability is described earlier in Section 8.2.1 under Excavation Stability.
- Lateral Earth Pressure. The pressure diagram presented on Figure A-6 in Appendix A can be used for the design of braced excavation. The lateral earth pressure diagram presented on Figure A-8 in Appendix A are applicable for the design of the permanent walls.
- Hydrostatic Uplift Resistance. Structures extending below the groundwater level should be designed to resist uplift pressure resulting from excess piezometric head. Design uplift pressures should be computed based on the assumption that the water table is at ground surface. To resist the hydrostatic uplift at the bottom of the structures, one of the following sources of resistance can be utilized in each of the designs.
  - a. Dead weight of structure,
  - b. Weight of soil above base extensions plus weight of structure, or
  - c. Soil-wall friction plus dead weight of structure.



The uplift force and resistance to uplift should be computed as detailed on Figure A-9 in Appendix A. In determining the configuration and dimensions of the structure using one of the approaches presented on Figure A-9, the following factors of safety are recommended.

- a. Dead weight of concrete structure,  $S_{f1} = 1.1$ ,
- b. Weight of soil (backfill) above base extension,  $S_{f2} = 1.5$ , and
- c. Soil-wall friction,  $S_{f3} = 3.0$ .

Friction resistance should be discounted for the upper 5 feet (for relatively flat surface), since this zone is affected by seasonal moisture changes.

- Structural Backfill. Excavations for the proposed structures should be backfilled in accordance with Harris County Standard Specifications Item No. 400 "Structural Excavation and Backfill."

### 8.3 Pavement Analysis and Subgrade Design

It is understood that as a part of this project, the existing asphalt pavement of Porter Road will be reconstructed with concrete pavement with curb and gutter system along entire project alignment. The pavement design presented in this report was developed in accordance with the AASHTO Guide for Design of Pavement Structures, 1993 edition and per HCED. Based on the information provided, the proposed Porter Road Segment 3 will have 4 lanes and is designed as Principal Throughfare.

#### 8.3.1 Design Parameters

Subgrade Soil Properties. California Bearing Ratio (CBR) tests were not within the scope of this project. Therefore, the roadbed soil resilient modulus is estimated based on physical properties and strength characteristics of the natural subgrade soils. Based on the physical properties and strength characteristics of the natural subgrade soils obtained from laboratory tests, the effective roadbed soil resilient modulus (MR) was estimated to be about 4,118 psi from an assumed CBR value of 3.0. Based on an estimated resilient modulus of 8-inch lime-stabilized subgrade, the effective modulus of subgrade reaction (k) is estimated to be about

79 pci.

Traffic Data. A traffic data of  $10 \times 10^6 - 18$  kips ESAL (W18) over a 30-year design period was utilized for the pavement design. This traffic loading was based on Harris County principal thoroughfare classification for Porter Road as suggested by Midtown.

Other Design Parameters. Other design parameters used in the development of rigid pavement thickness and flexible pavement section are given below.

- **Rigid Pavement:** Material Properties of Concrete:
  - Modulus of Elasticity of Concrete ( $E_c$ ): 3,600,000 psi
  - Mean value of Modulus of Rupture of Concrete after 28 days ( $S'_c$ ): 570 psi (based on concrete compressive strength of 3,000 psi at 28 days)
  - Load Transfer coefficient (J): 2.7
  - Drainage coefficient ( $C_d$ ): 1.2
  - Overall Standard Deviation ( $S_o$ ): 0.35
  - Reliability Level (R): 95%
  
  - Serviceability Index:
    - Initial ( $P_o$ ): 4.50
    - Terminal ( $P_t$ ): 2.5
  
  - Reinforcement Variables:
    - Allowable Working Stress ( $f_s$ ): 60,000 psi (grade 60 steel)
    - Friction Factor (F): 1.8

8.3.2 Recommended Pavement Section for Porter Road. Based on the design parameters described above and the AASHTO design procedures, the thickness of pavement was determined.

- Rigid Pavement: The recommended Rigid pavement section for the proposed Porter Road reconstruction is given below:

<b><u>Pavement Course</u></b>	<b><u>Thickness, inches</u></b>
Reinforced Concrete slab	10
6% Lime Stabilized Subgrade	8

For a 10-inch concrete pavement, the required longitudinal reinforcing steel for an expansion joint spacing of 80 feet and transverse reinforcement steel for a pavement width of 25 feet back to back are given below for the grade 60 steel.

<b>Pavement Thickness (Inches)</b>	<b>Longitudinal Steel</b>	<b>Transverse Steel</b>
	<b>Center to Center Spacing (in)</b>	<b>Center to Center Spacing (in)</b>
	<b># 5 bars</b>	<b># 5 bars</b>
10	9*	36*

\* In accordance with Harris County Standard Drawing "Concrete Pavement Details" Precinct 1 and 3.

The construction of driveways should be in accordance with the Harris County Standard Specifications, Item 530, "Concrete Curb, Gutter, Curb and Gutter Sidewalks and Driveways" or as per project plans generated by the design consultant unless otherwise specified. Based on the provided information, we understand 6-inch thick Portland cement concrete driveway pavement will be constructed over pavement subgrade (as mentioned in Section 8.3.3 Preparation of Pavement Subgrade).

8.3.3 Preparation of Pavement Subgrade. Subgrade preparation for the proposed pavement reconstruction should consist of demolition, stripping, proof-rolling and stabilization. The following procedures for subgrade are recommended:

1. Strip the surficial soil to a suitable depth to achieve grade. In any isolated area where soft, compressible or very loose soils are encountered, additional stripping may be required.
2. The surface exposed after stripping should be proof-rolled with a minimum of 3 passes of a 30-ton pneumatic-tired roller or a heavy loaded truck utilizing a tire pressure of approximately 90 psi. The purpose of the proof rolling operation is to

identify any underlying zones or pockets of soft soils and to remove such weak materials.

3. Based on the borings, the subgrade support soils consist of silty sands, silt with sand and high plasticity fat clay with sand and lean clay with sand. To accelerate the construction and provide stable subgrade on which to construct the pavement section, it is recommended that the pavement subgrade should be stabilized with 6% lime (by dry unit weight of soil) to a minimum depth of 8 inches for cohesive soils (fat clay with sand and lean clay with sand) and stabilized with 3% lime (by dry unit weight of soil) and 9% fly ash (by dry unit weight of soil) to a minimum depth of 8 inches for cohesionless soils (silty sand and silt with sand). Following treatment, the subgrade material should be compacted to at least 95% of Standard Proctor maximum density in accordance with ASTM D698, at a moisture content within 3% the optimum moisture content.

## **9.0 CONSTRUCTION CONSIDERATION**

### **9.1 Excavation Safety**

The open excavation for storm sewer installation may be shored or laid back to a stable slope or supported by some other equivalent means used to provide safety for workers and adjacent structures, if any.

For excavations that are less than 5 feet, the need for protection should be evaluated by a competent person to examine the ground for any indication of potential cave-in. When any indication of hazardous ground movement or potential cave-in is anticipated during construction, adequate, protective system should be provided for all excavation even though excavations are shallower than 5 feet. Excavations that are deeper than 5 feet should be sloped, shored, shielded or provided with some appropriate means of protection where workers might be exposed to moving ground or cave-ins. The slopes and shoring should be in accordance with HCED and OSHA requirements. Based on the soil conditions revealed by the geotechnical borings and assumed groundwater level at surface, OSHA's soil type "C" should be used for the design and construction of trench operations to a depth of 20 feet below existing grade. For shoring deeper than 20 feet, an engineering evaluation is required.

All excavating operations should be in accordance with OSHA Standards, Part 1926, Subpart P, latest revision and Harris County Specifications, Item 429, "Trench Safety System."

### **9.2 Groundwater Control**

Excavations for the proposed storm sewer will encounter groundwater seepage to varying degrees depending upon groundwater conditions at the time of construction and the location and depth of excavation. In cohesive soils (such as fat clay, fat clay with sand, lean clay with sand and silty clay with sand) as encountered in the borings drilled for this study for the excavation depth of 10 feet, groundwater may be managed by collection in trench bottom sumps for pumped disposal. It is recommended that the actual groundwater conditions should be verified by the contractor at the time of construction and appropriate groundwater control be applied.

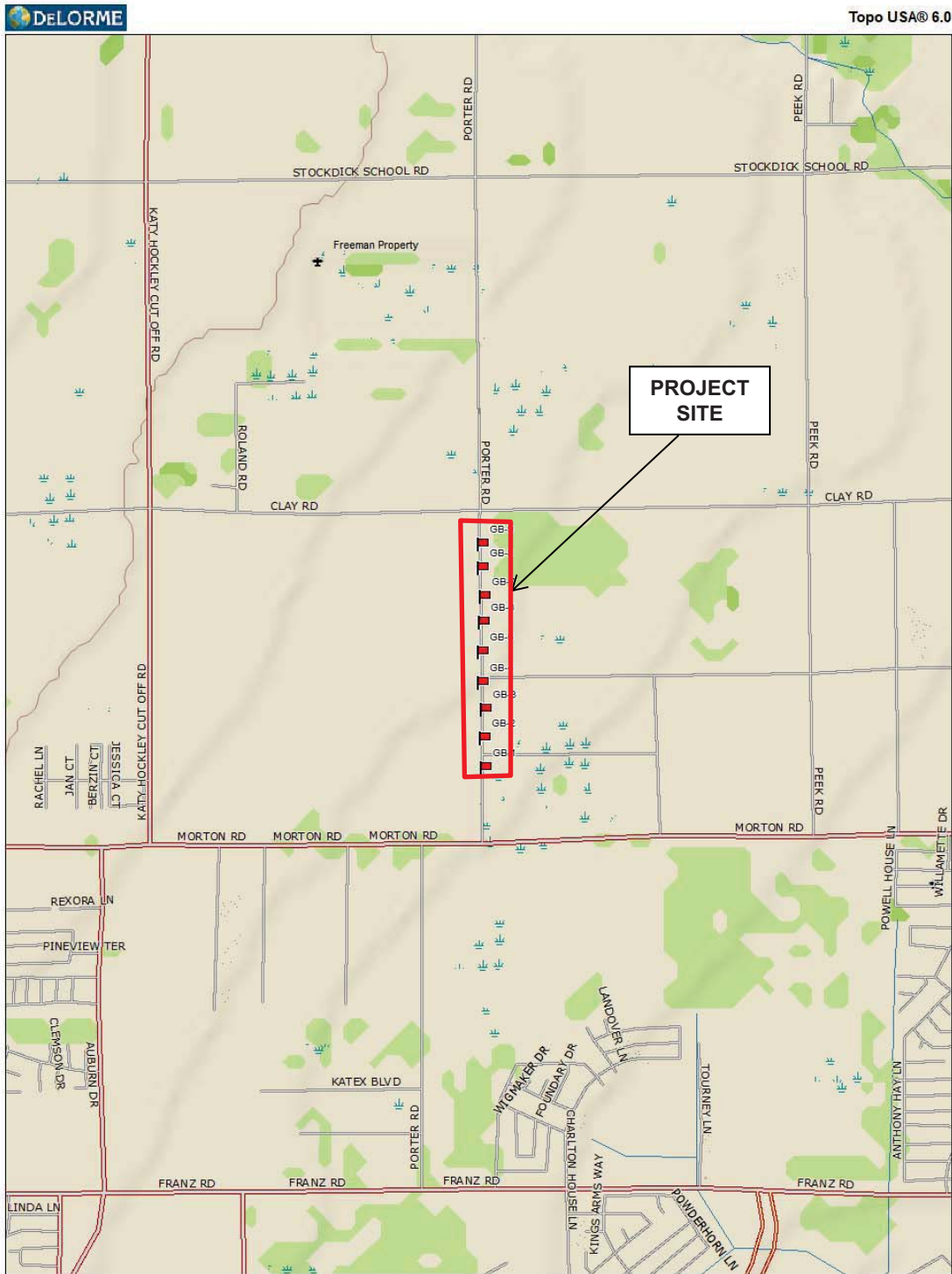
## **10.0 PROVISIONS**

The description of subsurface conditions and the recommendations in this report are based on the test borings made at the time of drilling at specific locations. However, some variation in soil conditions may occur between test borings. Should any subsurface conditions other than those described in the boring logs be encountered, Geotest should be immediately notified so that further investigation and supplemental recommendations can be provided. The depth of the ground water level may vary with changes in environmental conditions such as frequency and magnitude of rainfall. The stratification lines on the logs of borings represent the approximate boundaries between soil types, however, the transition between soil types may be more gradual than depicted.

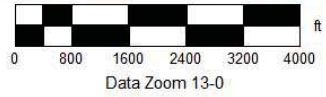
This report has been prepared for the exclusive use of Midtown Engineers, LLC. or Harris County Engineering Department for the Porter Road Segment 3 Project (UPIN 21103N302030003) in Harris County Precinct 3, Texas.

## APPENDIX A

	<u>Figure</u>
Site Vicinity Map.....	A-1
Fault Location Map .....	A-2
Plan of Borings .....	A-3.1 thru A-3.8
Boring Log Profile .....	A-4
Symbols and Abbreviations Used on Boring Log Profile .....	A-5
Excavation Support Earth Pressure.....	A-6
Stability of Bottom for Braced Cut.....	A-7
Lateral Earth Pressure Diagram for Permanent Wall .....	A-8
Uplift Pressure and Resistance.....	A-9



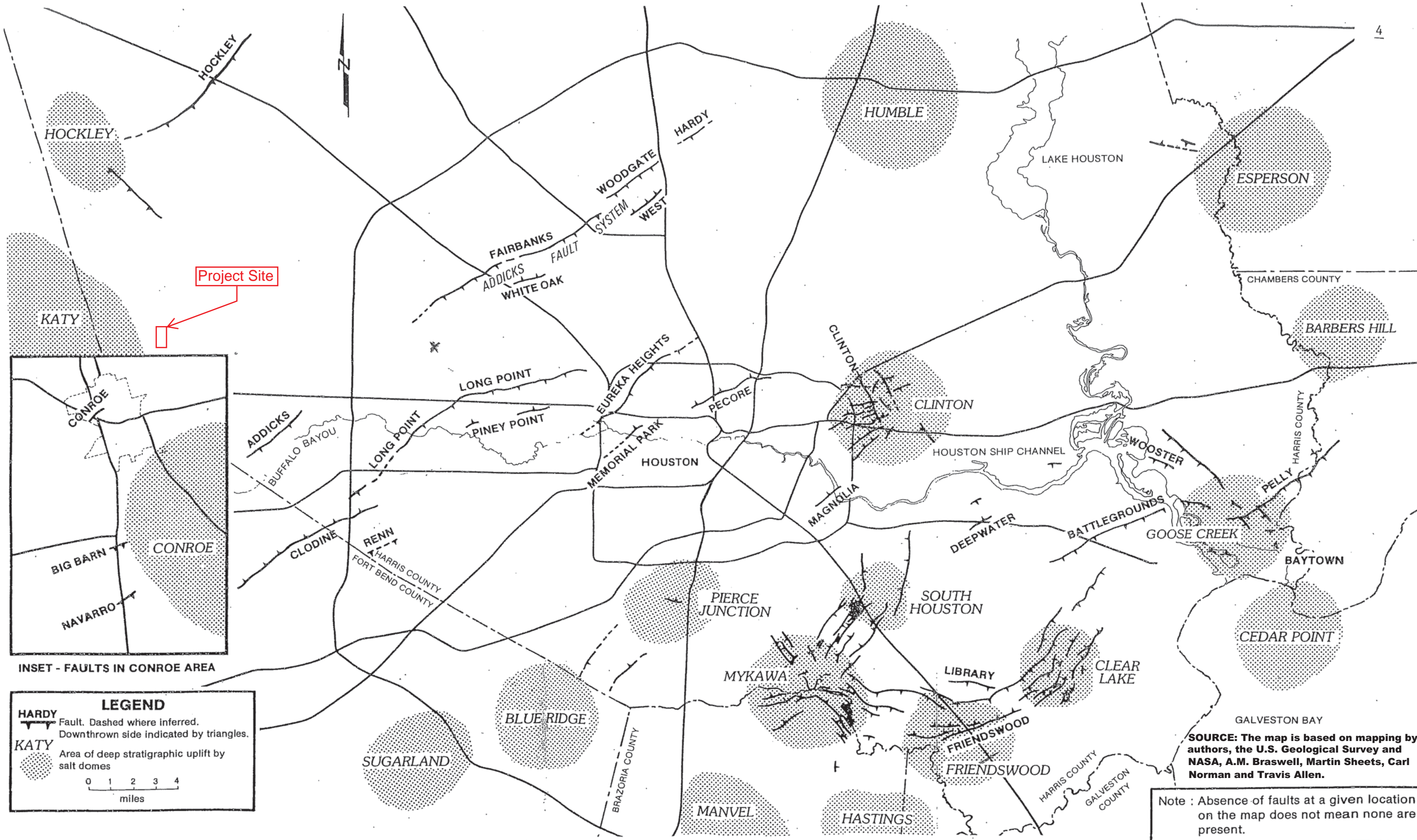
Data use subject to license.  
 © 2006 DeLorme. Topo USA® 6.0.  
 www.delorme.com



PORTER ROAD; SEGMENT 3  
 UPIN: 21103N302030003  
 PRECINCT 3; HARRIS COUNTY, TEXAS  
 KEY MAP NO. 445 J

### SITE VICINITY MAP

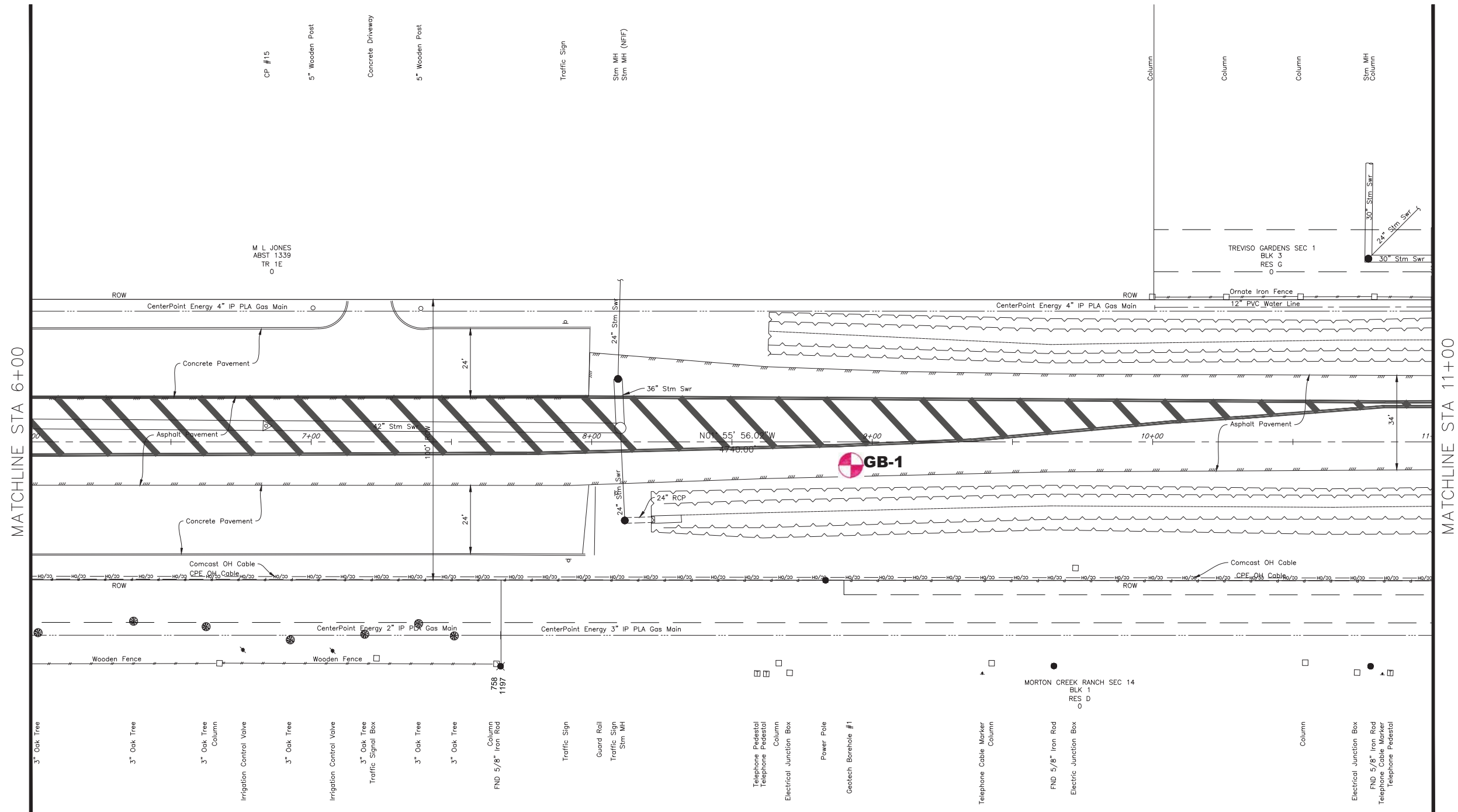




FAULT LOCATION MAP

FIG. 2 : Faults in part of the Houston area.

FIGURE A-2



IBM:

CP-15, MAGNETIC NAIL ON ASPHALT  
AT STA 6+83.91, 5.76' LT.,  
EL. 140.88'

**LEGEND**

BORING

BORING  
W/PIEZOMETER

FOR INTERIM REVIEW ONLY

DOCUMENT INCOMPLETE:  
NOT INTENDED FOR CONSTRUCTION,  
BIDDING, OR PERMIT PURPOSES

SURVEYOR: WILLIAM H. REIMER, III  
RPLS SERIAL No. 4044  
DATE: 12/11/2020

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT

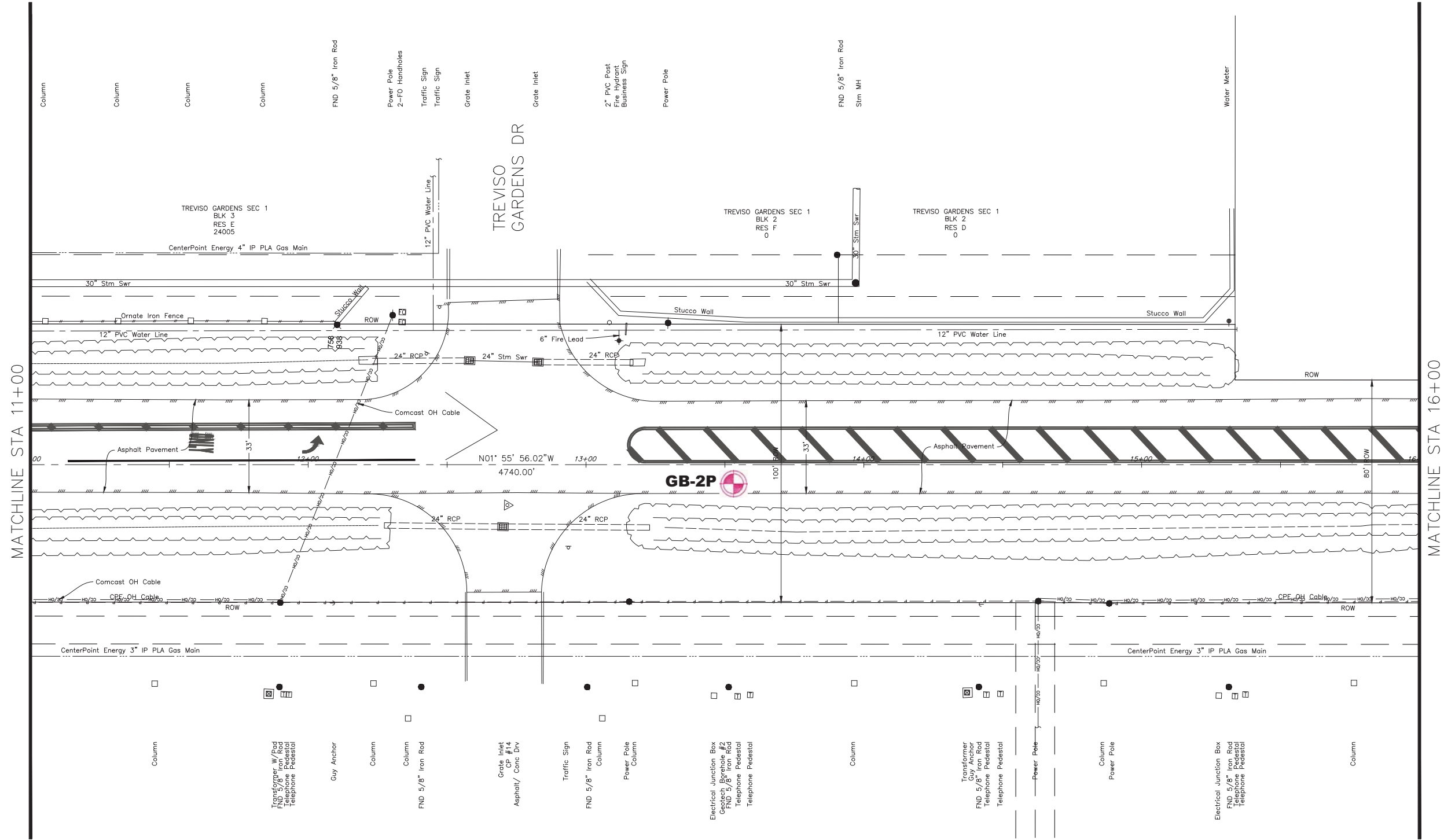


**AMANI ENGINEERING, INC.**

8303 SOUTHWEST FREEWAY, SUITE 600  
HOUSTON, TEXAS 77074  
TEL: (713) 270-5700  
Texas Registered Engineering Firm No. F-4528  
Texas Registered Surveying Firm No. 100282-00

FIGURE A-3.1

PROJECT TITLE:		PORTER ROAD	
SHEET DESCRIPTION:		PAVING & DRAINAGE IMPROVEMENTS	
DRAWN BY:		DATE:	
CK'D BY:	SCALE:	1" = 40'	SHEET NO:



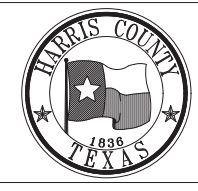
**IBM:**  
 CP-14, MAGNETIC NAIL ON ASPHALT  
 AT STA 12+71.69, 14.56' LT.,  
 EL. 141.77'

**LEGEND**  
 BORING  
 BORING  
 W/PIEZOMETER

FOR INTERIM REVIEW ONLY  
 DOCUMENT INCOMPLETE:  
 NOT INTENDED FOR CONSTRUCTION,  
 BIDDING, OR PERMIT PURPOSES  
 SURVEYOR: WILLIAM H. REIMER, III  
 RPLS SERIAL No. 4044  
 DATE: 12/11/2020

NO.	REVISIONS	DATE	NAME
▲			
▲			
▲			
▲			

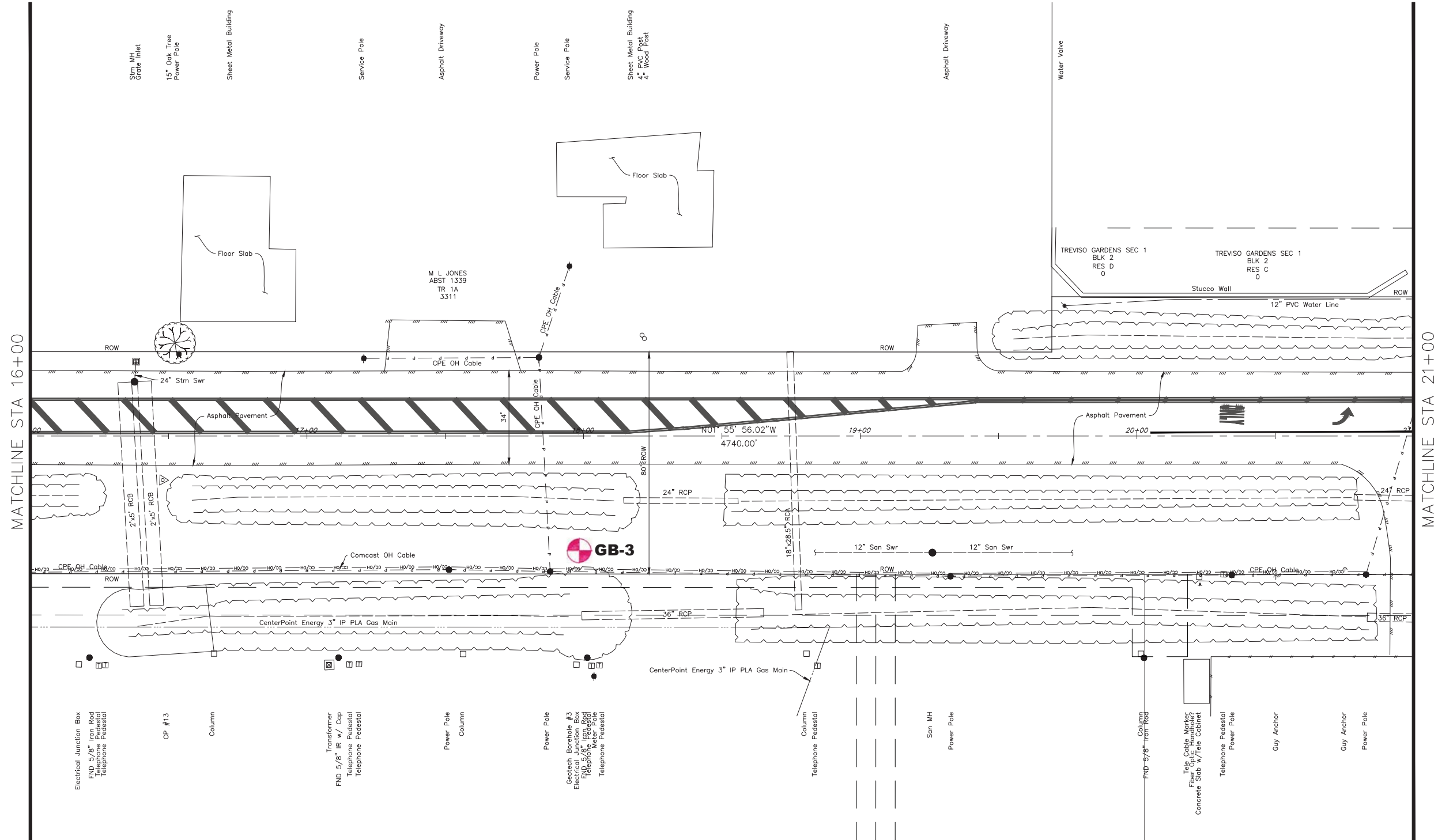
HARRIS COUNTY  
 ENGINEERING DEPARTMENT



**AMANI ENGINEERING, INC.**  
 8303 SOUTHWEST FREEWAY, SUITE 600  
 HOUSTON, TEXAS 77074  
 TEL: (713) 270-5700  
 Texas Registered Engineering Firm No. F-4528  
 Texas Registered Surveying Firm No. 100282-00

FIGURE A-3.2

PROJECT TITLE:		PORTER ROAD	
SHEET DESCRIPTION:		PAVING & DRAINAGE IMPROVEMENTS	
DRAWN BY:		DATE:	
CK'D BY:	SCALE:	1" = 40'	SHEET NO:



TBM:

CP-13, A 5/ 8" IRON ROD WITH CAP AT STA 16+47.86, 15.91' RT., EL. 142.39'

**LEGEND**

BORING

BORING W/PIEZOMETER

FOR INTERIM REVIEW ONLY

DOCUMENT INCOMPLETE:  
NOT INTENDED FOR CONSTRUCTION,  
BIDDING, OR PERMIT PURPOSES

SURVEYOR: WILLIAM H. REIMER, III  
RPLS SERIAL No. 4044  
DATE: 12/11/2020

NO.	REVISIONS	DATE	NAME
▲			
▲			
▲			
▲			

HARRIS COUNTY  
ENGINEERING DEPARTMENT

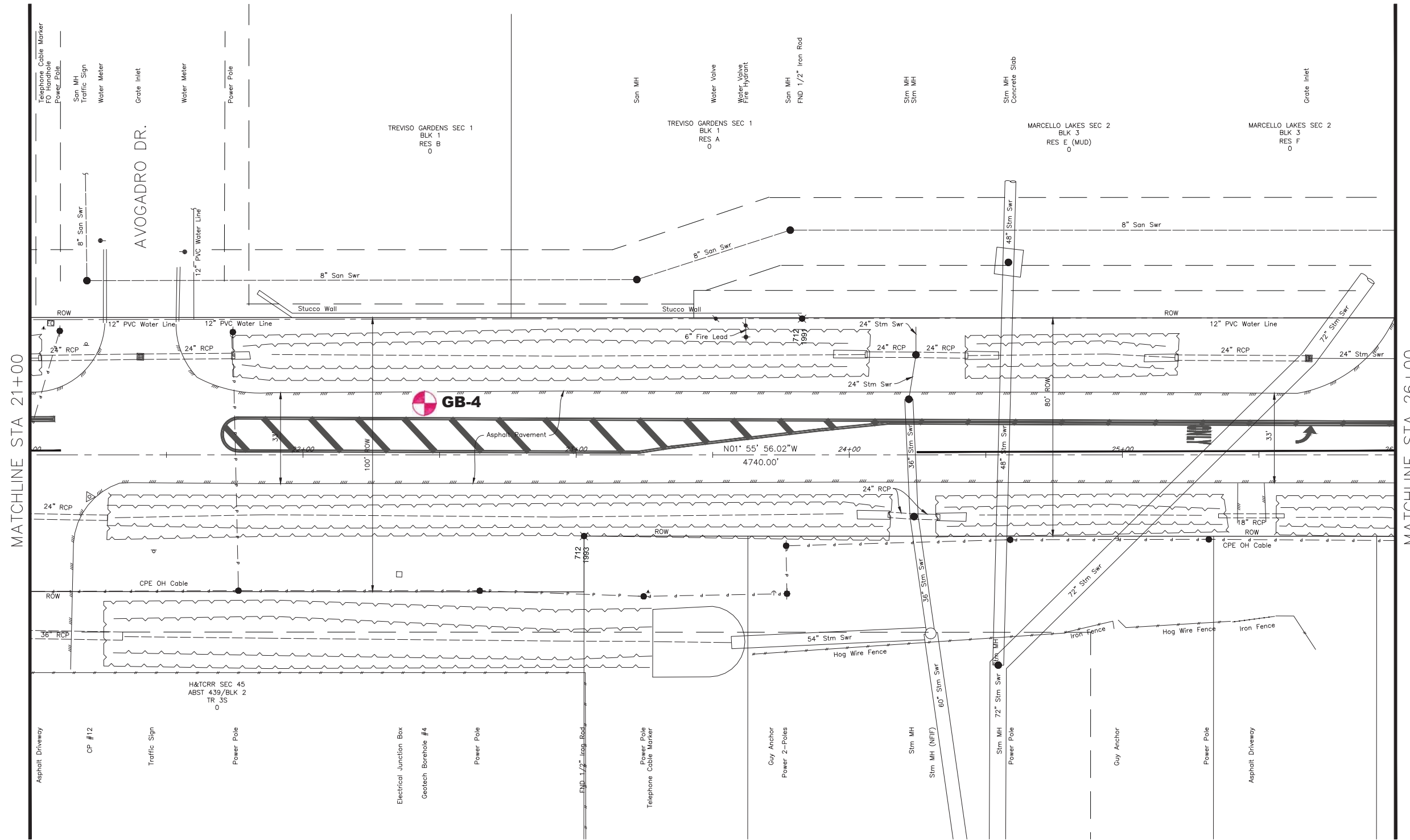


**AMANI ENGINEERING, INC.**

8303 SOUTHWEST FREEWAY, SUITE 600  
HOUSTON, TEXAS 77074  
TEL: (713) 270-5700  
Texas Registered Engineering Firm No. F-4528  
Texas Registered Surveying Firm No. 100282-00

FIGURE A-3.3

PROJECT TITLE:		PORTER ROAD	
SHEET DESCRIPTION:		PAVING & DRAINAGE IMPROVEMENTS PLAN STA 16+00 TO STA 21+00	
DRAWN BY:		DATE:	
CK'D BY:	SCALE:	1" = 40'	SHEET NO:



TBM:

CP-12, MAG NAIL ON ASPHALT AT STA 21+21.80, 15.33' RT., EL. 142.60'

**LEGEND**

BORING

BORING W/PIEZOMETER

FOR INTERIM REVIEW ONLY

DOCUMENT INCOMPLETE:  
NOT INTENDED FOR CONSTRUCTION,  
BIDDING, OR PERMIT PURPOSES

SURVEYOR: WILLIAM H. REIMER, III  
RPLS SERIAL No. 4044  
DATE: 12/11/2020

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT

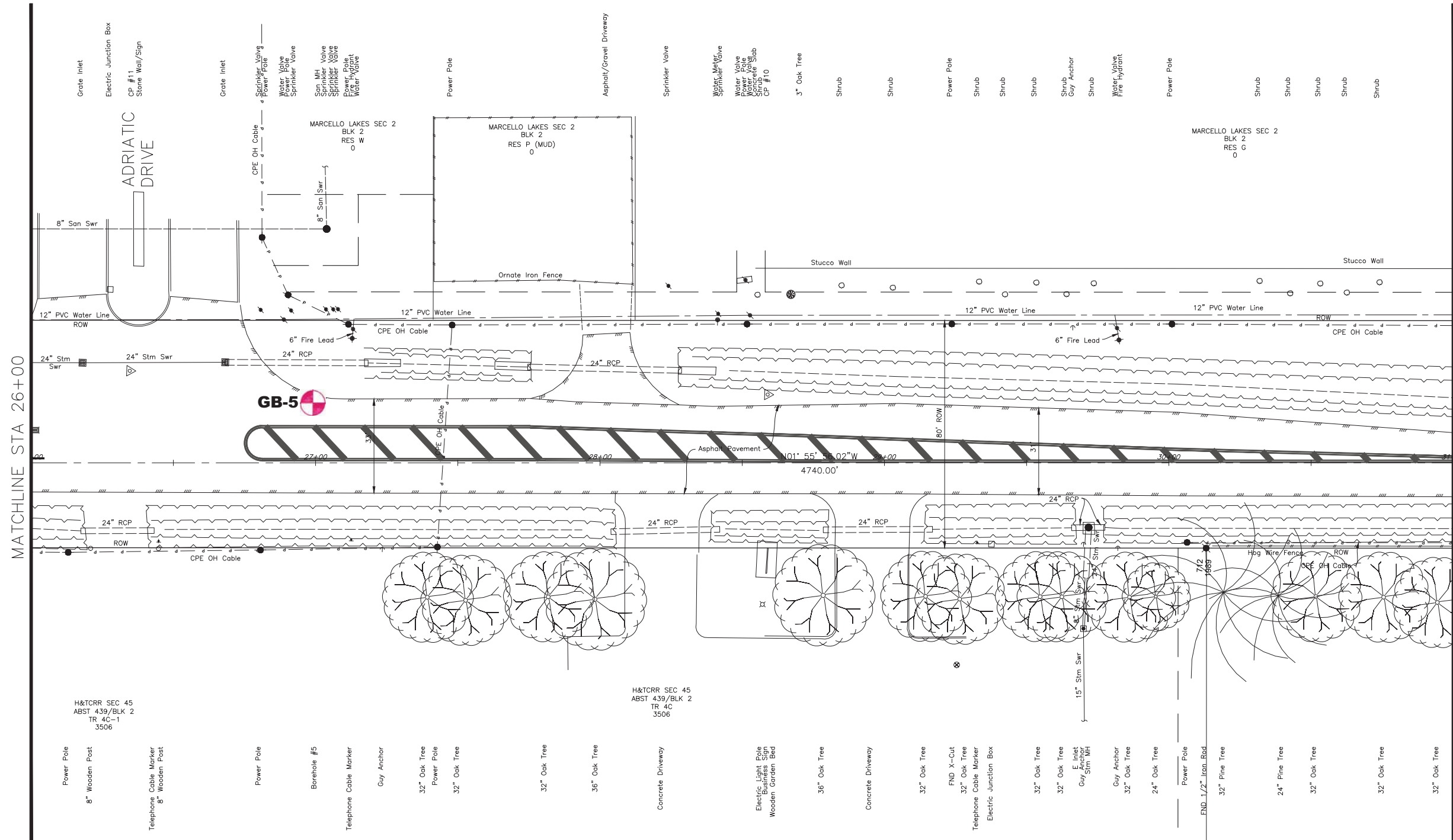


**AMANI ENGINEERING, INC.**

8303 SOUTHWEST FREEWAY, SUITE 600  
HOUSTON, TEXAS 77074  
TEL: (713) 270-5700  
Texas Registered Engineering Firm No. F-4528  
Texas Registered Surveying Firm No. 100282-00

FIGURE A-3.4

PROJECT TITLE:		PORTER ROAD	
SHEET DESCRIPTION:		PAVING & DRAINAGE IMPROVEMENTS	
DRAWN BY:		DATE:	
CK'D BY:	SCALE:	1" = 40'	SHEET NO:



TBM:

CP-11, MAG NAIL ON ASPHALT AT STA 26+34.66, 32.37' LT., EL. 143.60'

CP-10, 5 / 8" IRON ROD w/CAP AT STA 28+58.94, 24.01' LT., EL. 142.66'

**LEGEND**

BORING

BORING W/PIEZOMETER

FOR INTERIM REVIEW ONLY

DOCUMENT INCOMPLETE:  
NOT INTENDED FOR CONSTRUCTION,  
BIDDING, OR PERMIT PURPOSES

SURVEYOR: WILLIAM H. REIMER, III  
RPLS SERIAL No. 4044  
DATE: 12/11/2020

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT

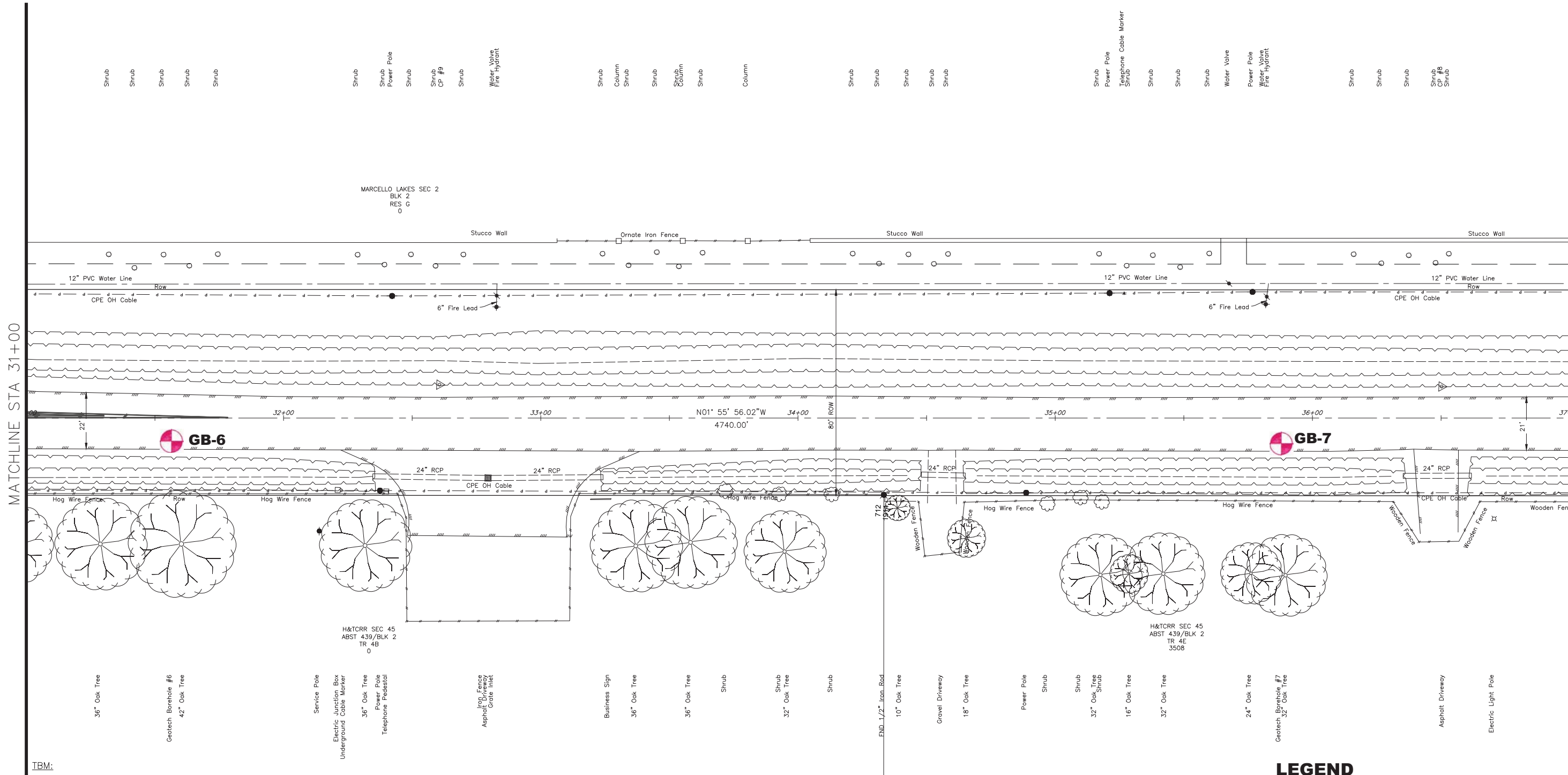


**AMANI ENGINEERING, INC.**

8303 SOUTHWEST FREWAY, SUITE 600  
HOUSTON, TEXAS 77074  
TEL: (713) 270-5700  
Texas Registered Engineering Firm No. F-4528  
Texas Registered Surveying Firm No. 100282-00

FIGURE A-3.5

PROJECT TITLE:		PORTER ROAD	
SHEET DESCRIPTION:		PAVING & DRAINAGE IMPROVEMENTS	
DRAWN BY:		DATE:	
CK'D BY:	SCALE:	1" = 40'	SHEET NO:



TBM:

CP-9, 5 /8" IRON ROD w/CAP AT  
STA 32+60.61, 12.97' LT.,  
EL. 142.86'

CP-8, 5 /8" IRON ROD w/CAP AT  
STA 36+50.20, 12.25' LT.,  
EL. 143.22'

**LEGEND**

BORING

BORING

W/PIEZOMETER

FOR INTERIM REVIEW ONLY  
DOCUMENT INCOMPLETE:  
NOT INTENDED FOR CONSTRUCTION,  
BIDDING, OR PERMIT PURPOSES  
SURVEYOR: WILLIAM H. REIMER, III  
RPLS SERIAL No. 4044  
DATE: 12/11/2020

NO.	REVISIONS	DATE	NAME

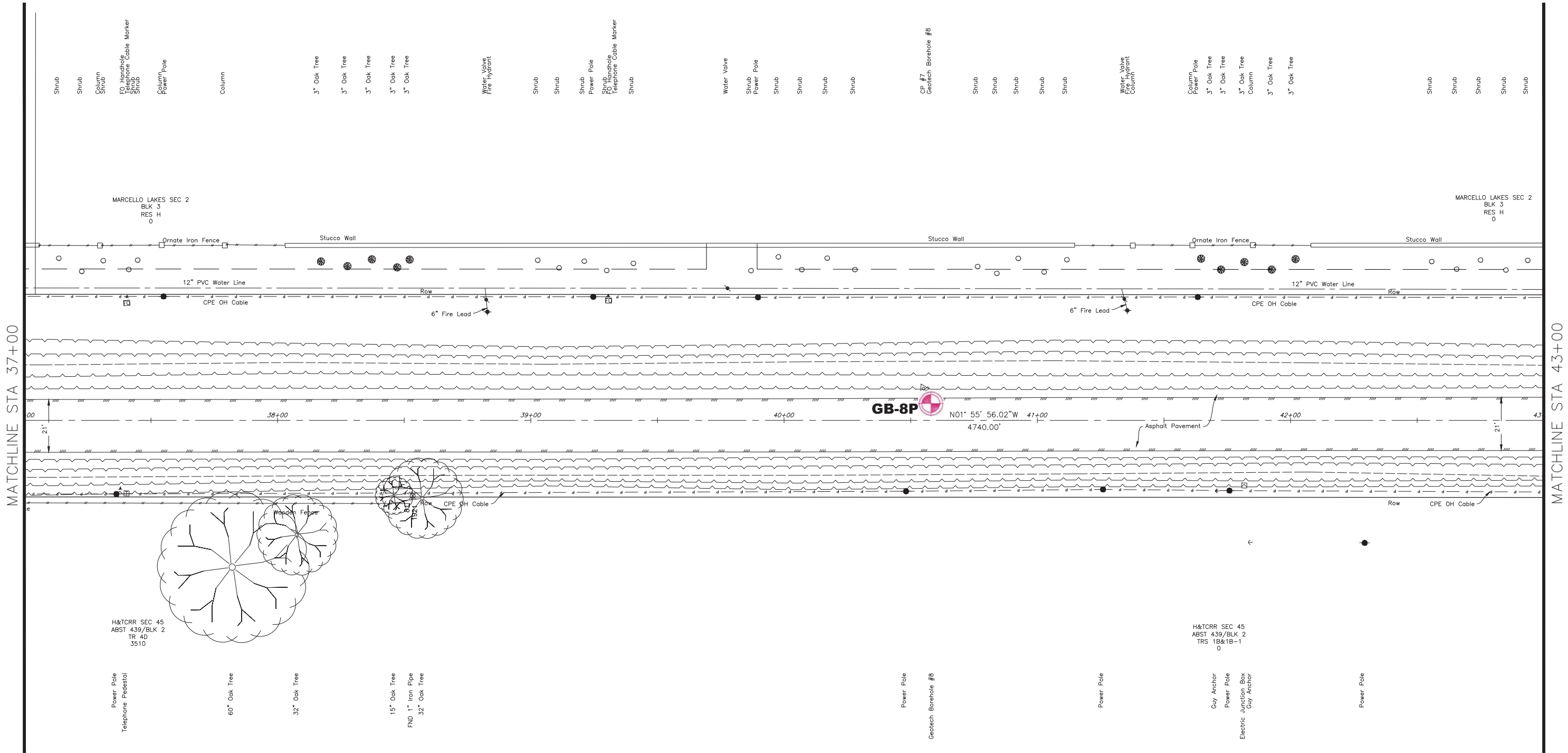
HARRIS COUNTY  
ENGINEERING DEPARTMENT



**AMANI ENGINEERING, INC.**  
8303 SOUTHWEST FREEWAY, SUITE 600  
HOUSTON, TEXAS 77074  
TEL: (713) 270-5700  
Texas Registered Engineering Firm No. F-4528  
Texas Registered Surveying Firm No. 100282-00

FIGURE A-3.6

PROJECT TITLE:		PORTER ROAD	
SHEET DESCRIPTION:		PAVING & DRAINAGE IMPROVEMENTS	
DRAWN BY:		DATE:	
CK'D BY:	SCALE:	1" = 40'	SHEET NO:



TBM:

CP-7, 5 /8" IRON ROD w/CAP AT  
STA 40+55.09, 12.49' LT.,  
EL. 142.74'

**LEGEND**

BORING

BORING  
W/PIEZOMETER

FOR INTERIM REVIEW ONLY

DOCUMENT INCOMPLETE:  
NOT INTENDED FOR CONSTRUCTION,  
BIDDING, OR PERMIT PURPOSES

SURVEYOR: WILLIAM H. REIMER, III  
RPLS SERIAL No. 4044  
DATE: 12/11/2020

NO.	REVISIONS	DATE	NAME

HARRIS COUNTY  
ENGINEERING DEPARTMENT

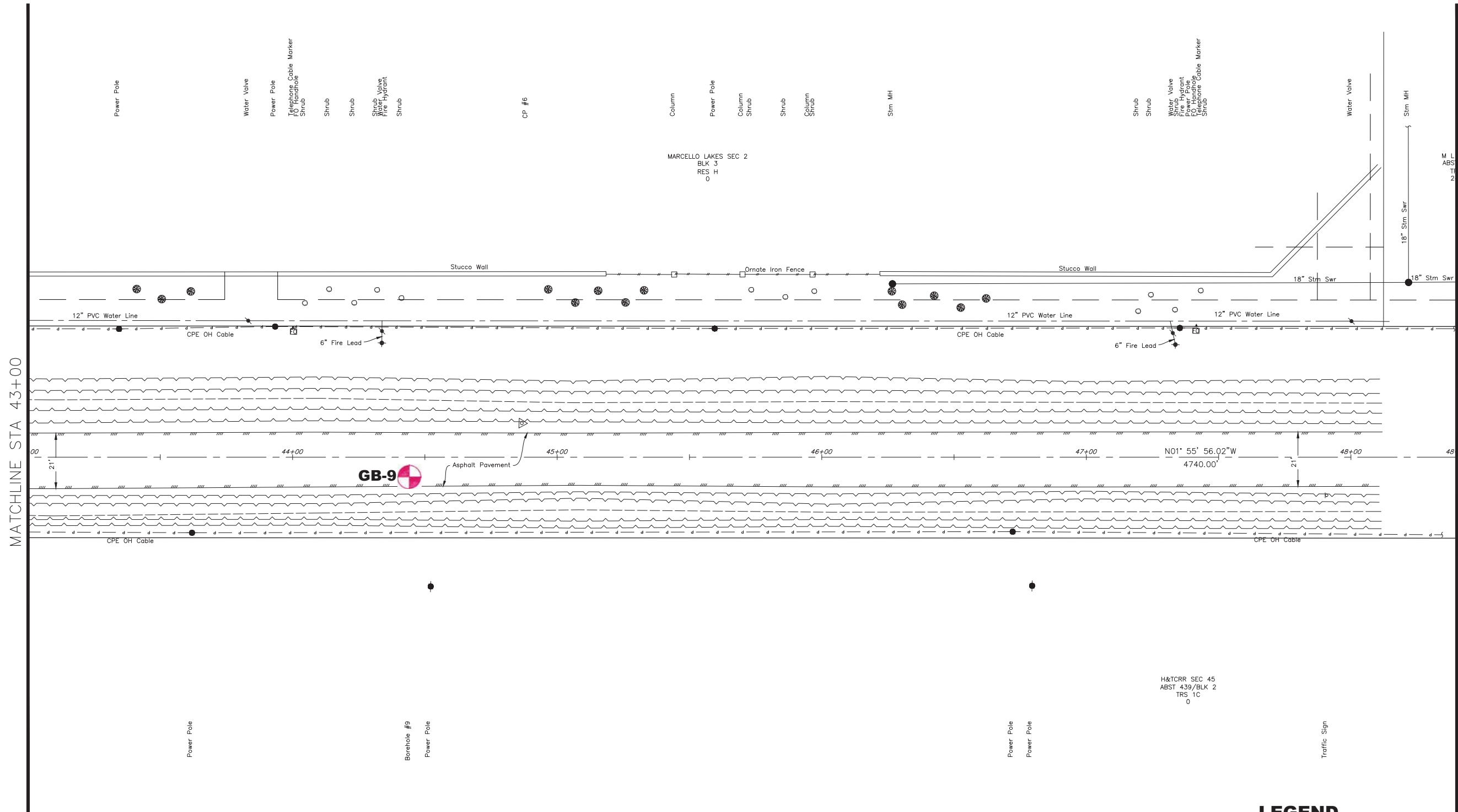


**AMANI ENGINEERING, INC.**  
8303 SOUTHWEST FREEWAY, SUITE 600  
HOUSTON, TEXAS 77074  
TEL: (713) 270-5700  
Texas Registered Engineering Firm No. F-4528  
Texas Registered Surveying Firm No. 100282-00

FIGURE A-3.7

PROJECT TITLE:		PORTER ROAD	
SHEET DESCRIPTION:		PAVING & DRAINAGE IMPROVEMENTS PLAN STA 37+00 TO STA 43+00	
DRAWN BY:		DATE:	
CK'D BY:	SCALE:	1" = 40'	SHEET NO:





TBM:  
 CP-6, 5 /8" IRON ROD w/CAP AT  
 STA 44+86.65, 12.84' LT.,  
 EL. 143.00'

**LEGEND**

BORING

BORING  
W/PIEZOMETER

FOR INTERIM REVIEW ONLY

DOCUMENT INCOMPLETE:  
 NOT INTENDED FOR CONSTRUCTION,  
 BIDDING, OR PERMIT PURPOSES

SURVEYOR: WILLIAM H. REIMER, III  
 RPLS SERIAL No. 4044  
 DATE: 12/11/2020

NO.	REVISIONS	DATE	NAME
△			
△			
△			
△			

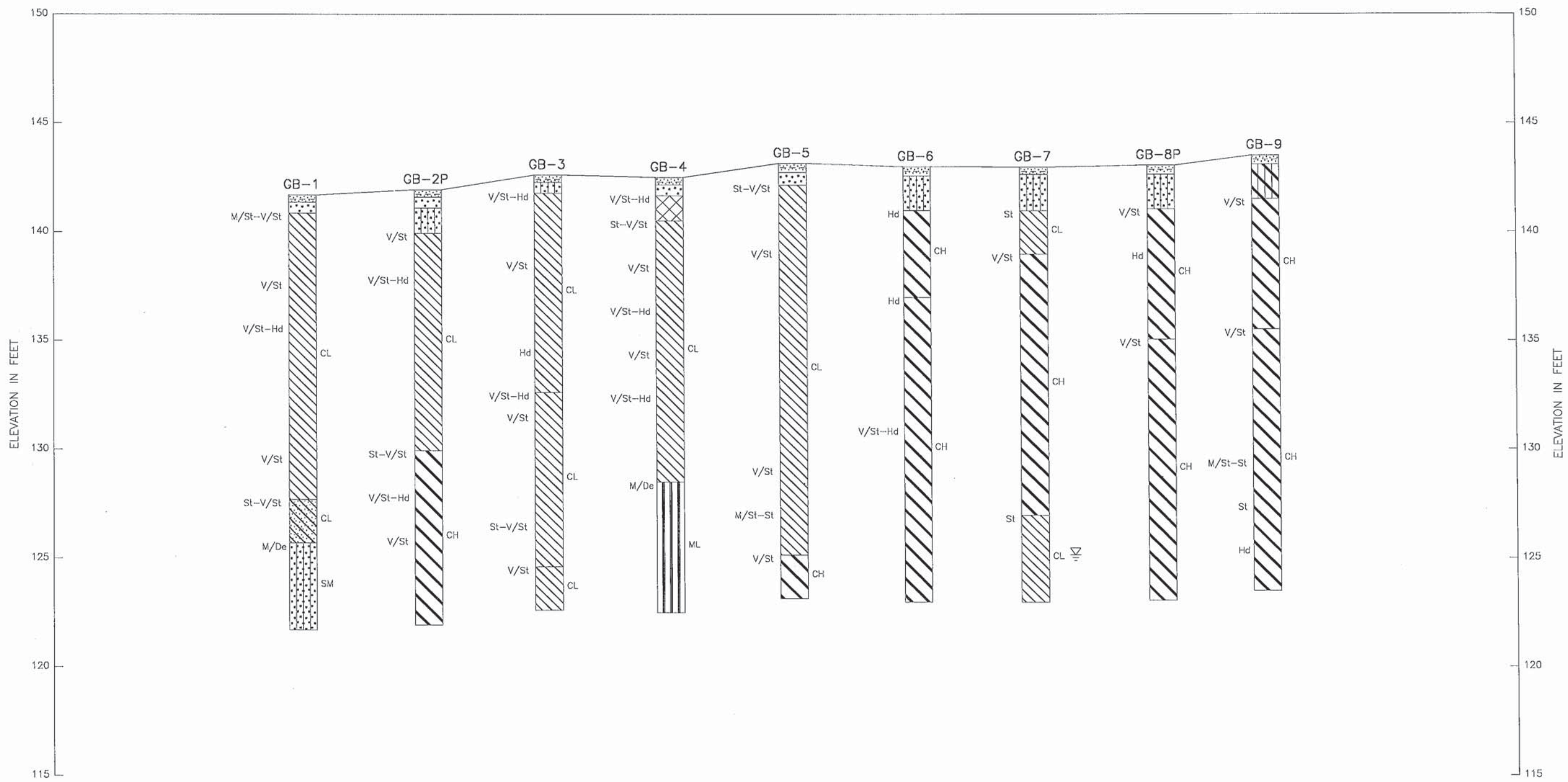
HARRIS COUNTY  
 ENGINEERING DEPARTMENT



**AMANI ENGINEERING, INC.**  
 8303 SOUTHWEST FREEWAY, SUITE 600  
 HOUSTON, TEXAS 77074  
 TEL: (713) 270-5700  
 Texas Registered Engineering Firm No. F-4528  
 Texas Registered Surveying Firm No. 100282-00

FIGURE A-3.8

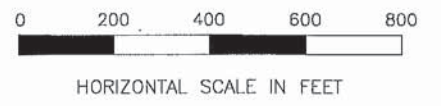
PROJECT TITLE:	PORTER ROAD		
SHEET DESCRIPTION:	PAVING & DRAINAGE IMPROVEMENTS		
DRAWN BY:		DATE:	
CK'D BY:	SCALE:	1" = 40'	SHEET NO:



GENERAL NOTES:

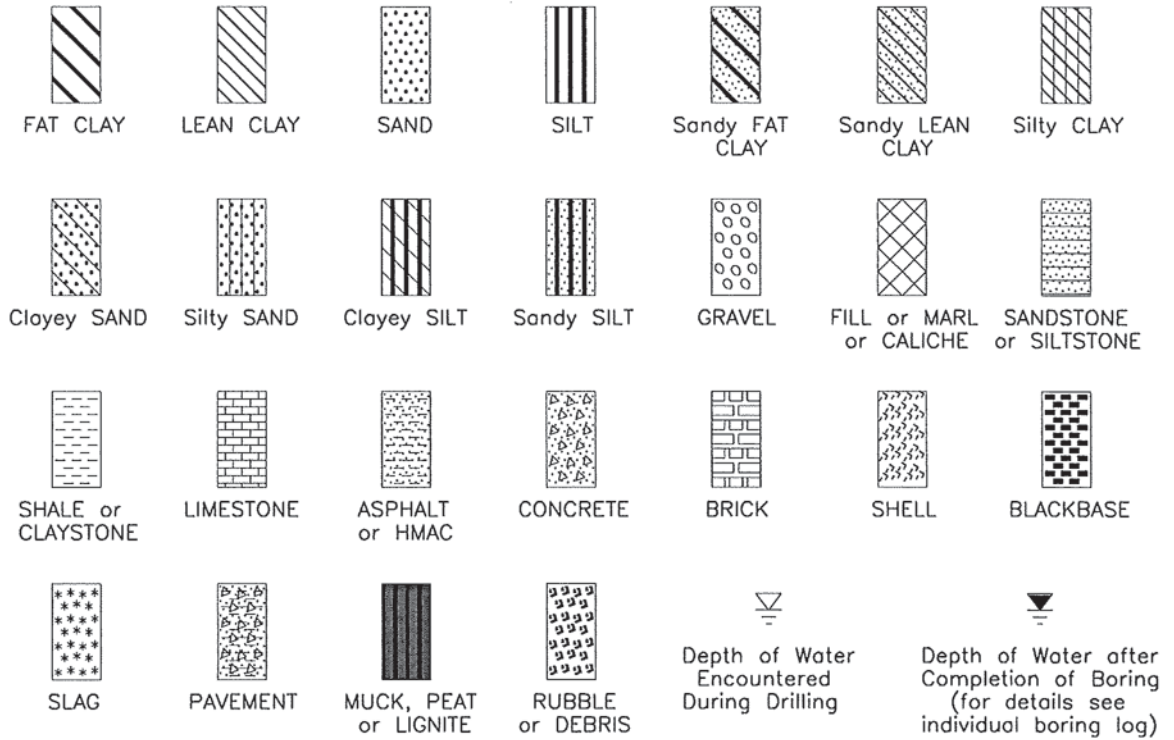
1. See Figures A-3.1 to A-3.8 for approximate location of borings and profile section.
2. Data concerning subsurface conditions have been obtained at boring locations only. Actual conditions between borings may differ from the profile shown here.
3. See logs of boring for detailed description of soils encountered in each borehole.
4. See Figure A-5 for symbols and abbreviations used on this profile.
5. Ground surface elevation at each boring location was based on survey data provided to us by Midtown Engineers, LLC

BORING LOG PROFILE  
PORTER ROAD SEGMENT 3  
GB-1 THRU GB-9



SYMBOLS AND ABBREVIATIONS USED ON BORING LOG PROFILE

LEGEND



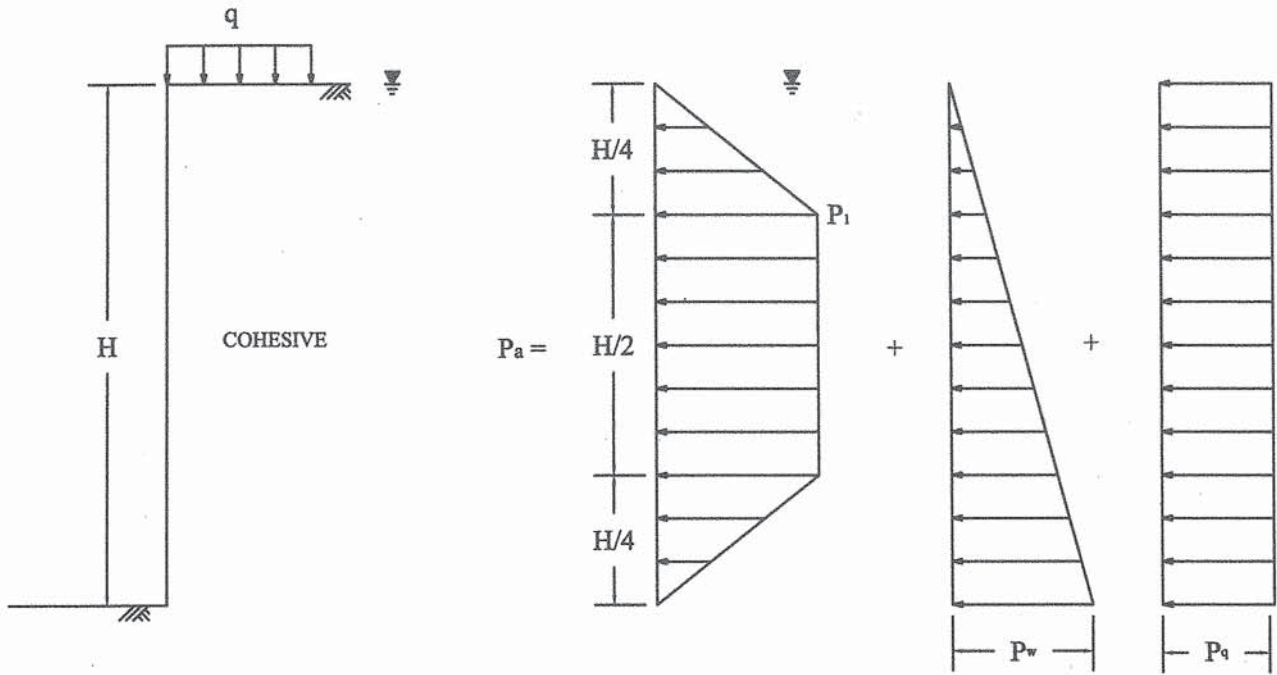
ABBREVIATIONS USED FOR CONSISTENCY/DENSITY

COHESIVE SOILS

V/So : Very Soft  
 So : Soft  
 Fm : Firm  
 M/St : Medium Stiff  
 St : Stiff  
 V/St : Very Stiff  
 Hd : Hard  
 V/Hd : Very Hard

COHESIONLESS SOILS

V/Lo : Very Loose  
 Lo : Loose  
 S/Co : Slightly Compact  
 Co : Compact  
 M/De : Medium Dense  
 De : Dense  
 V/De : Very Dense



TYPICAL SOIL PARAMETERS

See Table B-2 for typical values of soil parameters

BRACED WALL

For  $\gamma H/c \leq 4$

$$P_i = 0.3 \gamma_c' H$$

$$P_w = \gamma_w H = 62.4 H$$

$$P_q = 0.5 q$$

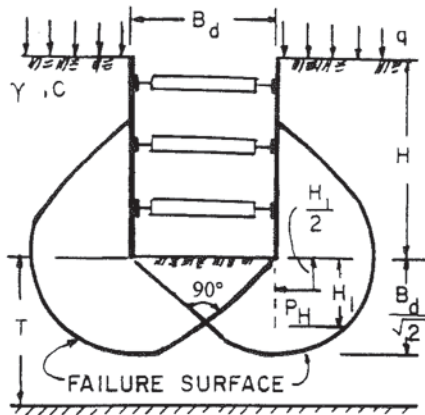
Where:

- $\gamma_c'$  = Submerged unit weight of cohesive soil, pcf;
- $\gamma_w$  = Unit weight of water, pcf;
- q = Surcharge load at surface, psf;
- $P_a$  = Lateral pressure, psf;
- $P_i$  = Active earth pressure, psf;
- $P_q$  = Horizontal pressure due to surcharge, psf;
- $P_w$  = Hydrostatic pressure due to groundwater, psf;
- H = Depth of braced excavation, feet
- c = Shear strength of cohesion soil, psf;

EXCAVATION SUPPORT EARTH PRESSURE

SUBMERGED COHESIVE SOIL

CUT IN COHESIVE SOIL,  
 DEPTH OF COHESIVE SOIL UNLIMITED ( $T > 0.7 B_d$ )  
 L = LENGTH OF CUT



If sheeting terminates at base of cut:

$$\text{Safety factor, } F_s = \frac{N_c C}{\gamma H + q}$$

$N_c$  = Bearing capacity factor, which depends on dimensions of the excavation :  $B_d$ , L and H (use  $N_c$  from graph below)

C = Undrained shear strength of clay in failure zone beneath and surrounding base of cut

$\gamma$  = Unit weight of soil (see Table B-2)

q = Surface surcharge (assumed q = 500 psf)

If safety factor is less than 1.5, sheeting or soldier piles must be carried below the base of cut to insure stability - (see note)

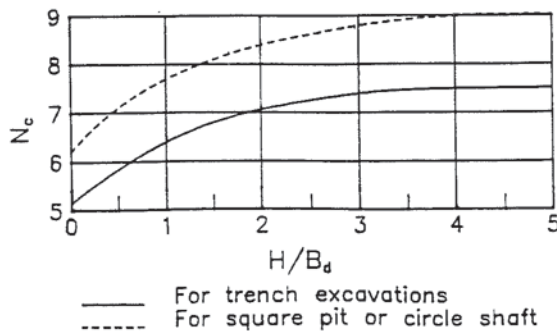
$$H_1 = \text{Buried length} = \frac{B_d}{2} \geq 5 \text{ feet}$$

Note : If soldier piles are used, the center to center spacing should not exceed 3 times the width or diameter of soldier pile .

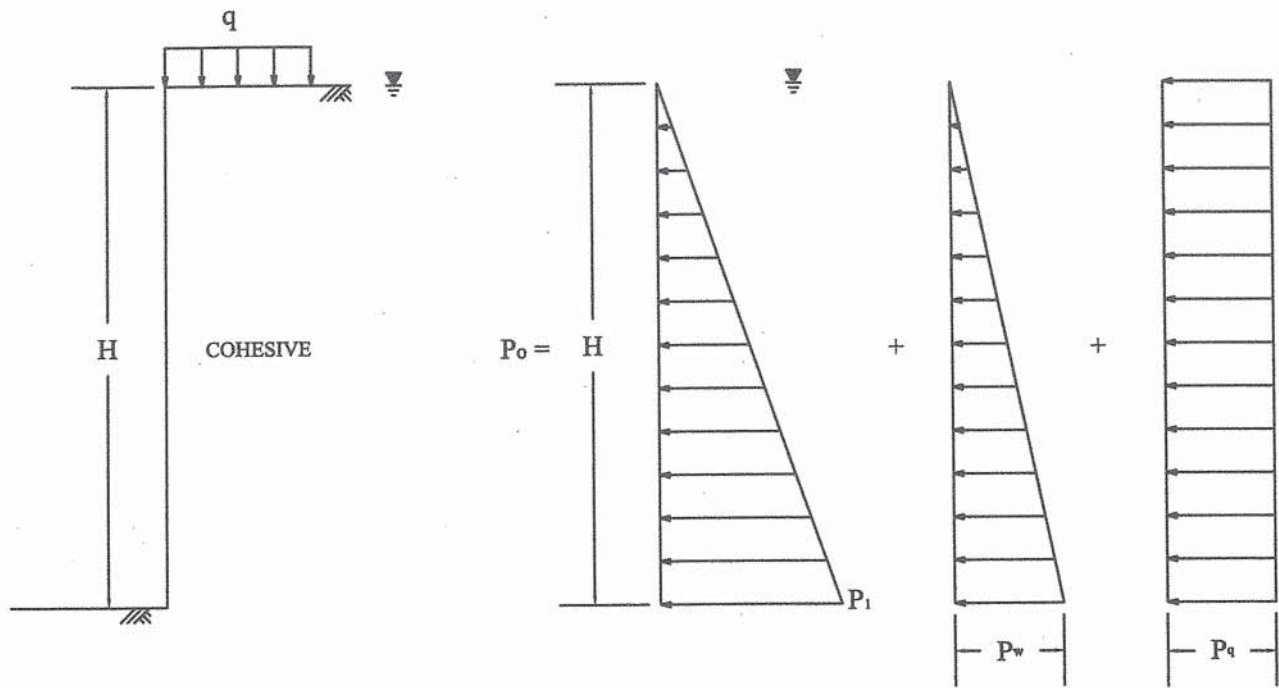
Force on buried length,  $P_H$ :

$$\text{If } H_1 > \frac{2 B_d}{3 \sqrt{2}}, P_H = 0.7 (\gamma H B_d - 1.4CH - \pi C B_d) \text{ in lbs/ linear foot}$$

$$\text{If } H_1 < \frac{2 B_d}{3 \sqrt{2}}, P_H = 1.5 H_1 \left( \gamma H - \frac{1.4CH}{B_d} - \pi C \right) \text{ in lbs/ linear foot}$$



STABILITY OF BOTTOM  
 FOR  
 BRACED CUT



**TYPICAL SOIL PARAMETERS**

See Table B-2 for typical values of soil parameters

$K_{oc} = 1.0$

**PERMANENT WALL**

$P_1 = K_{oc} \gamma_c' H$   
 $P_w = \gamma_w H = 62.4 H$   
 $P_q = 0.5 q$

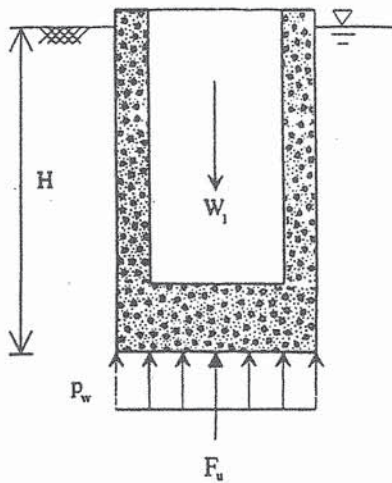
Where:

- $\gamma_c'$  = Submerged unit weight of cohesive soil, pcf;
- $K_{oc}$  = Coefficient of at-rest earth pressure in cohesive soil;
- $\gamma_w$  = Unit weight of water, pcf;
- $q$  = Surcharge load at surface, psf;
- $P_0$  = Lateral pressure, psf;
- $P_1$  = At-rest earth pressure, psf;
- $P_q$  = Horizontal pressure due to surcharge, psf;
- $P_w$  = Hydrostatic pressure due to groundwater, psf;
- $H$  = Depth of excavation, feet

**LATERAL EARTH PRESSURE DIAGRAM FOR PERMANENT WALL**

**SUBMERGED COHESIVE SOIL**

(a) DEAD WEIGHT OF STRUCTURE



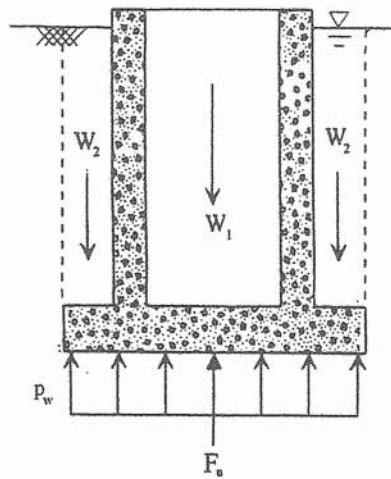
$$P_w = H\gamma_w$$

$$F_u = A_b P_w$$

$$\frac{W_1}{S_{f_1}} = F_u$$

See Table B-2 for typical values of soil parameters

(b) WEIGHT OF SOIL ABOVE BASE EXTENSION PLUS DEAD WEIGHT OF STRUCTURE

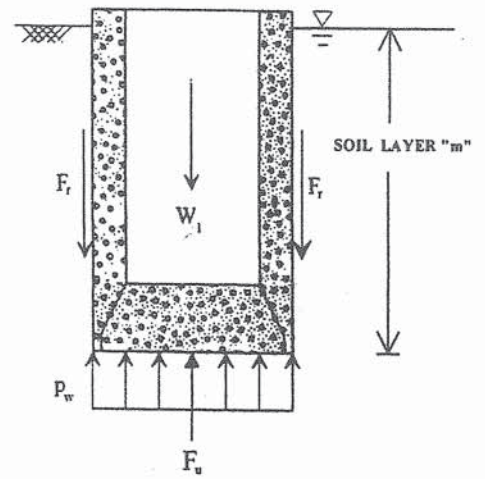


$$P_w = H\gamma_w$$

$$F_u = A_b P_w$$

$$\frac{W_1 + W_2}{S_{f_1}} = F_u$$

(c) SOIL-WALL FRICTION PLUS DEAD WEIGHT OF STRUCTURE



$$P_w = H\gamma_w$$

$$F_u = A_b P_w$$

$$\frac{W_1 + F_r}{S_{f_1}} = F_u$$

Predominantly Cohesive Soils,  $F_r = \alpha c_m A_m$

Predominantly Cohesionless Soils,  $F_r = p_m A_m K \tan \delta_m$

- Where:
- $A_b$  = area of base, sq. ft.
  - $A_m$  = cylindrical surface area of layer "m", sq. ft.
  - $c_m$  = undrained cohesion of soil layer "m", psf.
  - $F_u$  = hydrostatic uplift force, lbs.
  - $F_r$  = frictional resistance, lbs.
  - $H$  = height of buried structure, ft.
  - $K$  = coefficient of lateral pressure = 0.5.
  - $p_m$  = average overburden pressure for layer "m," psf.
  - $P_w$  = hydrostatic uplift pressure, psf.
  - $S_{f_1, 2, 3}$  = factor of safety.
  - $W_1$  = dead weight of concrete structure, lbs.
  - $W_2$  = weight of backfill above base extension, lbs.
  - $\alpha$  = cohesion reduction factor = 0.5.
  - $\delta_m$  = friction angle between soil layer "m" and concrete wall, degrees =  $0.75 \phi_m$
  - $\phi_m$  = internal angle of friction of soil layer "m", degrees.
  - $\gamma_w$  = unit weight of water = 62.4 pcf.

## UPLIFT PRESSURE AND RESISTANCE

**APPENDIX B**

	<u>Table</u>
Summary of Boring Information .....	B-1
Geotechnical Design Parameter Summary: Open-Cut Excavation .....	B-2



**TABLE B-1**

**SUMMARY OF BORING INFORMATION**

<b>Street/Location</b>	<b>Boring No.</b>	<b>Depth (ft.)</b>	<b>Northing</b>	<b>Easting</b>	<b>Ground Surface Elevation</b>
Porter Rd	GB-1	20	13859565.87	2986234.03	141.69
	GB-2P	20	13860026.72	2986217.41	141.93
	GB-3	20	13860471.82	2986201.71	142.61
	GB-4	20	13860917.13	2986160.55	142.50
	GB-5	20	13861371.56	2986144.44	143.14
	GB-6	20	13861829.80	2986159.56	142.98
	GB-7	20	13862260.76	2986145.09	142.96
	GB-8P	20	13862729.44	2986113.93	143.04
	GB-9	20	13863116.36	2986113.38	143.50

Note: The survey information was provided by Midtown Engineers, LLC.

1) Coordinates and distances are US survey feet displayed in GRID values using a surface adjustment factor of 1.0001111023.

2) Horizontal control is based on the Texas State Plane Coordinate System, NAD83(2011). South Central Zone (4204).

3) All elevations are based on GPS derived ellipsoid heights utilizing NAVD 88. GEOVD 99

**TABLE B-2**  
**GEOTECHNICAL DESIGN PARAMETER SUMMARY**  
**OPEN-CUT EXCAVATION**

Alignment	Boring Nos.	Stratigraphic Unit	Range of Depths, ft.	Wet Unit Weight, $\gamma$ , pcf	Submerged Unit Weight, $\gamma'$ , pcf	Undrained Cohesion, psf	Internal Friction Angle, $\phi$ , degree
Porter Rd	GB-1	Cohesive	*0-4	133	71	800	--
			4-14	135	73	2,500	--
			14-16	135	73	1,500	--
			Cohesionless	16-20	115	57	--
	GB-2P & GB-3	Cohesive	*0-4	135	73	2,000	--
			4-10	135	73	2,500	--
			10-20	135	73	1,600	--
	GB-4	Cohesive	*0-4	131	69	1,800	--
			4-8	131	69	2,500	--
			8-14	131	69	2,000	--
			Cohesionless	14-20	115	58	--
	GB-5 & GB-7	Cohesive	*0-4	131	69	1,500	--
			4-16	135	73	2,000	--
			16-20	135	73	1,000	--
	GB-6	Cohesive	*0-20	135	73	4,000	--
	GB-8P & GB-9	Cohesive	*0-4	133	71	2,000	--
			4-8	133	71	3,500	--
			8-14	135	71	2,000	--
			14-16	135	73	500	--
			16-18	135	73	1,500	--
			18-20	135	73	2,500	--

Note:

\* Below existing pavement

1. Cohesive soils include fat clay, lean clay, fat clay w/sand, lean clay w/sand and sandy lean clay.
2. Cohesionless soils include silty sand and silt w/sand.

**APPENDIX C**

	<u>Figure</u>
Log of Borings .....	C-1 thru C-9
Symbols and Terms Used on Boring Logs .....	C-10
Piezometer Installation Reports .....	C-11 and C-12

## LOG OF BORING NO. GB-1

PROJECT : Porter Road; Segment 3  
 UPIN: 21103N302030003  
 Precinct 3; Harris County, Texas  
 LOCATION : N 13859565.87, E 2986234.03  
 See Plan of Borings (Figures A-3.1 thru A-3.8)  
 SURFACE ELEVATION : 141.69 FT.

PROJECT NO. : 1140257101  
 COMPLETION DEPTH : 20.0 FT.  
 DATE : 10-29-20

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	SAMPLER : Shelby Tube/Split Spoon DRY AUGER : 0.0 TO 20.0 FT. WET ROTARY : -- TO -- FT.	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF							
												0.5	1.0	1.5	2.0	2.5			
141.7	0			4" Asphalt															
140.9				6" Gray and Brown Sand w/shell fragments				14.7	30	16	14								
	5			Medium stiff to very stiff brown and gray LEAN CLAY WITH SAND (CL) w/sand seams, ferrous nodules and ferrous stains -very stiff 4'-6' -very stiff to hard 6'-12'	81.3	113	17.9	38	18	20		■	△	○					
	10			-reddish brown and gray 10'-14' -very stiff 12'-14'			15.4						△	○					
	15			Stiff to very stiff gray and reddish brown SANDY LEAN CLAY (CL) w/sand seams and ferrous stains			14.2	43	20	23		■	△	○					
	20			Medium dense reddish brown and gray SILTY SAND (SM) -gray and brown w/clay seams 18.5'-20'	10	37.8	14.5						△	○					
	25						16.7						△	○					
	30						20.0						△	○					
	35					12	13.9						△	○					
							8.8												
							8.2												

DEPTH TO WATER IN BORING :  
 NO GROUNDWATER ENCOUNTERED DURING DRILLING.  
 HOLE OPEN TO 20.0 FT. AT END OF DRILLING.

*Geotest Engineering, Inc.*

FIGURE C-1

**LOG OF BORING NO. GB-2P**

PROJECT : Porter Road; Segment 3  
 UPIN: 21103N302030003  
 Precinct 3; Harris County, Texas  
 LOCATION : N 13860026.72, E 2986217.41  
 See Plan of Borings (Figures A-3.1 thru A-3.8)  
 SURFACE ELEVATION : 141.93 FT.

PROJECT NO. : 1140257101  
 COMPLETION DEPTH : 20.0 FT.  
 DATE : 10-30-20

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF							
												0.5	1.0	1.5	2.0	2.5			
141.9	0			SAMPLER : Shelby Tube/Split Spoon DRY AUGER : 0.0 TO 20.0 FT. WET ROTARY : -- TO -- FT.															
141.6				4" Asphalt															
141.1				6" Gray Sand w/gravel															
139.9				Gray and brown SILTY SAND (SM) w/clay seams				11.3											
	5			Very stiff brown and gray LEAN CLAY WITH SAND (CL) w/sand seams, ferrous nodules and ferrous stains -very stiff to hard 4'-10'		82.2	117	15.2	43	20	23								
				-reddish brown and gray 10'-12'				12.7											
	10							14.5											
129.9				Stiff to very stiff gray and reddish brown FAT CLAY (CH) w/ferrous nodules and ferrous stains -very stiff to hard 14'-16' -very stiff 16'-20'		96.2	99	24.5	73	27	46								
	15							29.7											
				-w/sand seams and calcareous nodules 18'-20'				29.9											
	20							27.1											
	25																		
	30																		
	35																		

DEPTH TO WATER IN BORING :  
 NO GROUNDWATER ENCOUNTERED DURING DRILLING.  
 HOLE OPEN TO 20.0 FT. AT END OF DRILLING.

FIGURE C-2

## LOG OF BORING NO. GB-3

PROJECT : Porter Road; Segment 3  
 UPIN: 21103N302030003  
 Precinct 3; Harris County, Texas  
 LOCATION : N 13860471.82, E 2986201.71  
 See Plan of Borings (Figures A-3.1 thru A-3.8)  
 SURFACE ELEVATION : 142.61 FT.

PROJECT NO. : 1140257101  
 COMPLETION DEPTH : 20.0 FT.  
 DATE : 10-29-20

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF
142.6	0			4" Asphalt								
141.8				6" Dark Brown Silty Sand w/gravel				14.1				
	5			Very stiff to hard brown LEAN CLAY WITH SAND (CL) w/ferrous nodules and ferrous stains -w/silt seams 10"-2' -reddish brown and gray 2'-10' -very stiff 4'-6' -hard, w/silt seams 8'-10'	82.9	119	16.7	39	18	21		<div style="display: flex; justify-content: space-around;"> <span>○</span> <span>●</span> <span>■</span> <span>△</span> </div>
	10			Very stiff to hard reddish brown and gray LEAN CLAY (CL) w/ferrous nodules and ferrous stains -very stiff, w/silt seams 10'-14' -w/sand seams 14'-18' -stiff to very stiff 16'-18'				16.5				○ △
	15							15.7				△ ○
	20							15.1				○ △
132.6				Very stiff reddish brown and gray LEAN CLAY WITH SAND (CL) w/ferrous stains and sand seams	88.2	115	17.9	48	21	27		<div style="display: flex; justify-content: space-around;"> <span>○</span> <span>●</span> <span>△</span> </div>
	25							19.2				△ ○
	30							17.5				△ ○
	35							18.9				△ ○
								14.5	32	18	14	△ ○

DEPTH TO WATER IN BORING :  
 NO GROUNDWATER ENCOUNTERED DURING DRILLING.  
 HOLE OPEN TO 20.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

FIGURE C-3

**LOG OF BORING NO. GB-4**

PROJECT : Porter Road; Segment 3  
 UPIN: 21103N302030003  
 Precinct 3; Harris County, Texas  
 LOCATION : N 13860917.13, E 2986160.55  
 See Plan of Borings (Figures A-3.1 thru A-3.8)  
 SURFACE ELEVATION : 142.50 FT.

PROJECT NO. : 1140257101  
 COMPLETION DEPTH : 20.0 FT.  
 DATE : 10-29-20

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	SAMPLER : Shelby Tube/Split Spoon DRY AUGER : 0.0 TO 20.0 FT. WET ROTARY : -- TO -- FT.	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF																												
													0.5	1.0	1.5	2.0	2.5																								
142.5	0				4" Asphalt																																				
141.7	0				6" Gray Sand w/gravel, shell fragments, and clay seams		74.8		13.3	31	16	15																													
140.5	5				FILL: very stiff to hard dark gray and yellowish brown lean clay with sand w/ferrous nodules, ferrous stains, and shell fragments				16.8																																
	10				LEAN CLAY WITH SAND (CL) -very stiff 4'-6' -very stiff to hard 6'-8' -very stiff 8'-10' -gray and reddish brown 8'-14'	84.6		112	17.0	49	21	28																													
128.5	15				-very stiff to hard w/silt seams 10'-14'				18.6																																
	20				Medium dense gray and brown SILT WITH SAND (ML)	17	75.4		11.3																																
						17			12.5																																
						21			12.5																																

DEPTH TO WATER IN BORING :  
 NO GROUNDWATER ENCOUNTERED DURING DRILLING.  
 HOLE OPEN TO 20.0 FT. AT END OF DRILLING.

FIGURE C-4

LOG OF BORING NO. GB-5

PROJECT : Porter Road; Segment 3  
 UPIN: 21103N302030003  
 Precinct 3; Harris County, Texas  
 LOCATION : N 13861371.56, E 2986144.44  
 See Plan of Borings (Figures A-3.1 thru A-3.8)  
 SURFACE ELEVATION : 143.14 FT.

PROJECT NO. : 1140257101  
 COMPLETION DEPTH : 20.0 FT.  
 DATE : 10-29-20

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	SAMPLER : Shelby Tube/Split Spoon DRY AUGER : 0.0 TO 20.0 FT. WET ROTARY : -- TO -- FT.	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF								
												0.5	1.0	1.5	2.0	2.5				
143.1	0			5" Asphalt																
142.7				7" Gray Sand w/gravel				14.3												
142.1				Stiff to very stiff brown and gray LEAN CLAY WITH SAND (CL) w/ferrous nodules and ferrous stains -w/sand seams 1'-6' -very stiff 4'-12' -reddish brown and gray 6'-18'	82.4		110	19.9	43	19	24									
	5							18.6												
								16.7												
	10						82.2	118	15.6	48	20	28								
								20.4												
				-very stiff 14'-16'				19.5												
	15							22.2												
				-medium stiff to stiff 16'-18'				19.7												
125.1				Very stiff reddish brown and gray FAT CLAY (CH) w/ferrous nodules and ferrous stains	99.4			28.8	70	27	43									
123.1	20																			
	25																			
	30																			
	35																			

DEPTH TO WATER IN BORING :  
 NO GROUNDWATER ENCOUNTERED DURING DRILLING.  
 HOLE OPEN TO 20.0 FT. AT END OF DRILLING.

Geotest Engineering, Inc.

FIGURE C-5



LOG OF BORING NO. GB-6

PROJECT : Porter Road; Segment 3  
 UPIN: 21103N302030003  
 Precinct 3; Harris County, Texas  
 LOCATION : N 13861829.80, E 2986159.56  
 See Plan of Borings (Figures A-3.1 thru A-3.8)  
 SURFACE ELEVATION : 142.98 FT.

PROJECT NO. : 1140257101  
 COMPLETION DEPTH : 20.0 FT.  
 DATE : 10-29-20

ELEVATION, FEET	DEPTH, FEET	SYMBOL	SAMPLES	SAMPLER : Shelby Tube/Split Spoon DRY AUGER : 0.0 TO 20.0 FT. WET ROTARY : -- TO -- FT.	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF							
												0.5	1.0	1.5	2.0	2.5			
143.0	0			5" Asphalt															
142.6				19" Gray and Brown Silty Sand w/gravel															
141.0				Hard brown and gray FAT CLAY WITH SAND (CH) w/ferrous nodules and ferrous stains				10.1											
	5			-w/roots 2'-4'															
137.0				-gray and reddish brown, w/sand seams 4'-6'	82.7	117	11.9	59	23	36									5.4
				Hard gray and reddish brown FAT CLAY (CH) w/ferrous nodules, ferrous stains and silt seams				11.6											
	10			-w/sand seams 8'-10'				13.6											
				-very stiff to hard 12'-16'	96.5	117	16.1	60	24	36									3.9
	15							10.6											
								12.2											
								11.3											
123.0	20							12.6											
	25																		
	30																		
	35																		

DEPTH TO WATER IN BORING :  
 NO GROUNDWATER ENCOUNTERED DURING DRILLING.  
 HOLE OPEN TO 20.0 FT. AT END OF DRILLING.

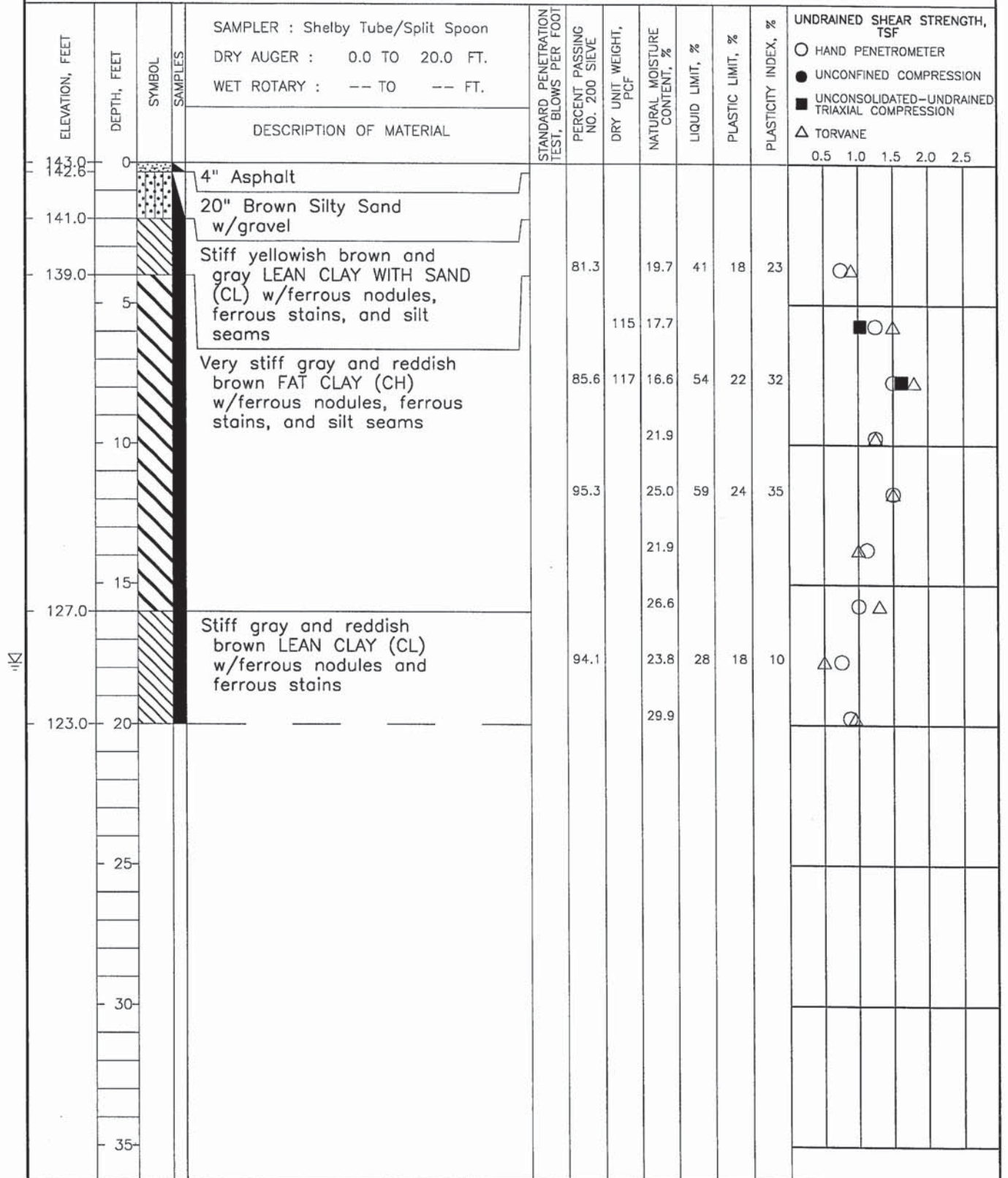
Geotest Engineering, Inc.

FIGURE C-6

## LOG OF BORING NO. GB-7

PROJECT : Porter Road; Segment 3  
 UPIN: 21103N302030003  
 Precinct 3; Harris County, Texas  
 LOCATION : N 13862260.76, E 2986145.09  
 See Plan of Borings (Figures A-3.1 thru A-3.8)  
 SURFACE ELEVATION : 142.96 FT.

PROJECT NO. : 1140257101  
 COMPLETION DEPTH : 20.0 FT.  
 DATE : 10-29-20



DEPTH TO WATER IN BORING :  
 ∇: FREE WATER 1st ENCOUNTERED AT 20.0 FT. DURING DRILLING; AFTER 15.0 MIN. AT 17.8 FT.  
 HOLE OPEN TO 20.0 FT. AT END OF DRILLING.

*Geotest Engineering, Inc.*

FIGURE C-7



## LOG OF BORING NO. GB-9

PROJECT : Porter Road; Segment 3  
 UPIN: 21103N302030003  
 Precinct 3; Harris County, Texas  
 LOCATION : N 13863116.36, E 2986113.38  
 See Plan of Borings (Figures A-3.1 thru A-3.8)  
 SURFACE ELEVATION : 143.50 FT.

PROJECT NO. : 1140257101  
 COMPLETION DEPTH : 20.0 FT.  
 DATE : 10-29-20

ELEVATION, FEET	DEPTH, FEET	SYMBOL	DESCRIPTION OF MATERIAL	STANDARD PENETRATION TEST, BLOWS PER FOOT	PERCENT PASSING NO. 200 SIEVE	DRY UNIT WEIGHT, PCF	NATURAL MOISTURE CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, TSF
143.5	0		SAMPLER : Shelby Tube/Split Spoon DRY AUGER : 0.0 TO 20.0 FT. WET ROTARY : -- TO -- FT.								
143.1			5" Asphalt								
141.5			Dark gray SILT (ML) w/sand and clay seams		74.7		12.2	19	15	4	
	5		Very stiff gray and brown FAT CLAY WITH SAND (CH) w/sand seams -gray and yellowish brown w/ferrous nodules and ferrous stains 4'-8' -w/vertical sand seams 6'-8'		83.9		24.0	63	25	38	○ △
135.5			Very stiff reddish brown and gray FAT CLAY (CH) w/silt seams, ferrous nodules and ferrous stains		83.6		14.8	57	23	34	△ ○
	10						14.8				△
	15		-medium stiff to stiff w/sand seams 14'-16'		86.6	111	19.7	63	25	38	■ ○
			-stiff 16'-18'				24.8				○ △
			-reddish brown 16'-20'		96.4		21.7	50	22	28	○ △
			-hard, w/calcareous nodules 18'-20'				22.0				△ ○
123.5	20						33.6				△
							21.9				○ △
	25										
	30										
	35										

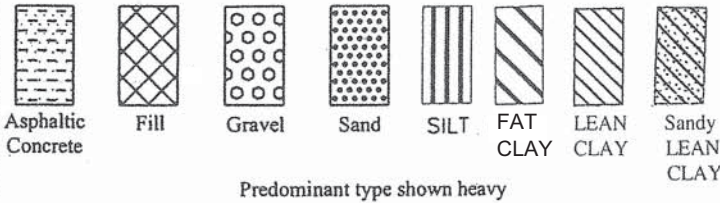
DEPTH TO WATER IN BORING :  
 NO GROUNDWATER ENCOUNTERED DURING DRILLING.  
 HOLE OPEN TO 20.0 FT. AT END OF DRILLING.

*Geotest Engineering, Inc.*

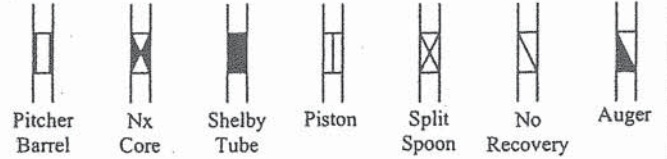
FIGURE C-9

## SYMBOLS AND TERMS USED ON BORING LOGS

### SOIL TYPES (SHOWN IN SYMBOL COLUMN)



### SAMPLER TYPES (SHOWN IN SAMPLES COLUMN)



Predominant type shown heavy

## TERMS DESCRIBING CONSISTENCY OR CONDITION

Basic Soil Type	Density or Consistency	Standard Penetration Resistance, <sup>(1)</sup> Blows/ft.	Unconfined Compressive Strength ( $q_u$ ), <sup>(2)</sup> Tons/sq. ft.
Cohesionless	Very loose	Less than 4	Not applicable
	Loose	4 to <10	Not applicable
	Medium dense	10 to <30	Not applicable
	Dense	30 to <50	Not applicable
	Very dense	50 or greater	Not applicable
Cohesive	Very soft	Less than 2	Less than 0.25
	Soft	2 to <4	0.25 to <0.5
	Firm/Medium stiff	4 to <8	0.5 to <1.0
	Stiff	8 to <15	1.0 to <2.0
	Very stiff	15 to <30	2.0 to <4.0
Hard	30 or greater	4 or greater	

(1) Number of blows from 140-lb. weight falling 30-in. to drive 2-in. OD, 1-3/8-in. ID, split barrel sampler (ASTM D1586)

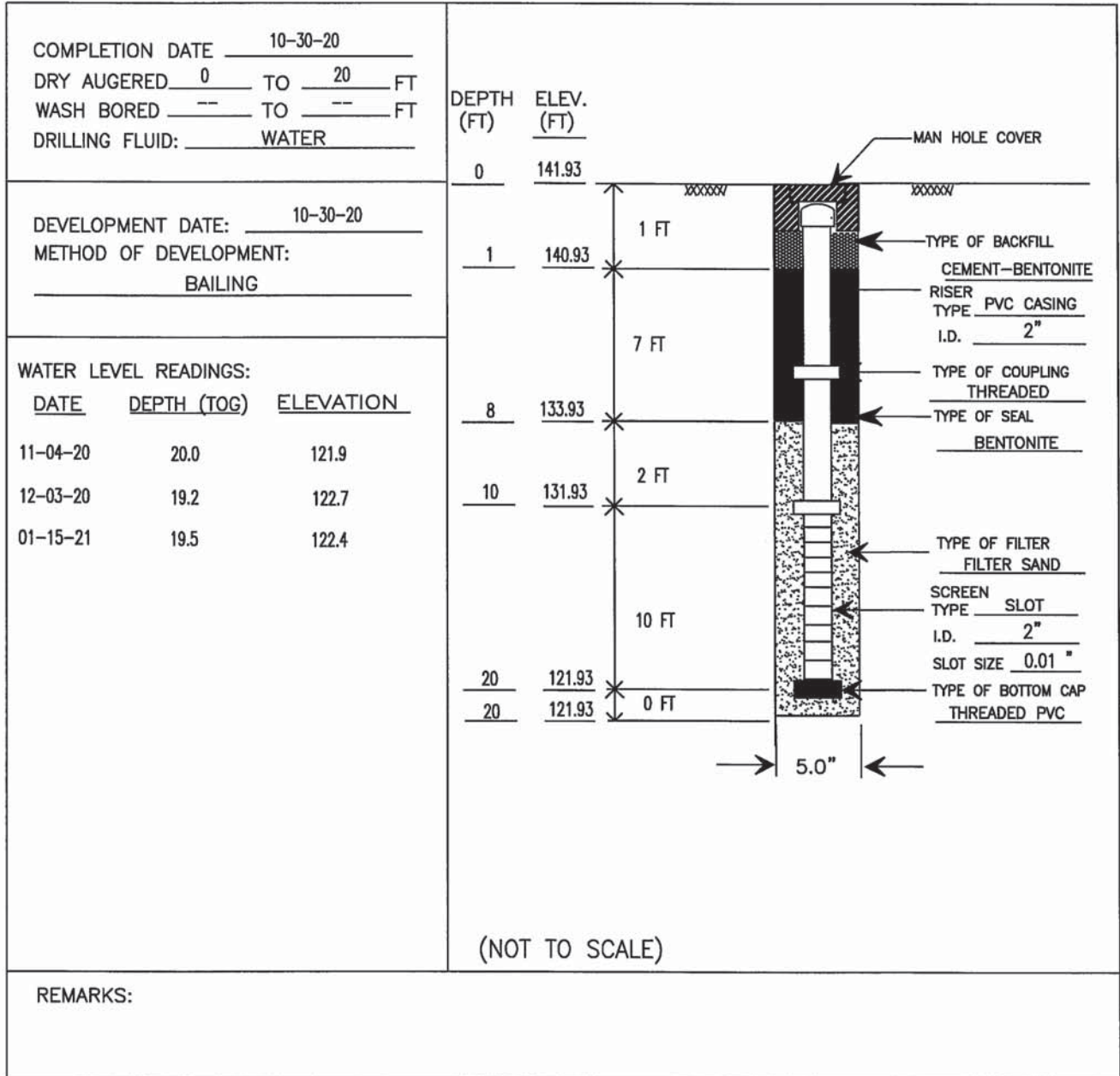
(2)  $q_u$  may also be approximated using a pocket penetrometer

## TERMS CHARACTERIZING SOIL STRUCTURE

Parting: -paper thin in size	Seam: -1/8" to 3" thick	Layer: -greater than 3"
Slickensided	- having inclined planes of weakness that are slick and glossy in appearance.	
Fissured	- containing shrinkage cracks, frequently filled with fine sand or silt; usually more or less vertical.	
Laminated	- composed of thin layers of varying color and texture.	
Interbedded	- composed of alternate layers of different soil types.	
Calcareous	- containing appreciable quantities of calcium carbonate.	
Well graded	- having wide range in grain sizes and substantial amounts of all intermediate particle sizes.	
Poorly graded	- predominantly of one grain size, or having a range of sizes with some intermediate size missing.	
Flocculated	- pertaining to cohesive soils that exhibit a loose knit or flakey structure.	

## PIEZOMETER INSTALLATION REPORT

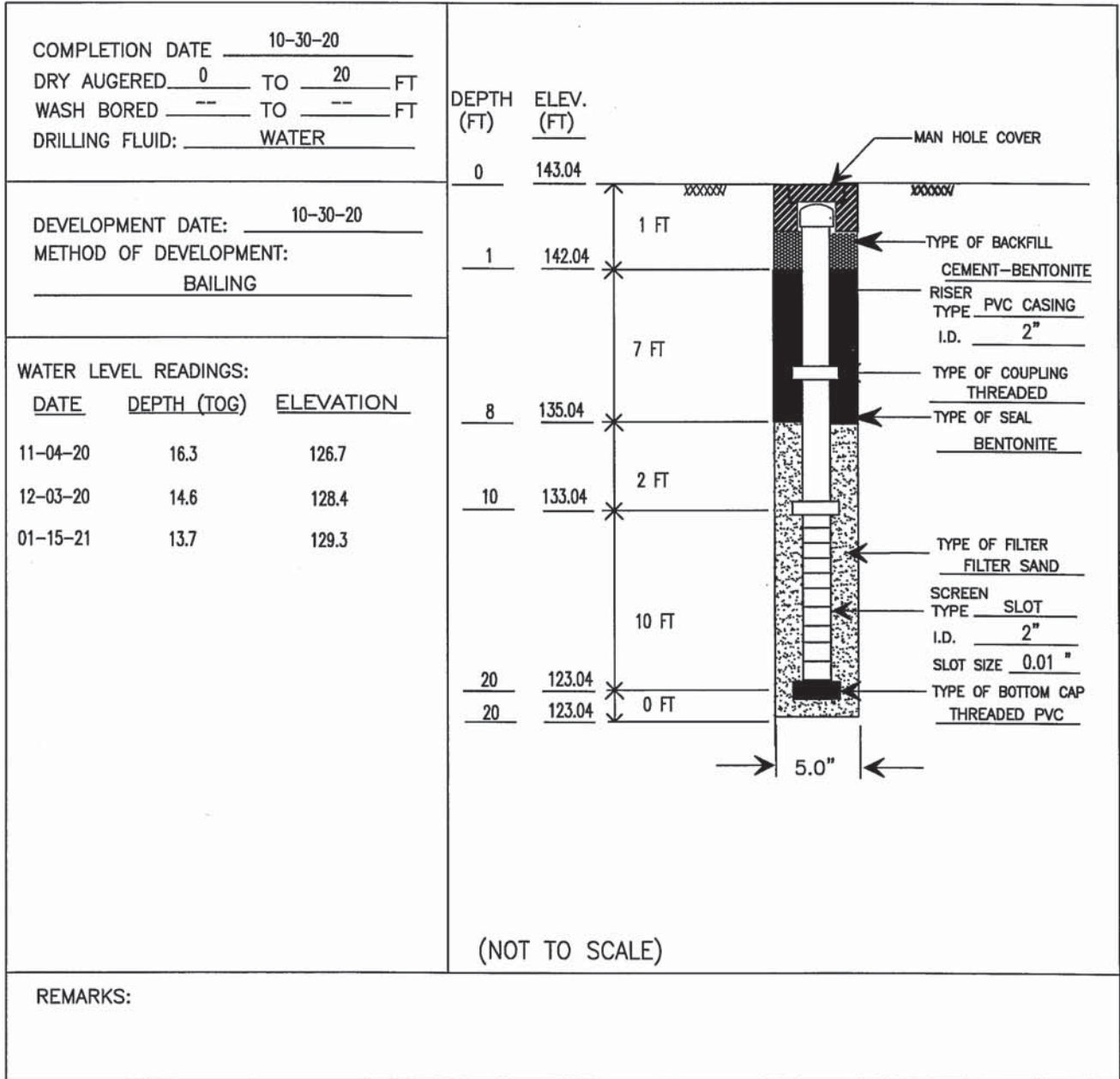
PROJECT NAME: PORTER ROAD, SEGMENT 3; UPIN 21103N302030003		PIEZOMETER NUMBER: GB-2P
GEOTECHNICAL CONSULTANT GEOTEST ENGINEERING, INC.	DESIGN CONSULTANT MIDTOWN ENGINEERS, LLC	HARRIS COUNTY PRECINCT 3, TEXAS



<p>NOTES:</p> <p>1. DIMENSIONS NOMINAL UNLESS OTHERWISE NOTED</p> <p>2. TOG = TOP OF GROUND</p>	DRILLED BY: CG	STARTED: 10-30-20	NORTHING: 13860026.72 EASTING: 2986217.41
	LOGGED BY: BI	COMPLETED: 10-30-20	GROUND LEVEL (MSL): 141.93
	CHECKED BY: GD	APPROVED BY: MB	SHEET <u>1</u> OF <u>1</u>

## PIEZOMETER INSTALLATION REPORT

PROJECT NAME: PORTER ROAD, SEGMENT 3; UPIN 21103N302030003		PIEZOMETER NUMBER: GB-8P
GEOTECHNICAL CONSULTANT GEOTEST ENGINEERING, INC.	DESIGN CONSULTANT MIDTOWN ENGINEERS, LLC	HARRIS COUNTY PRECINCT 3, TEXAS



NOTES: 1. DIMENSIONS NOMINAL UNLESS OTHERWISE NOTED 2. TOG = TOP OF GROUND	DRILLED BY: CG	STARTED: 10-30-20	NORTHING: 13862729.44 EASTING: 2986113.93
	LOGGED BY: BI	COMPLETED: 10-30-20	GROUND LEVEL (MSL): 143.04
	CHECKED BY: GD	APPROVED BY: MB	SHEET <u>1</u> OF <u>1</u>

**APPENDIX D**

	<u>Figure</u>
Summary of Laboratory Test Results .....	D-1 thru D-9
Grain Size Distribution Curves.....	D-10



BORING NO.	SAMPLE				SPT (blows/ft.)	WATER CONTENT (%)	DRY DENSITY (pcf)	ATTERBERG LIMITS			PASSING NO. 200 SIEVE (%)	UNCONFINED COMPRESSION TEST	TRIAxIAL COMPRESSION TEST (U-U)		TORVANE	POCKET PENE-TROMETER	TYPE OF MATERIAL
	No.	Depth (ft.)		Type				LL	PL	PI			Shear Strength (tsf)	Conf. Press. (tsf)			
		Top	Bottom														
	GB-1	2	0.8	2.0				AG				30	16	14			
	3	2.0	4.0	UD		17.9	113	38	18	20		0.39	0.29	0.75	1.25	1.88	Lean Clay w/Sand
	4	4.0	6.0	UD		15.4								1.25	1.88	1.88	Lean Clay w/Sand
	5	6.0	8.0	UD		14.2	121	43	20	23		1.29	0.58	1.50	2.25	2.25	Lean Clay w/Sand
	6	8.0	10.0	UD		14.5								1.50	2.25	2.25	Lean Clay w/Sand
	7	10.0	12.0	UD		16.7								1.50	2.25	2.25	Lean Clay w/Sand
	8	12.0	14.0	UD		20.0								1.50	1.63	1.63	Lean Clay w/Sand
	9	14.0	16.0	UD		13.9								0.75	1.38	1.38	Sandy Lean Clay
	10	16.5	18.0	SS		8.8											Silty Sand
	11	18.5	20.0	SS		8.2											Silty Sand

**SUMMARY OF LABORATORY TEST RESULTS**  
**GEOTECH ENGINEERING, INC.**

**PROJECT NAME:** Porter Road; Segment 3  
**UPIN:** 21103N302030003  
**PROJECT NUMBER:** 1140257101

Precinct 3; Harris County, Texas

**LEGEND:**  
 UD = UNDISTURBED SAMPLE, EXTRUDED IN FIELD  
 SS = SPLIT SPOON SAMPLE  
 AG = AUGER CUTTINGS  
 PB = PITCHER BARREL SAMPLE  
 Nx = Nx-DOUBLE BARREL SAMPLE

SPT = Standard Penetration Test  
 LL = Liquid Limit  
 PL = Plastic Limit  
 PI = Plasticity Index

FIGURE D-1

**SUMMARY OF LABORATORY TEST RESULTS**  
**GEOTECH ENGINEERING, INC.**

PROJECT NAME: Porter Road; Segment 3  
 UPIN: 21103N302030003  
 Precinct 3; Harris County, Texas  
 PROJECT NUMBER: 1140257101

BORING NO.	SAMPLE			SPT (blows/ft.)	WATER CONTENT (%)	DRY DENSITY (pcf)	ATTERBERG LIMITS			PASSING NO. 200 SIEVE (%)	UNCONFINED COMPRESSION TEST	TRIAxIAL COMPRESSION TEST (U-U)		TORVANE	POCKET PENE-TROMETER	TYPE OF MATERIAL	
	Depth (ft.)		Type				LL	PL	PI			Shear Strength (tsf)	Conf. Press. (tsf)				Shear Strength (tsf)
	No.	Top															
GB-2P	1	0.0	2.0	AG	11.3											Silty Sand	
	2	2.0	4.0	UD	14.3								1.00	1.88		Lean Clay w/Sand	
	3	4.0	6.0	UD	15.2	117		43	20	23	82.2		1.70	2.25		Lean Clay w/Sand	
	4	6.0	8.0	UD	12.7								1.50	2.25		Lean Clay w/Sand	
	5	8.0	10.0	UD	14.5								1.60	2.25		Lean Clay w/Sand	
	6	10.0	12.0	UD	15.0								1.00	1.63		Lean Clay w/Sand	
	7	12.0	14.0	UD	24.5	99		73	27	46	96.2	0.82	0.94	1.50		Fat Clay	
	8	14.0	16.0	UD	29.7								1.80	2.00		Fat Clay	
	9	16.0	18.0	UD	29.9								1.40	1.50		Fat Clay	
	10	18.0	20.0	UD	27.1								1.50	1.75		Fat Clay	

LEGEND: UD = UNDISTURBED SAMPLE, EXTRUDED IN FIELD  
 SS = SPLIT SPOON SAMPLE  
 AG = AUGER CUTTINGS  
 PB = PITCHER BARREL SAMPLE  
 Nx = Nx-DOUBLE BARREL SAMPLE

SPT = Standard Penetration Test  
 LL = Liquid Limit  
 PL = Plastic Limit  
 PI = Plasticity Index

FIGURE D-2

SUMMARY OF LABORATORY TEST RESULTS <i>GEOTEST ENGINEERING, INC.</i>							PROJECT NAME: Porter Road; Segment 3 UPIN: 21103N302030003 Precinct 3; Harris County, Texas PROJECT NUMBER: 1140257101								
BORING NO.	SAMPLE		SPT (blows/ft.)	WATER CONTENT (%)	DRY DENSITY (pcf)	ATTERBERG LIMITS		PASSING NO. 200 SIEVE (%)	UNCONFINED COMPRESSION TEST	TRIAXIAL COMPRESSION TEST (U-U)		TORVANE	POCKET PENE-TROMETER	TYPE OF MATERIAL	
	No.	Depth (ft.)				Type	LL		PL	PI	Shear Strength (tsf)				Shear Strength (tsf)
GB-3	2	0.8	2.0	UD	14.1		39	18	21	82.9					Lean Clay w/Sand
	3	2.0	4.0	UD	16.7	119					1.22	0.29	1.50	2.00	Lean Clay w/Sand
	4	4.0	6.0	UD	16.5								1.80	1.25	Lean Clay w/Sand
	5	6.0	8.0	UD	15.7								1.90	2.25	Lean Clay w/Sand
	6	8.0	10.0	UD	15.1								2.40	2.25	Lean Clay w/Sand
	7	10.0	12.0	UD	17.9	115	48	21	27	88.2	1.56	0.79	1.50	2.00	Lean Clay
	8	12.0	14.0	UD	19.2								1.40	1.63	Lean Clay
	9	14.0	16.0	UD	17.5								1.40	1.63	Lean Clay
	10	16.0	18.0	UD	18.9								0.80	1.38	Lean Clay
	11	18.0	20.0	UD	14.5		32	18	14	75.2			1.00	1.25	Lean Clay w/Sand

LEGEND: UD = UNDISTURBED SAMPLE, EXTRUDED IN FIELD  
SS = SPLIT SPOON SAMPLE  
AG = AUGER CUTTINGS  
PB = PITCHER BARREL SAMPLE  
Nx = Nx-DOUBLE BARREL SAMPLE

SPT = Standard Penetration Test  
LL = Liquid Limit  
PL = Plastic Limit  
PI = Plasticity Index

FIGURE D-3

**SUMMARY OF LABORATORY TEST RESULTS**  
**GEOTEST ENGINEERING, INC.**

PROJECT NAME: Porter Road; Segment 3  
 UPIN: 21103N302030003  
 Precinct 3; Harris County, Texas  
 PROJECT NUMBER: 1140257101

BORING NO.	SAMPLE			SPT (blows/ft.)	WATER CONTENT (%)	DRY DENSITY (pcf)	ATTERBERG LIMITS			PASSING NO. 200 SIEVE (%)	UNCONFINED COMPRESSION TEST		TRIAxIAL COMPRESSION TEST (U-U)		TORVANE	POCKET PENE-TROMETER	TYPE OF MATERIAL
	No.	Depth (ft.)					LL	PL	PI		Shear Strength (tsf)	Conf. Press. (tsf)	Shear Strength (tsf)	Shear Strength (tsf)			
		Top	Bottom												Type		
GB-4	2	0.8	2.0	UD	13.3		31	16	15	74.8				1.13	2.25	2.25	Fill
	3	2.0	4.0	UD	16.8									0.90	1.38	1.38	Lean Clay w/Sand
	4	4.0	6.0	UD	17.5									1.30	1.75	1.75	Lean Clay w/Sand
	5	6.0	8.0	UD	14.4									1.50	2.25	2.25	Lean Clay w/Sand
	6	8.0	10.0	UD	17.0	112	49	21	28	84.6	0.96	0.65	1.40	1.63	1.63	1.63	Lean Clay w/Sand
	7	10.0	12.0	UD	18.6								1.40	2.25	2.25	2.25	Lean Clay w/Sand
	8	12.0	14.0	UD	18.0								1.30	2.00	2.00	2.00	Lean Clay w/Sand
	9	14.5	16.0	SS	11.3					75.4							Silt w/Sand
	10	16.5	18.0	SS	12.5												Silt w/Sand
	11	18.5	20.0	SS	12.5												Silt w/Sand

LEGEND: UD = UNDISTURBED SAMPLE, EXTRUDED IN FIELD  
 SS = SPLIT SPOON SAMPLE  
 AG = AUGER CUTTINGS  
 PB = PITCHER BARREL SAMPLE  
 Nx = Nx-DOUBLE BARREL SAMPLE  
 SPT = Standard Penetration Test  
 LL = Liquid Limit  
 PL = Plastic Limit  
 PI = Plasticity Index

FIGURE D-4

SUMMARY OF LABORATORY TEST RESULTS GEOTEST ENGINEERING, INC.														PROJECT NAME: Porter Road; Segment 3 UPIN: 21103N302030003 Precinct 3; Harris County, Texas PROJECT NUMBER: 1140257101				
BORING NO.	SAMPLE			SPT (blows/ft.)	WATER CONTENT (%)	DRY DENSITY (pcf)	ATTERBERG LIMITS			PASSING NO. 200 SIEVE (%)	UNCONFINED COMPRESSION TEST		TRIAXIAL COMPRESSION TEST (U-U)		TORVANE	POCKET PENE-TROMETER	TYPE OF MATERIAL	
	No.	Depth (ft.)					LL	PL	PI		Shear Strength (tsf)	Conf. Press. (tsf)	Shear Strength (tsf)	Shear Strength (tsf)				
		Top	Bottom												Type			
GB-5	2	1.0	2.0	UD	14.3									0.90	1.25	Lean Clay w/Sand		
	3	2.0	4.0	UD	19.9	110	43	19	24	82.4		0.89	0.29	0.80	1.13	Lean Clay w/Sand		
	4	4.0	6.0	UD	18.6									1.00	1.25	Lean Clay w/Sand		
	5	6.0	8.0	UD	16.7									1.10	1.25	Lean Clay w/Sand		
	6	8.0	10.0	UD	15.6	118	48	20	28	82.2	1.39	0.65	1.40	1.63	1.25	Lean Clay w/Sand		
	7	10.0	12.0	UD	20.4									1.10	1.88	Lean Clay w/Sand		
	8	12.0	14.0	UD	19.5									0.90	1.38	Lean Clay w/Sand		
	9	14.0	16.0	UD	22.2									1.30	1.13	Lean Clay w/Sand		
	10	16.0	18.0	UD	19.7									0.40	0.63	Lean Clay w/Sand		
	11	18.0	20.0	UD	28.8		70	27	43	99.4				1.25	1.50	Fat Clay		

LEGEND: UD = UNDISTURBED SAMPLE, EXTRUDED IN FIELD  
SS = SPLIT SPOON SAMPLE  
AG = AUGER CUTTINGS  
PB = PITCHER BARREL SAMPLE  
Nx = Nx-DOUBLE BARREL SAMPLE

SPT = Standard Penetration Test  
LL = Liquid Limit  
PL = Plastic Limit  
PI = Plasticity Index

FIGURE D-5

PROJECT NAME: Porter Road; Segment 3  
 UPIN: 21103N302030003  
 Precinct 3; Harris County, Texas  
 PROJECT NUMBER: 1140257101

**SUMMARY OF LABORATORY TEST RESULTS**  
*GEOTECH ENGINEERING, INC.*

BORING NO.	SAMPLE			SPT (blows/ft.)	WATER CONTENT (%)	DRY DENSITY (pcf)	ATTERBERG LIMITS			PASSING NO. 200 SIEVE (%)	UNCONFINED COMPRESSION TEST		TRIAXIAL COMPRESSION TEST (U-U)		TORVANE	POCKET PENE-TROMETER	TYPE OF MATERIAL
	No.	Depth (ft.)					LL	PL	PI		Shear Strength (tsf)	Conf. Press. (tsf)	Shear Strength (tsf)	Shear Strength (tsf)			
		Top	Bottom												Type		
GB-6	2	2.0	4.0	UD	10.1									2.40	2.25	Fat Clay w/Sand	
	3	4.0	6.0	UD	11.9	117	59	23	36	82.7		5.37	0.43	2.50	2.25	Fat Clay w/Sand	
	4	6.0	8.0	UD	11.6									2.30	2.25	Fat Clay	
	5	8.0	10.0	UD	13.6									2.30	2.25	Fat Clay	
	6	10.0	12.0	UD	16.1	117	60	24	36	96.5		3.94	0.79	2.20	2.25	Fat Clay	
	7	12.0	14.0	UD	10.6									1.90	2.25	Fat Clay	
	8	14.0	16.0	UD	12.2									1.90	2.25	Fat Clay	
	9	16.0	18.0	UD	11.3									2.00	2.25	Fat Clay	
	10	18.0	20.0	UD	12.6									2.00	2.25	Fat Clay	

LEGEND: UD = UNDISTURBED SAMPLE, EXTRUDED IN FIELD  
 SS = SPLIT SPOON SAMPLE  
 AG = AUGER CUTTINGS  
 PB = PITCHER BARREL SAMPLE  
 Nx = Nx-DOUBLE BARREL SAMPLE  
  
 SPT = Standard Penetration Test  
 LL = Liquid Limit  
 PL = Plastic Limit  
 PI = Plasticity Index

FIGURE D-6

BORING NO.		SUMMARY OF LABORATORY TEST RESULTS GEOTEST ENGINEERING, INC.													PROJECT NAME: Porter Road; Segment 3 UPIN: 21103N302030003 Precinct 3; Harris County, Texas PROJECT NUMBER: 1140257101												
		SAMPLE		SPT (blows/ft.)	WATER CONTENT (%)	DRY DENSITY (pcf)	ATTERBERG LIMITS			PASSING NO. 200 SIEVE (%)	UNCONFINED COMPRESSION TEST	TRIAXIAL COMPRESSION TEST (U-U)		TORVANE	POCKET PENE- TROMETER	TYPE OF MATERIAL											
		No.	Depth (ft.)				LL	PL	PI			Shear Strength (tsf)	Shear Strength (tsf)				Conf. Press. (tsf)	Shear Strength (tsf)	Shear Strength (tsf)								
			Top																	Bottom	Type						
GB-7	3	2.0	4.0	UD	19.7		41	18	23	81.3		0.90	0.75	Lean Clay w/Sand													
	4	4.0	6.0	UD	17.7	115					1.03	1.50	1.25	Fat Clay													
	5	6.0	8.0	UD	16.6	117	54	22	32	85.6	1.62	1.80	1.50	Fat Clay													
	6	8.0	10.0	UD	21.9							1.25	1.25	Fat Clay													
	7	10.0	12.0	UD	25.0		59	24	35	95.3		1.50	1.50	Fat Clay													
	8	12.0	14.0	UD	21.9							1.00	1.13	Fat Clay													
	9	14.0	16.0	UD	26.6							1.30	1.00	Fat Clay													
	10	16.0	18.0	UD	23.8		28	18	10	94.1		0.50	0.75	Lean Clay													
	11	18.0	20.0	UD	29.9							0.95	0.88	Lean Clay													

LEGEND: UD = UNDISTURBED SAMPLE, EXTRUDED IN FIELD  
SS = SPLIT SPOON SAMPLE  
AG = AUGER CUTTINGS  
PB = PITCHER BARREL SAMPLE  
Nx = Nx-DOUBLE BARREL SAMPLE

SPT = Standard Penetration Test  
LL = Liquid Limit  
PL = Plastic Limit  
PI = Plasticity Index

FIGURE D-7

SUMMARY OF LABORATORY TEST RESULTS													PROJECT NAME: Porter Road; Segment 3 UPIN: 21103N302030003 Precinct 3; Harris County, Texas			
GEOTECH ENGINEERING, INC.													PROJECT NUMBER: 1140257101			
BORING NO.	SAMPLE			SPT (blows/ft.)	WATER CONTENT (%)	DRY DENSITY (pcf)	ATTERBERG LIMITS			PASSING NO. 200 SIEVE (%)	UNCONFINED COMPRESSION TEST	TRIAxIAL COMPRESSION TEST (U-U)		TORVANE	POCKET PENE-TROMETER	TYPE OF MATERIAL
	No.	Depth (ft.)	Type				LL	PL	PI			Shear Strength (tsf)	Conf. Press. (tsf)			
GB-8P	3	2.0	4.0	UD	16.9	108	53	22	31	79.2		1.42	0.29	1.30	1.25	Fat Clay w/Sand
	4	4.0	6.0	UD	14.4									2.13	2.25	Fat Clay w/Sand
	5	6.0	8.0	UD	15.3									2.40	2.13	Fat Clay w/Sand
	6	8.0	10.0	UD	24.4	109	61	23	38	92.5		1.56	0.65	1.80	1.25	Fat Clay
	7	10.0	12.0	UD	21.5									1.30	1.38	Fat Clay
	8	12.0	14.0	UD	26.4		62	25	37	97.5				1.00	1.50	Fat Clay
	9	14.0	16.0	UD	34.7									1.00	1.00	Fat Clay
	10	16.0	18.0	UD	29.4		71	28	43	99.6				1.50	1.25	Fat Clay
	11	18.0	20.0	UD	33.8									1.60	1.50	Fat Clay

LEGEND:  
UD = UNDISTURBED SAMPLE, EXTRUDED IN FIELD  
SS = SPLIT SPOON SAMPLE  
AG = AUGER CUTTINGS  
PB = PITCHER BARREL SAMPLE  
Nx = Nx-DOUBLE BARREL SAMPLE

SPT = Standard Penetration Test  
LL = Liquid Limit  
PL = Plastic Limit  
PI = Plasticity Index

FIGURE D-8



**SUMMARY OF LABORATORY TEST RESULTS**  
**GEOTEST ENGINEERING, INC.**

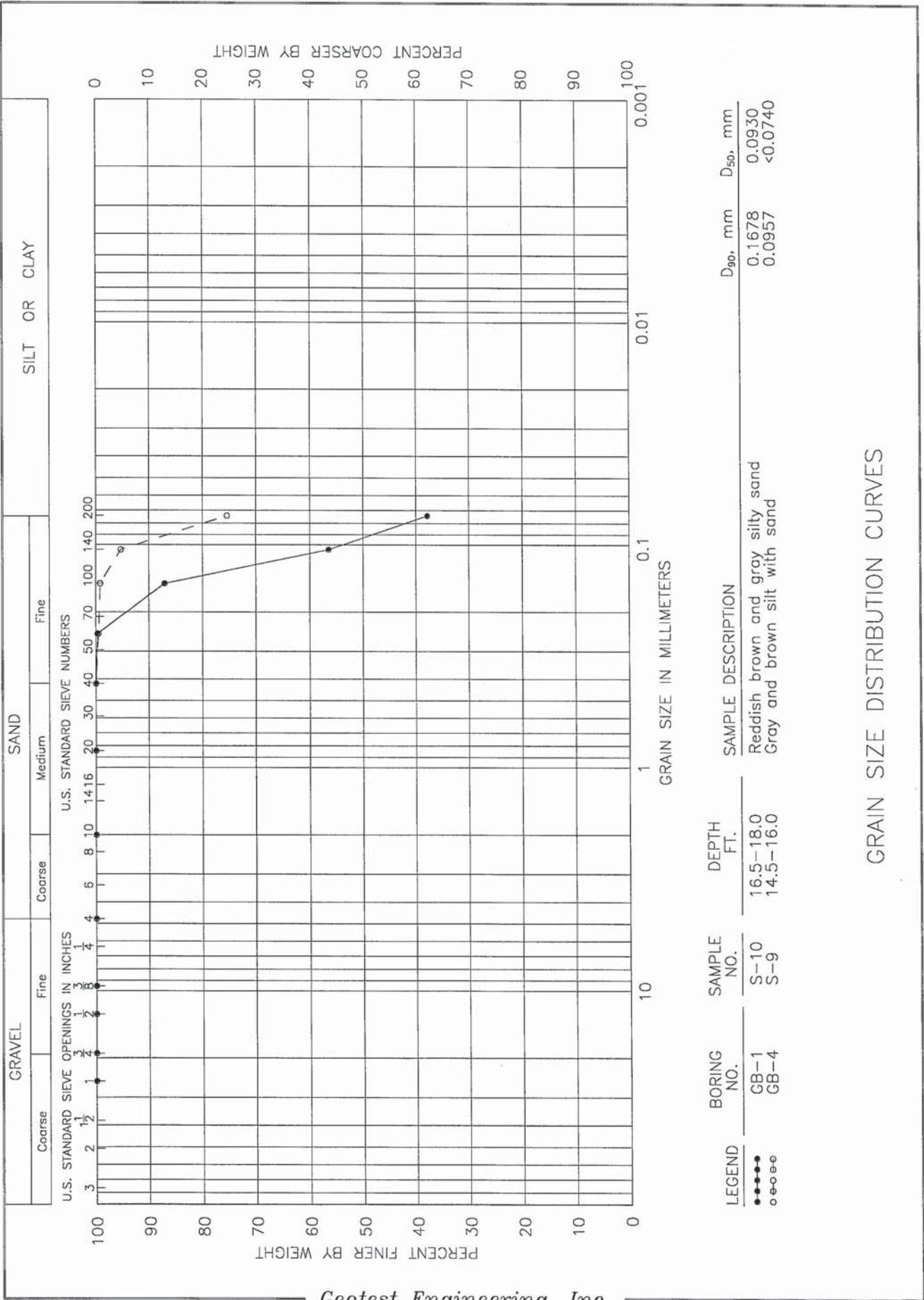
**PROJECT NAME:** Porter Road; Segment 3  
 UPIN: 21103N302030003  
 Precinct 3; Harris County, Texas  
**PROJECT NUMBER:** 1140257101

BORING NO.	SAMPLE			SPT (blows/ft.)	WATER CONTENT (%)	DRY DENSITY (pcf)	ATTERBERG LIMITS			PASSING NO. 200 SIEVE (%)	UNCONFINED COMPRESSION TEST		TRIAXIAL COMPRESSION TEST (U-U)		TORVANE	POCKET PENE-TROMETER	TYPE OF MATERIAL	
	No.	Depth (ft.)					LL	PL	PI		Shear Strength (tsf)	Conf. Press. (tsf)	Shear Strength (tsf)	Shear Strength (tsf)				Shear Strength (tsf)
		Top	Bottom															
GB-9	2	0.4	2.0		12.2		19	15	4	74.7							Silty Clay	
	3	2.0	4.0		24.0		63	25	38	83.9			1.25			1.00	Fat Clay w/Sand	
	4	4.0	6.0		14.8		57	23	34	83.6			1.75			1.88	Fat Clay w/Sand	
	5	6.0	8.0		14.8								1.75			1.75	Fat Clay w/Sand	
	6	8.0	10.0		19.7	111	63	25	38	86.6	1.03	0.65	1.50			1.50	Fat Clay	
	7	10.0	12.0		24.8								1.50			1.13	Fat Clay	
	8	12.0	14.0		21.7		50	22	28	96.4			1.25			1.13	Fat Clay	
	9	14.0	16.0		22.0								0.30			0.50	Fat Clay	
	10	16.0	18.0		33.6								0.80			0.75	Fat Clay	
	11	18.0	20.0		21.9								2.50			2.25	Fat Clay	

LEGEND:  
 UD = UNDISTURBED SAMPLE, EXTRUDED IN FIELD  
 SS = SPLIT SPOON SAMPLE  
 AG = AUGER CUTTINGS  
 PB = PITCHER BARREL SAMPLE  
 Nx = Nx-DOUBLE BARREL SAMPLE

SPT = Standard Penetration Test  
 LL = Liquid Limit  
 PL = Plastic Limit  
 PI = Plasticity Index

FIGURE D-9



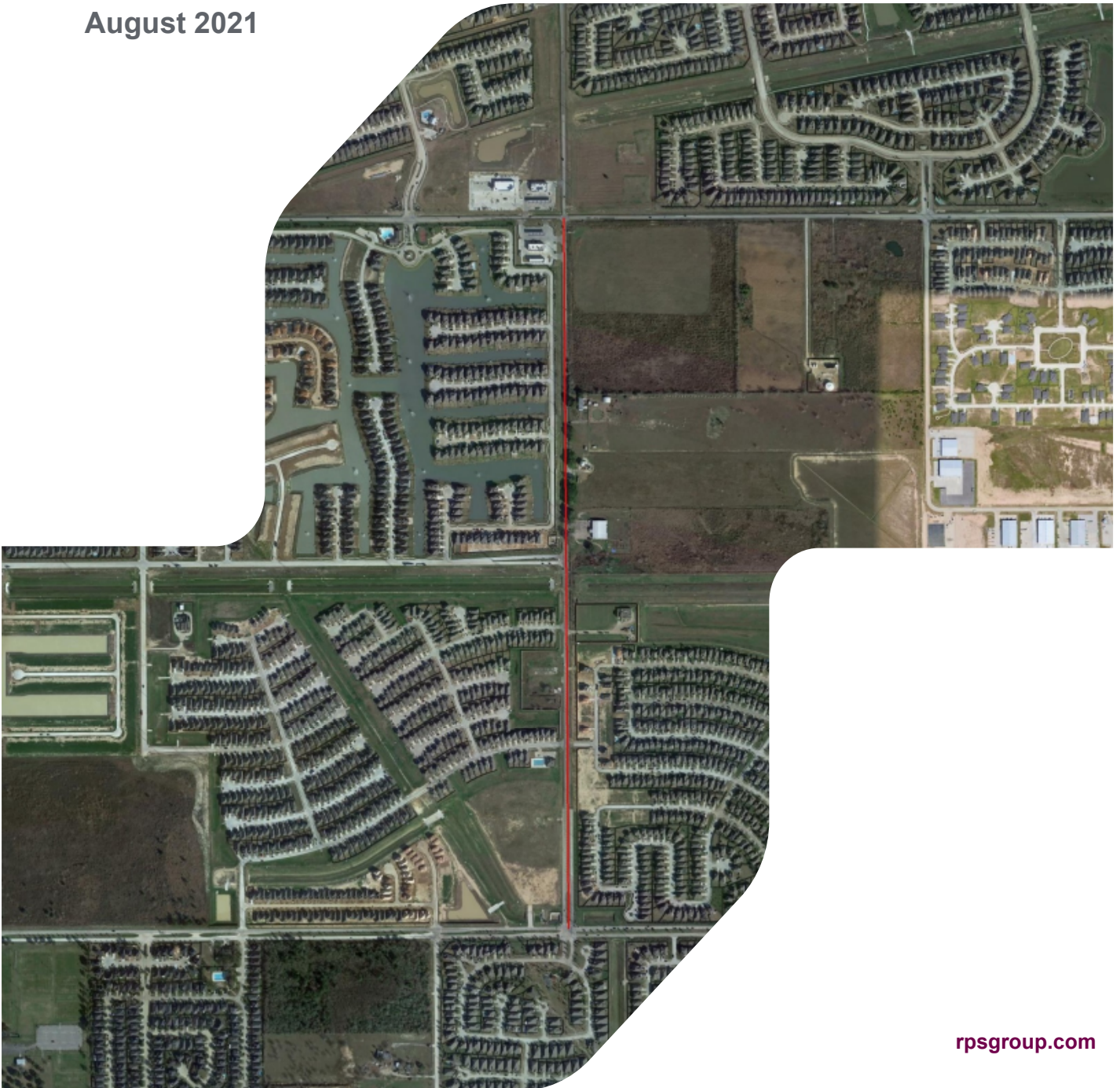
Geotest Engineering, Inc.

FIGURE D-10

APPENDIX K  
ENVIRONMENTAL STUDY

# PHASE 1 ENVIRONMENTAL SITE ASSESSMENT PORTER ROAD, SEGMENT 3 (UPIN 21103N302030003) HARRIS COUNTY, TEXAS

August 2021



## Contents

<b>1</b>	<b>EXECUTIVE SUMMARY</b> .....	<b>4</b>
<b>2</b>	<b>INTRODUCTION</b> .....	<b>5</b>
2.1	Purpose .....	5
2.2	Scope of Services.....	5
2.3	Significant Assumptions.....	8
2.4	Limitations and Exceptions .....	8
2.5	Special Terms and Conditions.....	9
2.6	User Reliance .....	9
<b>3</b>	<b>PROPERTY DESCRIPTION</b> .....	<b>10</b>
3.1	Location Description .....	10
3.2	Site and Vicinity General Characteristics .....	10
3.3	Current Use of the Property.....	10
3.4	Description of Structures, Roads and Other Site Improvements .....	10
3.5	Current Uses of Adjacent Property.....	10
<b>4</b>	<b>RECORDS REVIEW</b> .....	<b>11</b>
4.1	Standard Environmental Record Sources .....	11
4.2	Physical Setting Sources .....	14
4.3	Historical Use Information.....	15
<b>5</b>	<b>SITE RECONNAISSANCE</b> .....	<b>18</b>
<b>6</b>	<b>INTERVIEWS</b> .....	<b>20</b>
<b>7</b>	<b>FINDINGS</b> .....	<b>21</b>
<b>8</b>	<b>OPINION</b> .....	<b>22</b>
<b>9</b>	<b>CONCLUSIONS</b> .....	<b>23</b>
<b>10</b>	<b>DEVIATIONS</b> .....	<b>24</b>
<b>11</b>	<b>ADDITIONAL SERVICES</b> .....	<b>25</b>
<b>12</b>	<b>REFERENCES</b> .....	<b>26</b>
<b>13</b>	<b>SIGNATURES OF ENVIRONMENTAL PROFESSIONAL</b> .....	<b>27</b>
<b>14</b>	<b>QUALIFICATIONS</b> .....	<b>28</b>

## Tables

Table 1 Environmental Database Listings

## Figures

Figure 1 Project Location Map  
Figure 2 Northern Segment of Porter Road Corridor  
Figure 3 Southern Segment of Porter Road Corridor

## Appendices

Appendix A Environmental Regulatory Database Search Report  
Appendix B Site Physical Setting Information  
Appendix C EDR Aerial Photograph Decade Package  
Appendix D EDR Historical Topographic Map Report  
Appendix E EDR City Directory Image Report  
Appendix F Site Photographs

# 1 EXECUTIVE SUMMARY

RPS performed a Phase I Environmental Site Assessment (ESA) along the Porter Road corridor between Clay Road and Morton Ranch Road in Harris County, Katy, Texas (the “Corridor”) ([Figure 1](#)). The “Corridor” in this report refers to infrastructure that would be disturbed by the installation of proposed storm sewers, road modifications, and sidewalk improvements within the Right of Way (ROW). The ESA was performed to identify, to the extent feasible, recognized environmental conditions (RECs) as defined in the American Society for Testing and Materials (ASTM) Standard E1527-13, entitled *Standard Practice for Environmental Site Assessments: Phase I Site Assessment Process*, and to identify the current condition of the ROW improvements corridor and adjacent properties, and to identify any potential environmental impacts that may affect construction activities associated with the ROW project.

Recognized environmental conditions are the presence or likely presence of any hazardous substances or petroleum products in, on, or along the Corridor due to a release to the environment or under conditions that are indicative of a release to the environment or that pose a material threat of a future release of the materials onto or into the ground, groundwater, surface water, or ambient air of the property.

The Phase I ESA included: (1) review of environmental regulatory database records for the Corridor and surrounding properties from federal, state, and local environmental databases, (2) review of historical aerial photographs, topographic maps, and city directories (Sanborn maps were unavailable), (3) a site reconnaissance, and (4) preparation of a report.

No known, controlled, or historical RECs were found within the Corridor or on adjacent properties.

RPS performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Standard E1527-13 for the Corridor along Porter Road between Clay Road and Morton Ranch Road. Any exceptions to, or deletions from, this practice are described in Section 11 of this report. Based on RPS’ interpretation of information from the records review and observations made during the site reconnaissance, no current recognized environmental conditions were identified within the Corridor.

## 2 INTRODUCTION

### 2.1 Purpose

RPS performed a Phase I Environmental Site Assessment (ESA) of a corridor along Porter Road between Clay Road and Morton Ranch Road in Harris County, Katy, Texas (the “Corridor”) ([Figure 1](#)). The “Corridor” in this report refers to the infrastructure that would be disturbed by the installation of proposed storm sewers, road modifications, and sidewalk improvements within the Right of Way (ROW). The ESA was performed to identify, to the extent feasible, “recognized environmental conditions” as defined in the ASTM Standard E1527-13, entitled *Standard Practice for Environmental Site Assessments: Phase I Site Assessment Process*, and to identify the current condition of the Corridor and adjacent properties, and to identify any potential environmental impacts that may affect construction activities associated with the ROW project.

### 2.2 Scope of Services

In accordance with the ASTM practice, the following resources were relied upon for opinions concerning the environmental conditions of the property:

- Environmental database records review;
- Historical aerial photographs;
- Historical topographic maps;
- Historical city directories; and
- Site reconnaissance.

RPS used Environmental Data Resources, Inc. (EDR) to obtain a search of environmental databases maintained by Federal and State agencies in order to identify whether the Corridor, or any adjacent sites to the Corridor, has public records of use or misuse of hazardous materials. EDR also provides listings of local and proprietary databases. Results of the database search meet the government requirements of ASTM Standard E1527-13. RPS reviewed the results from the following databases:

- National Priority List Sites (NPL);
- Proposed National Priority List Sites (Proposed NPL);
- Federal Superfund Liens (NPL Liens);
- National Priority List Deletions (Delisted NPL);
- Federal Facility Site Information Listing (FEDERAL FACILITY);
- Superfund Enterprise Management System (SEMS);
- Superfund Enterprise Management System Archive (SEMS-ARCHIVE);
- Corrective Action Report (CORRACTS);
- RCRA – Treatment, Storage and Disposal (RCRA –TSDF);
- RCRA – Large Quantity Generators (RCRA-LQG);
- RCRA – Small Quantity Generator (RCRA-SQG);
- RCRA – Very Small Quantity Generator (RCRA-VSQG);
- Land Use Control Information System (LUCIS);
- Engineering Controls Sites List (US ENG CONTROLS);
- Sites with Institutional Controls (US INST CONTROL);
- Emergency Response Notification System (ERNS);
- State Hazardous Waste Sites (SHWS);



- Solid Waste Facilities and/or Landfill Sites (SWF/LF);
- Closed Landfill Inventory (CLI);
- Debris Management Sites and MSW Landfills for Hurricane Harvey Debris (DEBRIS)
- Commercial Hazardous and Solid Waste Management Facilities (WASTE MGMT);
- Leaking Underground Storage Tanks on Indian Land (INDIAN LUST);
- Leaking Petroleum Storage Tank Database (LPST);
- Underground Storage Tank Listing (FEMA UST);
- Petroleum Storage Tank Database (UST);
- Aboveground Storage Tank Database (AST);
- Underground Storage Tanks on Indian Land (INDIAN UST);
- Sites with Controls (AUL);
- Voluntary Cleanup Program (VCP);
- Voluntary Cleanup Priority Listing (INDIAN VCP);
- Brownfields Site Assessment (BROWNFIELDS, US BROWNFIELDS);
- Recycling Facility Listings (SWRCY);
- Report on the Status of Open Dumps on Indian Lands (INDIAN ODI);
- Open Dump Inventory (ODI);
- Torres Martinez Reservation Illegal Dump Site Locations (DEBRIS REGION 9);
- Open Dumps on Indian Land (IHS OPEN DUMPS);
- National Clandestine Laboratory Register (US HIST CDL);
- Texas DPS Clandestine Drug Labs (CDL);
- Dry Cleaner Remediation Program Prioritization List (PRIORITY CLEANERS);
- Deleted Superfund Registry Sites (DEL SHWS);
- Clandestine Drug Labs (US CDL);
- TCEQ Central Registry (CENTRAL REGISTRY)
- PFAS Contamination Site Location Listing (PFAS);
- Non Registered Petroleum Storage Tank (NON REGIST PST);
- Environmental Liens Listing (HIST LIENS and LIENS);
- CERLCA Lien Information (LIENS 2);
- Hazardous Materials Information Reporting System (HMIRS);
- Spills and Emergency Response Database (SPILLS, SPILLS 80, SPILLS 90);
- RCRA – Non-Generators or No Longer Reporting Database (RCRA NonGen/NLR);
- Formerly Used Defense Sites (FUDS);
- Department of Defense Sites (DOD);
- State Coalition for Remediation of Dry Cleaners Listing (SCRD DRYCLEANERS);
- Financial Assurance Information (US FIN ASSUR);
- EPA Watch List (EPA WATCH LIST);
- 2020 Corrective Action Program List (2020 COR ACTION);
- Toxic Substances Control Act (TSCA);
- Toxic Chemical Release Inventory System (TRIS);
- Section 7 Tracking Systems (SSTS);
- Records of Decision (ROD);
- Risk Management Plans (RMP);
- RCRA Administrative Action Tracking System (RAATS);
- Potentially Responsible Parties (PRP);
- PCB Activity Database System (PADS);

- Integrated Compliance Information System (ICIS);
- Material Licensing Tracking System (MLTS);
- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act) (FTTS);
- Coal Combustion Residues Surface Impoundments List (COAL ASH DOE);
- Coal Combustion Residues Surface Impoundments List (COAL ASH EPA);
- PCB Transformer Registration Database (PCB TRANSFORMER);
- Radiation Information Database (RADINFO);
- FIFRA/TSCA Tracking System Administrative Case Listing (HIST FTTS);
- Incident and Accident Data (DOT OPS);
- Superfund (CERCLA) Consent Decrees (CONSENT);
- Indian Reservations (INDIAN RESERV);
- Formerly Utilized Sites Remedial Action Program (FUSRAP);
- Uranium Mill Tailings Sites (UMTRA);
- Lead Smelter Sites (LEAD SMELTERS);
- Aerometric Information Retrieval System Facility Subsystem (US AIRS);
- Mines Master Index File (US MINES);
- Abandoned Mines (ABANDONED MINES);
- Facility Index System/Facility Registry System (FINDS);
- Unexploded Ordnance Sites (UXO);
- Hazardous Waste Compliance Docket Listings (DOCKET HWC);
- Enforcement & Compliance History Information Online (ECHO);
- EPA Fuels Program Registered Listing (FUELS PROGRAM);
- Current Emission Inventory Database (AIRS);
- Affected Property Assessment Report Site Listing (APAR);
- Asbestos Notification Listing (ASBESTOS);
- Coal Ash Disposal Sites (COAL ASH);
- Dry Cleaner Registration Database Listing (DRYCLEANERS);
- Edwards Aquifer Permits (ED AQUIF);
- Notice of Violations Listing (ENF);
- Financial Assurance Information Listing (Financial Assurance);
- Groundwater Contamination Cases (GCC);
- Innocent Owner/Operator Program (IOP);
- Lead Investigation Sites (LEAD);
- Industrial and Hazardous Waste Database (Ind. Haz Waste);
- Municipal Setting Designations Database (MSD);
- National Pollutant Discharge Elimination System (NPDES) Permits Database (NPDES);
- Radioactive Waste Sites (RWS);
- Tier 2 Chemical Inventory Reports (TIER 2);
- Underground Injection Wells Listing (UIC);
- Industrial Hazardous Waste Corrective Action Facilities (IHW CORR ACTION);
- Stage II Vapor Recovery (PST Stage 2)
- Compliance History Listing (COMP HIST);
- Mineral Resources Data System (MINES MRDS);
- EDR Proprietary Manufactured Gas Plants (EDR MGP);
- EDR Proprietary Historic Gas Stations (EDR Hist Auto);

- EDR Exclusive Historic Dry Cleaners (EDR Hist Cleaners);
- Recovered Government Archive State Hazardous Waste Facilities List (RGA HWS); and
- Recovered Government Archive Solid Waste Facilities List (RGA LF).

The Radius Map Report from EDR's database search is included in [Appendix A](#). Location maps generated as part of the database search are also included in Appendix A. The database record search identifies those sites whose locations have been entered into the database records (mapped sites) as well as all sites within the same or adjacent zip code as the Corridor but whose specific location was not recorded in the database records (known as orphan sites).

Historical documents were reviewed to assess prior land use and past environmental issues which may pose current environmental liabilities to the property. These documents include historical aerial photographs, topographic maps, and Sanborn Maps. Specific available documents include the following:

- Aerial Photographs (1938, 1944, 1953, 1964, 1972, 1983, 1989, 1995, 2006, 2012, and 2016);
- Katy, Texas Quadrangle – USGS 7.5 Minute Topographic Map (1915, 1971, 1980, and 2013);
- Brookshore, Texas Quadrangle – USGS 15 Minute Topographic Map (1955); and
- City Directories (1967, 1973, 1978, 1983, 1987, 1992, 2000, 2005, 2010, 2014, and 2017).

Sanborn maps were not available for the Corridor. Pertinent regulatory documents associated with adjacent and nearby properties listed in the regulatory database search were reviewed as part of this Phase I ESA.

## 2.3 Significant Assumptions

No significant assumptions regarding the Corridor were made during the performance of this Phase I ESA.

## 2.4 Limitations and Exceptions

This ESA report presents an assessment of the existing environmental conditions of the Corridor in general conformance with ASTM E1527-13. Environmental lien, AULs and 50-year title searches were not ordered for the Corridor ROW. ASTM E1527-13 User Questionnaires were deemed unreasonably ascertainable due to the multiple landowners on adjoining properties and were not obtained.

This ESA report provides a general description of the environmental conditions and may not reveal every possible environmental liability. The environmental records search is the product of an independent investigation by third-party environmental professionals of information maintained by government agencies. RPS did not perform an independent evaluation of the accuracy or completeness of such information and cannot be responsible for any errors or omissions contained in such information.

It is advised that possible latent conditions and other contingencies, which were not discovered during the site assessment, may manifest themselves in the future. The services described in this report may not have been sufficient to discover all possible sources of latent environmental liability at the site. RPS has offered its professional opinion of the site based on the information available at the time of the site assessment and records review. In view of this, RPS will make no warranty or guarantee, either expressed or implied, that the property is free of environmental liability. RPS makes no other representation, either expressed or implied and no warranty or guarantee is included or intended in any report, opinion, or document regarding results achieved from these services.

## **2.5 Special Terms and Conditions**

No environmental samples were conducted as part of this ESA. No title search was obtained or reviewed in preparation of this report.

## **2.6 User Reliance**

This Phase 1 ESA has been prepared for the exclusive use and reliance of the RPS Infrastructure, Midtown Engineers, LLC, and Harris County. User or reliance by any other party requires written authorization of RPS and Midtown Engineers, LLC. Users of this Phase 1 ESA may rely on the information provided herein subject to the limitations and exceptions presented in Section 2.4.

---

## 3 PROPERTY DESCRIPTION

### 3.1 Location Description

The subject of this Phase 1 ESA consists of approximately 1 mile of improvements along Porter Road from Clay Road and Morton Ranch Road in Harris County, Katy, Texas (the “Corridor”) ([Figure 1](#)) ([Figure 2](#) and [Figure 3](#)). The northern segment of the Porter Road Corridor ([Figure 2](#)) runs north-south from Clay Road to the Harris County Flood Control District (FCD) drainage canal. The southern segment of the Corridor ([Figure 3](#)) runs north-south from the drainage canal to Morton Ranch Road. The center of the Corridor is located at latitude (north) 29° 49.442 and longitude (west) 95° 47.405’.

### 3.2 Site and Vicinity General Characteristics

The Corridor consists of a 60-foot wide ROW along Porter Road. The Corridor is primarily a two lane, asphalt-covered roadway with roadside ditches on one or both sides. Left-hand turn lanes are present at entry roads into adjacent subdivisions. Porter Road roadway splits into separate two-lane roadways at its intersection with Morton Ranch Road. The Corridor primarily runs through residential areas.

The land is flat with a high elevation of about 145 feet above mean sea level [MSL] at Clay Road and about 142 feet MSL at Morton Ranch Road. Surface drainage flows along the road side ditches before flowing into the drainage canal. Surface water ultimately drains to Addicks Reservoir. Regionally, the land surface generally slopes to the southeast.

### 3.3 Current Use of the Property

The Corridor is used primarily for vehicular traffic, conveyance of water, wastewater, and other utilities, and access to adjacent properties and subdivisions.

### 3.4 Description of Structures, Roads and Other Site Improvements

In addition to the roadway, the Corridor contains fire hydrants, buried cable, culverts, and overhead power lines. On the south end near Morton Ranch Road, the divided roadway has curbing, storm drains, a guard rail, and span wire traffic signals.

### 3.5 Current Uses of Adjacent Property

Properties adjoining the northern segment of the Corridor are primarily residential with the Marcello Lakes subdivision on the west side with vacant lots, a cattle ranch, future Harris County Emergency Services District No. 48 fire station and fire training facility (under construction), and a church (Katy Christian Ministries/Living Way Church) on the east side. A Chevron convenient store is located on the southwest corner of the intersection of Porter Road and Clay Road. The Treviso Gardens and Morton Creek Ranch subdivisions are located on the west and east sides, respectively of the southern segment of the Corridor. Harris County Municipal Utility District (MUD) No. 432 owns property adjacent to the Harris County FCD drainage canal. A vacant lot with former concrete foundations is on west side of the southern segment and surrounded by the Treviso Gardens subdivision.

## 4 RECORDS REVIEW

### 4.1 Standard Environmental Record Sources

A search of available federal and state database information was obtained from EDR for the Corridor and nearby areas. Results of the database search are provided in the EDR Radius Map™ Report in [Appendix A](#). A complete description of each database that was searched is included in the Appendix A report. The searched database records and the approximate minimum search distance beyond the Corridor used in this environmental site assessment are:

Database Records and Acronym	Minimum Search Distance Beyond Corridor Area
Federal Superfund Liens (NPL Liens)	Target Property
Emergency Response Notification System (ERNS)	Target Property
Commercial Hazardous and Solid Waste Management Facilities (WasteMgt)	Target Property
Texas DPS Clandestine Drug Labs (CDL)	Target Property
Clandestine Drug Labs (US CDL)	Target Property
National Clandestine Laboratory Register (US HIST CDL)	Target Property
Environmental Liens Listing (HIST LIENS and LIENS)	Target Property
CERCLA Lien Information (LIENS 2)	Target Property
Hazardous Materials Information Reporting System (HMIRS)	Target Property
Spills Database (SPILLS, SPILLS 80, SPILLS 90)	Target Property
Incident and Accident Data (DOT OPS)	Target Property
Toxic Chemical Release Inventory System (TRIS)	Target Property
Toxic Substances Control Act (TSCA)	Target Property
FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act) (FTTS)	Target Property
FIFRA/TSCA Tracking System Administrative Case Listing (HIST FTTS)	Target Property
Section 7 Tracking Systems (SSTS)	Target Property
Integrated Compliance Information System (ICIS)	Target Property
PCB Activity Database System (PADS)	Target Property
Material Licensing Tracking System (MLTS)	Target Property
Radiation Information Database (RADINFO)	Target Property
Facility Index System/Facility Registry System (FINDS*)	Target Property
RCRA Administrative Action Tracking System (RAATS)	Target Property
Risk Management Plans (RMP)	Target Property
Innocent Owner/Operator Program (IOP)	Target Property
Lead Investigation Sites (LEAD)	Target Property
National Pollutant Discharge Elimination System Permits Database (NPDES)	Target Property
Underground Injection Wells Listing (UIC)	Target Property
Notice of Violations Listing (ENF)	Target Property

Database Records and Acronym	Minimum Search Distance Beyond Corridor Area
Edwards Aquifer Permits (ED AQUIF)	Target Property
Current Emission Inventory Database (AIRS)	Target Property
Affected Property Assessment Report Site Listing (APAR)	Target Property
Asbestos Notification Listing (ASBESTOS)	Target Property
Tier 2 Chemical Inventory Reports (TIER 2)	Target Property
Radioactive Waste Sites (RWS)	Target Property
Groundwater Contamination Cases (GCC)	Target Property
EPA Watch List (EPA WATCH LIST)	Target Property
Potentially Responsible Parties (PRP)	Target Property
Financial Assurance Information (US FIN ASSUR)	Target Property
PCB Transformer Registration Database (PCB TRANSFORMER)	Target Property
Coal Combustion Residues Surface Impoundments List (COAL ASH DOE)	Target Property
Financial Assurance Information Listing (FINANCIAL ASSURANCE)	Target Property
Aerometric Information Retrieval System Facility Subsystem (US AIRS)	Target Property
Lead Smelter Sites (LEAD SMELTERS)	Target Property
Enforcement & Compliance History Information Online (ECHO)	Target Property
Hazardous Waste Compliance Docket Listings (DOCKET HWC)	Target Property
Compliance History Listings (COMP HIST)	Target Property
Mineral Resources Data System (MINES MRDS)	Target Property
Recovered Government Archive State Haz. Waste Facilities List (RGA HWS)	Target Property
Recovered Government Archive Solid Waste Facilities List (RGA LF)	Target Property
RCRA – Large Quantity Generators (RCRA-LQG)	0.25 Mile
RCRA – Small Quantity Generator (RCRA-SQG)	0.25 Mile
RCRA – Very Small Quantity Generator (RCRA-VSQG)	0.25 Mile
Underground Storage Tank Database (UST)	0.25 Mile
Petroleum Storage Tank Database (AST)	0.25 Mile
Underground Storage Tanks on Indian Land (INDIAN UST)	0.25 Mile
Non Registered Petroleum Storage Tank (NON REGIST PST)	0.25 Mile
Underground Storage Tank Listing (FEMA UST)	0.25 Mile
RCRA Non-Generators or No Longer Reporting Database (RCRA NonGen/NLR)	0.25 Mile
Mines Master Index File (US MINES)	0.25 Mile
Abandoned Mines (ABANDONED MINES)	0.25 Mile
Dry Cleaner Registration Database Listing (DRYCLEANERS)	0.25 Mile
Industrial and Hazardous Waste Database (Ind. Haz Waste)	0.25 Mile
2020 Corrective Action Program List (2020 COR ACTION)	0.25 Mile
Industrial Hazardous Waste Corrective Action Facilities (IHW CORR ACTION)	0.25 Mile
EPA Fuels Program Registered Listing (FUELS PROGRAM)	0.25 Mile
EDR Proprietary Historic Gas Stations (EDR Hist Auto)	0.25 Mile

<b>Database Records and Acronym</b>	<b>Minimum Search Distance Beyond Corridor Area</b>
EDR Exclusive Historic Dry Cleaners (EDR Hist Cleaners)	0.25 Mile
Stage II Vapor Recovery (PST Stage 2)	0.25 Mile
Federal Facility Site Information Listing (FEDERAL FACILITY)	0.50 Mile
Superfund Enterprise Management System (SEMS)	0.50 Mile
Superfund Enterprise Management System Archive (SEMS-ARCHIVE)	0.50 Mile
RCRA – Treatment, Storage and Disposal (RCRA-TSDF)	0.50 Mile
Land Use Control Information System (LUCIS)	0.50 Mile
Engineering Controls Sites List (US ENG CONTROLS)	0.50 Mile
Sites with Institutional Controls (US INST CONTROL)	0.50 Mile
Permitted Solid Waste Facilities (SWF/LF)	0.50 Mile
Closed Landfill Inventory (CLI)	0.50 Mile
Debris Management Sites and MSW Landfills for Hurricane Harvey Debris (DEBRIS)	0.50 Mile
Leaking Underground Storage Tanks on Indian Land (INDIAN LUST)	0.50 Mile
Leaking Petroleum Storage Tank Incident Reports (LPST)	0.50 Mile
Sites with Controls (AUL)	0.50 Mile
Voluntary Cleanup Program (VCP)	0.50 Mile
Voluntary Cleanup Priority Listing (INDIAN VCP)	0.50 Mile
Brownfields Site Assessment (BROWNFIELDS, US BROWNFIELDS)	0.50 Mile
Recycling Facility Listings (SWRCY)	0.50 Mile
Report on the Status of Open Dumps on Indian Lands (INDIAN ODI)	0.50 Mile
Open Dump Inventory (ODI)	0.50 Mile
Torres Martinez Reservation Illegal Dump Site Locations (DEBRIS REGION 9);	0.50 Mile
Open Dumps on Indian Land (IHS OPEN DUMPS)	0.50 Mile
Dry Cleaner Remediation Program Prioritization List (PRIORITY CLEANERS)	0.50 Mile
PFAS Contamination Site Location Listing (PFAS)	0.50 Mile
Uranium Mill Tailings Sites (UMTRA)	0.50 Mile
Municipal Setting Designations Database (MSD)	0.50 Mile
State Coalition for Remediation of Dry Cleaners Listing (SCRD DRYCLEANERS)	0.50 Mile
Coal Combustion Residues Surface Impoundments List (COAL ASH EPA)	0.50 Mile
Coal Ash Disposal Sites (COAL ASH)	0.50 Mile
National Priority List Sites (NPL)	1.0 Mile
Proposed National Priority List Sites (Proposed NPL)	1.0 Mile
Delisted National Priority List Sites (Delisted NPL)	1.0 Mile
Corrective Action Report (CORRACTS)	1.0 Mile
State Superfund Registry (SHWS)	1.0 Mile
Deleted Superfund Registry Sites (DEL SHWS)	1.0 Mile
Department of Defense Sites (DOD)	1.0 Mile
Formerly Used Defense Sites (FUDS)	1.0 Mile



Database Records and Acronym	Minimum Search Distance Beyond Corridor Area
Superfund (CERCLA) Consent Decrees (CONSENT)	1.0 Mile
Records of Decision (ROD)	1.0 Mile
Indian Reservations (INDIAN RESERV)	1.0 Mile
Formerly Utilized Sites Remedial Action Program (FUSRAP)	1.0 Mile
Unexploded Ordnance Sites (UXO)	1.0 Mile
EDR Proprietary Manufactured Gas Plants (EDR MGP)	1.0 Mile

\* The FINDS database is a facility index system that contains both facility information and 'pointers' to other database sources that contain more detail.

The Corridor (the 60-foot wide ROW) is the subject (target) property of this Phase I ESA. The area covered by the database search is shown on maps contained within [Appendix A](#). The locations of sites identified within the various databases are also shown on the Appendix A maps. The Corridor is not listed within the environmental database search results.

Two adjacent properties are listed in the search results. Both sites are active retail facilities listed within the UST database and are located at the intersection of Porter Road and Clay Road. As shown in [Table 1](#), there are no reported releases from either site.

RPS also reviewed the orphan sites listed in the [Appendix A](#) report. All orphan sites are either greater than 1 mile away from the Corridor or pertain to stormwater permits for construction activity along roads within the Katy, Texas 77449 Zip Code. No pertinent compliance or environmental issues were noted for the orphan sites listings.

No data gaps were noted from the review of the environmental database search results. No RECs were identified from the review of these environmental records.

## 4.2 Physical Setting Sources

Surface elevation, surface geology, soils, wetlands, and floodplain sources were reviewed for conditions that might influence the migration of contamination onto or beneath the Corridor. USGS topographic maps show the regional land surface gently slopes to the southeast. The Corridor is generally flat with a surface elevation of about 144 feet MSL.

According to the Geological Atlas of Texas, Houston Sheet (Barnes, 1982), the Corridor is located on the Lissie Formation (QI). According to water well completion logs within regulatory files reviewed by RPS, the shallow soils of the Lissie Formation consist of clay to clay with gravel to a depth of about 70 feet below ground surface.

According to the U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) ([Appendix B](#)), the surficial soils in the northern segment of the Corridor are primarily fine sandy loam of the Katy (Kf) soil series. These prime farmland soils are moderately well drained with moderate infiltration rates. The southern segment soils consist primarily of Katy-Urban Land complex (KauA) with similar characteristics

to the Kf soil series and the Clodine fine sandy loam (Cd) soil series. The Clodine soils are somewhat poorly drained with moderate infiltration rates.

According to the US Fish and Wildlife Service National Wetland Inventory ([Appendix B](#)), palustrine farmed wetlands (Pf) were present across portions of the southern segment. These nontidal wetlands were dominated by trees, shrubs, persistent emergent, emergent mosses and lichens that were altered for crop production. These wetlands likely no longer exist due to development of the adjacent subdivisions and improved roadway.

According to Federal Emergency Management Agency (FEMA) floodplain data panel 48201C0585M with an effective date of 11/15/2019 ([Appendix B](#)), the Corridor is not within the 500-year and/or the 100-year floodplain.

A review of the physical setting sources did not identify conditions that would promote the migration of hazardous substances or petroleum products into soil or groundwater toward or away from the Corridor. Further, the generally clayey surface soils will tend to inhibit the migration of contaminants and contaminant vapors in the subsurface.

There are no water wells within the Corridor although several domestic and public water supply wells are located within ¼ mile. RPS reviewed the Texas Water Development Board's Groundwater Data Viewer to identify potentially contaminated sites that were not identified in the environmental database search. No monitor wells and environmental borings have been drilled in the vicinity of the Corridor. No additional sites of concern were noted from this online review.

According to the Texas Railroad Commission's public GIS viewer ([Appendix B](#)), there are three oil and gas wells and natural gas pipelines within 0.5 miles of the Corridor. None of the pipelines cross the Corridor and the three wells were dry holes. There should be no environmental impacts to the Corridor from the nearby pipelines or past oil and gas activities.

### 4.3 Historical Use Information

Historical aerial photographs and topographic maps are used in conjunction with other historical information to assess prior land use and past environmental issues, which may pose current environmental liabilities along the Corridor.

#### Historical Aerial Photographs

RPS reviewed available historical aerial photographs dated 1938, 1944, 1953, 1964, 1972, 1978, 1983, 1989, 1995, 2006, 2012, and 2016. Aerial photographs for these years are included in [Appendix C](#).

Land use was primarily agricultural prior to the 2000s. A former farmhouse was present at the current location of church property on the southeast corner of the northern segment through 2006. A grain elevator facility was built at the location of the current vacant lot on the northwest side of the southern segment sometime between 1964 and 1972 and was removed prior to 2012. Based on the review of historical city directories discussed below, the site appears to have been used for rice storage and drying operations. This operation may have required a petroleum storage tank for fuel to power drying blowers

before electricity was brought to the site. No record of a petroleum storage tank for this property was found.

By 2012, the Katy Christian Center building replaced the former farmhouse and construction of the Morton Creek Ranch subdivision had begun east of the southern segment of the Corridor. The Harris County FCD drainage canal and Harris County MUD No. 432 water treatment plant east of the Corridor had been constructed. Site development of Popo Jack’s Ranch had also begun.

By 2016, construction had begun on the Treviso Gardens subdivision west of the southern segment and on the Marcello Lakes subdivision west of the northern segment. The drainage canal on the west side of the Corridor had been completed.

No visible areas of environmental impact along Procter Road were observed in the photographs.

### Historical Topographic Maps

To aid in the prior land use requirements put forth in ASTM E1527-13, RPS obtained available historical topographic maps from EDR. RPS reviewed available 7.5-minute or 15-minute quadrangle topographic maps from 1915, 1965, 1971, 1980, and 2013. Topographic maps for these years are included in [Appendix D](#).

The early topographic maps through 1980 show the presence of the farm house and the grain elevator facility (storage bins) in the center of the Corridor. The topographic maps indicate a strip of land adjacent to the grain elevators was a landing strip. A domestic water well is also shown on these maps. The 2013 topographic map shows the first signs of subdivision development adjacent to the Corridor. The topographic maps did not show any additional features that might have an environmental impact on the Corridor.

### Historical City Directories

A historical tenant search ([Appendix E](#)) was conducted for the subject and nearby properties. City directories for the years 1967, 1973, 1978, 1983, 1987, 1992, 2000, 2005, 2010, 2014, and 2017 were reviewed to identify past occupants of the adjacent and nearby properties. Addresses (adjacent properties) of interest to this Phase I ESA include the 3300 to 3500 blocks of Porter Road and the 23900 to 24000 blocks of Clay Road.

According to Harris County Appraisal District records, current addresses along Porter Road are:

Account No.	Name	Address
1413100010001	Risepro Investment LLC	3311 Porter Road, Katy, Texas 77493
0431050000040	Living Way Church	3506 Porter Road, Katy, Texas 77493
0431050000030	Katy Christian Ministries	3506 Porter Road, Katy, Texas 77493
0421050000078	Mary J Trombatore	3508 Porter Road, Katy, Texas 77493
0431050000077	Samuel J Dimiceli (Popo Jack’s Ranch)	3510 Porter Road, Katy, Texas 77493

The only relevant Porter Road addresses listed in the directories are 3315 Porter Road (listed in the 1992, 1995, 2005, and 2010 directories), 3506 Porter Road (listed in the 2014 directory), and 3510 Porter Road (listed in the 1983 and 1987 directories). The listings for 3315 Porter Road include Rice D Morton and Morton Rice Dryer. Based on the grain elevators identified in the historical aerial photographs ([Appendix C](#)) and the names listed in the city directories, the site appears to have been used for rice storage and drying operations. The address appears to be associated with the current vacant lot owned by Risepro Investments with an address of 3311 Porter Road.

The listing for 3506 Porter Road address suggests the property was undeveloped before the church building was constructed in 2009. The listing for 3510 Porter Road (also known as Popo Jack's Ranch) suggests the property was a residential property since before 1983.

None of the adjacent Clay Road properties are listed in the directories. Based on aerial photographs and Harris County Appraisal District records, the two adjacent Clay Road properties listed in the environmental database search results (24001 and 24002 Clay Road) were not constructed until 2019.

None of the adjacent commercial/retail properties on Clay Road are likely to pose an environmental risk to the Corridor due to their recent construction. The presumed rice drying operation adjacent to the Corridor may have required a petroleum storage tank for fuel before electricity was brought to the site. No additional information pertaining to potential environmental impacts to the Corridor was found from the city directory search.

## Assessment of Data Gaps

The historical use of the Corridor using reasonably ascertainable historical sources has been identified within this report. Data failure, a type of data gap, was not encountered. The review of these historical sources met the objectives of Sections 8.3.1 through 8.3.2.2 of ASTM E1527-13. Sufficient information and data were available from the historical sources to ascertain the presence or suspected presence of recognized environmental conditions associated with the Corridor.

## 5 SITE RECONNAISSANCE

A site reconnaissance of the Corridor was conducted in order to observe existing conditions and activities, not apparent through other means, which may have resulted in adverse environmental conditions to the areas of the improvements. This effort was a means to identify potential sources of adverse environmental conditions not previously identified, and to evaluate possible means by which the soil, air and water may be affected.

The site visit was conducted on July 29, 2021 by Julie Adams out of the RPS Houston office. The area covered by the site reconnaissance encompasses a 1 mile stretch of Porter Road from its intersection with Clay on the north to Morton Ranch Road on the south. The Corridor is separated into northern and southern segments ([Figure 2](#) and [Figure 3](#), respectively) by the Harris County FCD drainage canal. Photographs taken during the visit are included in [Appendix F](#).

The Corridor consists primarily of residential subdivisions (Treviso Gardens, Morton Creek Ranch and Marcello Lakes) with some vacant undeveloped properties and some commercial properties (3311 Porter Road) currently under construction. South of the Harris County FCD drainage canal, on the east side of Porter Road, is the Harris County MUD No. 432 Wastewater Treatment Plant (3414½ Porter Road). The Harris County MUD No. 536 Lift Station #1 (3311½ Porter Road) is located at the northeast corner of Adriatic Drive and Porter Road behind a stone fence with metal gate. North of the drainage canal on the east side of Porter Road are a church (Iglesia Fuente De Dios at 3506 Porter Road), Harris County Emergency Services District No. 48's future Fire Station No. 6 and Fire Training Facility (3507 Porter Road) with stacked shipping containers and stacks of wooden pallets, and a residential/commercial building with grazing cattle (3508 and 3510 Porter Road). At the southwest corner of Porter Road and Clay Road stands a Chevron gasoline station (Mr. C's) and a vacant commercial structure. On the north side of Clay Road, across from Mr. C's, is an Exxon convenient store.

At the traffic-light controlled intersection of Morton Road and Porter Road heading north, the four-lane concrete road with concrete curb is subdivided by a curbed grass median. The curbed median stops after 0.05 miles and becomes an uncurbed asphalt painted median. After 0.17 miles the concrete lanes merge down to a two-lane uncurbed asphalt road with a painted middle turn lane until Adriatic Drive and transitions into two lanes with no median to and past Clay Road. The intersection of Clay Road and Porter is controlled by a four-way stop sign.

Open grass-lined drainage ditches run along both sides of Porter Road. On the west corner of the Morton Ranch Road and Porter Road intersection is an iron-fenced concrete stormwater collection/diversion area connected to a series of stormwater canals diverting water from the residential areas. A wide canal with concrete drain structures runs parallel along the north side of Morton Road. A line of high voltage power lines run parallel to the Harris County drainage ditch that separates the two segments of the Corridor.

Creosote telephone poles, some with pole-mounted transformers, line both sides of Porter Road. Additionally, utility boxes, cable, fiber optics, above-ground caged gas shut off lines, below ground gas lines, gas meters, water lines, and fire hydrants, run along the east side of Porter Lane and on the west side where residential subdivisions have been developed.

In the southern segment, the widest grass easement is on the east side of Porter Road. The easement is landscaped with small trees and decorative bushes, designed with a sprinkler system along the wood fence and at the base of the trees. In the northern segment of the Corridor, the widest grass easement is on the west side of Porter Road. The easement is also landscaped with small trees and decorative bushes, designed with a sprinkler system along the stone fence and at the base of the trees. The undeveloped properties have tall vegetation, some small shrub growth and no trees. A pile of rocks block the entry into the vacant property on the southwest portion of the southern segment. A damaged creosote telephone pole is laying along the side of the road near the entrance to Treviso Gardens.

The drainage inlets are a combination of grate inlets, curb-opening inlets (covered by a top slab), and precast concrete inlets with metal pole trash guards. The grate inlets are located at the intersections into the subdivisions and at the Chevron gasoline station. The concrete curb-opening inlets are along the first 0.17 miles of concrete roadway near the intersection of Porter Road with Morton Ranch Road. The precast inlets with pole trash guards are primarily along the east side of Porter Road along the residential subdivisions. The ditches along the undeveloped properties utilize round reinforced concrete piping for drainage control under driveways. A small concrete stormwater diversion containment area, and dual drainage ditches are located near the Morton Creek Ranch subdivision before the water treatment plant.

No significant environmental issues or impacts were observed during the site reconnaissance and no recognized environmental conditions were noted.

## 6 INTERVIEWS

No interviews were conducted as part of this Phase I ESA due to the nature of the Corridor search and number of adjacent properties. Interviews would have been conducted with regulatory personnel if any environmental issues had been identified on adjacent or nearby properties.

## 7 FINDINGS

This Phase I Environmental Site Assessment has been conducted in accordance with ASTM Standard E1527-13 guidelines. In accordance with Section 12.5 of the ASTM Standard, this section identifies the known or suspected RECs, controlled RECs, historical RECs and de minimis conditions found during this Phase I ESA.

A recognized environmental condition is defined as the presence or likely presence of any hazardous substances or petroleum products in, on, or at the property due to a release to the environment or under conditions that are indicative of a release to the environment or that pose a material threat of a future release of the materials onto or into the ground, groundwater, surface water, or ambient air of the property.

Controlled RECs are defined as an REC that has been addressed to the satisfaction of the regulatory agency with hazardous substances or petroleum products allowed to remain in place but subject to required controls such as property use restrictions, activity or use limitations, institutional or engineering controls. A historical REC is an REC that has been addressed to the satisfaction of the regulatory agency with hazardous substances or petroleum products allowed to remain in place but without the requirement of such controls.

The term recognized environmental condition is not intended to include de minimis conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Therefore, conditions determined to be de minimis are not recognized environmental conditions.

No known or suspected, controlled, or historical RECs were identified within the Corridor or on adjacent or nearby properties by this Phase I ESA.



## 8 OPINION

Per Section 12.6 of the ASTM Standard E1527-13 guidelines, the impact on the property from each of the findings identified in Section 7 of this report, and the logic and reasoning used in reaching that determination, are presented in this section. Further, the rationale for concluding that a condition is or is not currently a recognized environmental condition is discussed. There are no findings and, therefore, no impacts to the Corridor identified within this report.

In accordance with ASTM Standard E1527-13, the potential for impacts to the Corridor from contaminant migration, including organic vapors, was considered as part of this Phase 1 assessment. No potential impacts to the Corridor from contaminant migration were found during the Phase 1 ESA.

## 9 CONCLUSIONS

RPS performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Standard E1527-13 for the Corridor along Porter Road between Clay Road and Morton Ranch Road. Any exceptions to, or deletions from, this practice are described in Section 11 of this report. Based on RPS' interpretation of information from the records review and observations made during the site reconnaissance, no current recognized environmental conditions were identified within the Corridor.

## 10 DEVIATIONS

This ESA report was prepared in general conformance with ASTM E1527-13. Due to the large number of property holders along the Corridor, environmental lien, AULs and 50-year title searches were not ordered for the Corridor properties. ASTM E1527-13 User Questionnaires were deemed unreasonably ascertainable due to the multiple landowners on adjoining properties and were not obtained.

## 11 ADDITIONAL SERVICES

No additional services beyond the scope of ASTM Standard E1527-13 were performed.

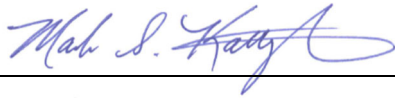
## 12 REFERENCES

- American Society for Testing and Materials (ASTM), Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessment Process, E1527-13
- Harris County Appraisal District (<https://hcad.org/property-search/real-property/>)
- Federal Emergency Management Agency, Flood Map Service Center (<http://msc.fema.gov/portal>)
- Railroad Commission of Texas, Public GIS Viewer (Map)  
(<http://www.rrc.state.tx.us/about-us/resource-center/research/gis-viewers/>)
- Texas Commission on Environmental Quality Central Registry (<http://www15.tceq.texas.gov/crpub/>)
- Texas Commission on Environmental Quality – TCEQ Records Online  
([https://records.tceq.texas.gov/cs/idcplg?IdcService=TCEQ\\_SEARCH](https://records.tceq.texas.gov/cs/idcplg?IdcService=TCEQ_SEARCH))
- Texas Water Development Board Groundwater Data Viewer  
(<http://www2.twdb.texas.gov/apps/WaterDataInteractive/GroundwaterDataViewer/?map=sdr>)
- U. S. Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey  
(<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>)
- U. S. Fish and Wildlife Service National Wetland Inventory, Wetlands Mapper  
(<http://www.fws.gov/wetlands/Wetlands-Mapper.html>)
- U.S. Geological Society – Texas Geology Web Map Viewer (<https://txpub.usgs.gov/txgeology/>)

## 13 SIGNATURES OF ENVIRONMENTAL PROFESSIONAL

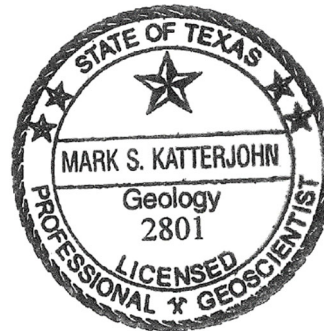
### Declaration

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 Code of Federal Regulations (CFR) 312 and as defined in American Society for Testing and Materials E1527-13. The all appropriate inquiries carried out and reported herein are in accordance with the requirement published in 40 CFR 312.



---

Mark S. Katterjohn, P.G.  
Vice President  
RPS - Austin, Texas



## 14 QUALIFICATIONS

Mark Katterjohn is a Vice President in the Legacy Site Services Group of the Environmental Risk Business Unit in North America. With over 40 years of experience in environmental hydrogeology, geophysics, and chemistry, Mr. Katterjohn provides a broad-based, multi-faceted level of experience in groundwater and subsurface geology to bring cost effective solutions to the permitting, due diligence, assessment, and remediation of commercial, industrial, brownfields, and residential properties. Mark leads or plays a key role in all Phase I and Phase II environmental site assessments conducted in Texas by RPS.



**TABLES**



**Table 1: Environmental Database Listings**

<b>Map ID</b>	<b>Database</b>	<b>Facility</b>	<b>Comments</b>
A1	UST	Mr. C's 24001 Clay Road	Active Chevron retail facility (No. 89681) with one 20,000 gallon gasoline double-walled UST and one 20,000 gallon, two compartment, double-walled UST containing gasoline and diesel. Tanks installed in January 2018. No reported releases.
A2	UST	Time Mart 29 24002 Clay Road	Active Exxon retail facility (No. 90272) with one 30,000 gallon three compartment, double-walled UST containing 24,000 gallons of gasoline and 6,000 gallons of diesel. Tanks installed in January 2019. No reported releases.



## FIGURES

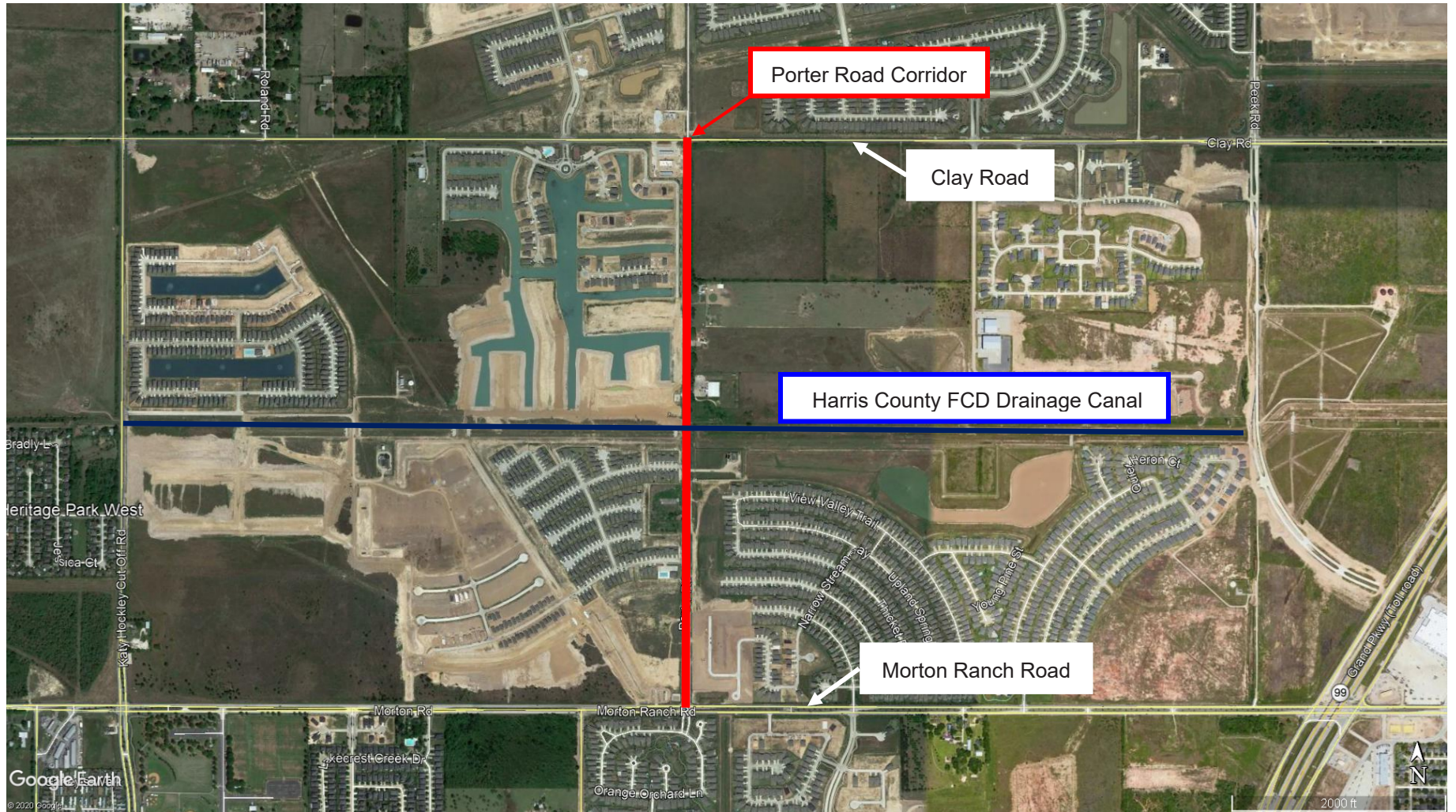


Figure 1. Project Location Map



Figure 2. Northern Segment of Porter Road Corridor

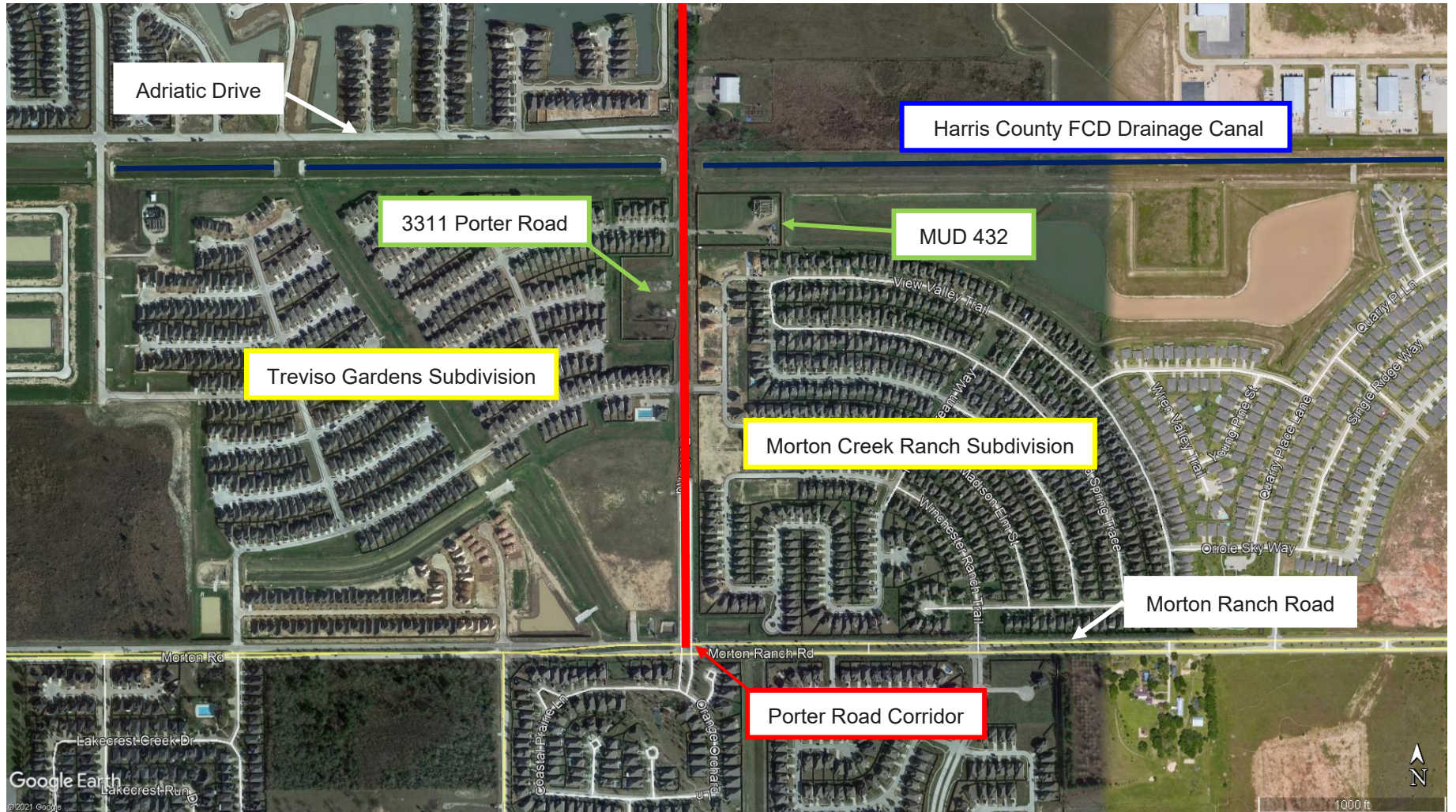


Figure 3. Southern Segment of Porter Road Corridor

**Appendix A**  
**Environmental Regulatory**  
**Database Search Report**

S

**Porter Road**  
Porter Road  
Katy, TX 77493

Inquiry Number: 6598817.2s  
July 29, 2021

# The EDR Radius Map™ Report with GeoCheck®



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

# TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
Executive Summary .....	ES1
Overview Map .....	2
Detail Map .....	3
Map Findings Summary .....	4
Map Findings .....	8
Orphan Summary .....	30
Government Records Searched/Data Currency Tracking .....	GR-1
 <b><u>GEOCHECK ADDENDUM</u></b>	
Physical Setting Source Addendum .....	A-1
Physical Setting Source Summary .....	A-2
Physical Setting SSURGO Soil Map .....	A-5
Physical Setting Source Map .....	A-9
Physical Setting Source Map Findings .....	A-11
Physical Setting Source Records Searched .....	PSGR-1

***Thank you for your business.***  
 Please contact EDR at 1-800-352-0050  
 with any questions or comments.

### Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2020 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.



## EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

### TARGET PROPERTY INFORMATION

#### ADDRESS

PORTER ROAD  
KATY, TX 77493

#### COORDINATES

Latitude (North): 29.8240340 - 29° 49' 26.52"  
Longitude (West): 95.7900880 - 95° 47' 24.31"  
Universal Transverse Mercator: Zone 15  
UTM X (Meters): 230369.3  
UTM Y (Meters): 3302374.5  
Elevation: 145 ft. above sea level

### USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 5937157 KATY, TX  
Version Date: 2013

### AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 20141016  
Source: USDA

MAPPED SITES SUMMARY

Target Property Address:  
PORTER ROAD  
KATY, TX 77493

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
<a href="#">A1</a>	MR CS	24001 CLAY RD	UST, Financial Assurance	Higher	5, 0.001,
<a href="#">A2</a>	TIME MART 29	24002 CLAY RD	UST, Financial Assurance	Higher	9, 0.002, North

# EXECUTIVE SUMMARY

## TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

## DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

## STANDARD ENVIRONMENTAL RECORDS

### ***Federal NPL site list***

NPL..... National Priority List  
Proposed NPL..... Proposed National Priority List Sites  
NPL LIENS..... Federal Superfund Liens

### ***Federal Delisted NPL site list***

Delisted NPL..... National Priority List Deletions

### ***Federal CERCLIS list***

FEDERAL FACILITY..... Federal Facility Site Information listing  
SEMS..... Superfund Enterprise Management System

### ***Federal CERCLIS NFRAP site list***

SEMS-ARCHIVE..... Superfund Enterprise Management System Archive

### ***Federal RCRA CORRACTS facilities list***

CORRACTS..... Corrective Action Report

### ***Federal RCRA non-CORRACTS TSD facilities list***

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

### ***Federal RCRA generators list***

RCRA-LQG..... RCRA - Large Quantity Generators  
RCRA-SQG..... RCRA - Small Quantity Generators  
RCRA-VSQG..... RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

### ***Federal institutional controls / engineering controls registries***

LUCIS..... Land Use Control Information System

## EXECUTIVE SUMMARY

US ENG CONTROLS..... Engineering Controls Sites List  
US INST CONTROLS..... Institutional Controls Sites List

### ***Federal ERNS list***

ERNS..... Emergency Response Notification System

### ***State- and tribal - equivalent NPL***

SHWS..... State Superfund Registry

### ***State and tribal landfill and/or solid waste disposal site lists***

SWF/LF..... Permitted Solid Waste Facilities  
CLI..... Closed Landfill Inventory  
DEBRIS..... DEBRIS  
WASTE MGMT..... Commercial Hazardous & Solid Waste Management Facilities

### ***State and tribal leaking storage tank lists***

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land  
LPST..... Leaking Petroleum Storage Tank Listing

### ***State and tribal registered storage tank lists***

FEMA UST..... Underground Storage Tank Listing  
AST..... Petroleum Storage Tank Database  
INDIAN UST..... Underground Storage Tanks on Indian Land

### ***State and tribal institutional control / engineering control registries***

AUL..... Sites with Controls

### ***State and tribal voluntary cleanup sites***

VCP..... Voluntary Cleanup Program Database  
INDIAN VCP..... Voluntary Cleanup Priority Listing

### ***State and tribal Brownfields sites***

BROWNFIELDS..... Brownfields Site Assessments

### **ADDITIONAL ENVIRONMENTAL RECORDS**

#### ***Local Brownfield lists***

US BROWNFIELDS..... A Listing of Brownfields Sites

#### ***Local Lists of Landfill / Solid Waste Disposal Sites***

SWRCY..... Recycling Facility Listing  
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands  
ODI..... Open Dump Inventory  
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

## EXECUTIVE SUMMARY

IHS OPEN DUMPS..... Open Dumps on Indian Land

### **Local Lists of Hazardous waste / Contaminated Sites**

US HIST CDL..... Delisted National Clandestine Laboratory Register  
CDL..... CDL  
PRIORITYCLEANERS..... Dry Cleaner Remediation Program Prioritization List  
DEL SHWS..... Deleted Superfund Registry Sites  
US CDL..... National Clandestine Laboratory Register  
CENTRAL REGISTRY..... CENTRAL REGISTRY  
PFAS..... PFAS Contamination Site Location Listing

### **Local Lists of Registered Storage Tanks**

NON REGIST PST..... Petroleum Storage Tank Non Registered

### **Local Land Records**

HIST LIENS..... Environmental Liens Listing  
LIENS..... Environmental Liens Listing  
LIENS 2..... CERCLA Lien Information

### **Records of Emergency Release Reports**

HMIRS..... Hazardous Materials Information Reporting System  
SPILLS..... Spills Database  
SPILLS 90..... SPILLS 90 data from FirstSearch  
SPILLS 80..... SPILLS 80 data from FirstSearch

### **Other Ascertainable Records**

RCRA NonGen / NLR..... RCRA - Non Generators / No Longer Regulated  
FUDS..... Formerly Used Defense Sites  
DOD..... Department of Defense Sites  
SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing  
US FIN ASSUR..... Financial Assurance Information  
EPA WATCH LIST..... EPA WATCH LIST  
2020 COR ACTION..... 2020 Corrective Action Program List  
TSCA..... Toxic Substances Control Act  
TRIS..... Toxic Chemical Release Inventory System  
SSTS..... Section 7 Tracking Systems  
ROD..... Records Of Decision  
RMP..... Risk Management Plans  
RAATS..... RCRA Administrative Action Tracking System  
PRP..... Potentially Responsible Parties  
PADS..... PCB Activity Database System  
ICIS..... Integrated Compliance Information System  
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)  
MLTS..... Material Licensing Tracking System  
COAL ASH DOE..... Steam-Electric Plant Operation Data  
COAL ASH EPA..... Coal Combustion Residues Surface Impoundments List  
PCB TRANSFORMER..... PCB Transformer Registration Database  
RADINFO..... Radiation Information Database  
HIST FTTS..... FIFRA/TSCA Tracking System Administrative Case Listing

## EXECUTIVE SUMMARY

DOT OPS.....	Incident and Accident Data
CONSENT.....	Superfund (CERCLA) Consent Decrees
INDIAN RESERV.....	Indian Reservations
FUSRAP.....	Formerly Utilized Sites Remedial Action Program
UMTRA.....	Uranium Mill Tailings Sites
LEAD SMELTERS.....	Lead Smelter Sites
US AIRS.....	Aerometric Information Retrieval System Facility Subsystem
US MINES.....	Mines Master Index File
ABANDONED MINES.....	Abandoned Mines
FINDS.....	Facility Index System/Facility Registry System
UXO.....	Unexploded Ordnance Sites
DOCKET HWC.....	Hazardous Waste Compliance Docket Listing
ECHO.....	Enforcement & Compliance History Information
FUELS PROGRAM.....	EPA Fuels Program Registered Listing
AIRS.....	Current Emission Inventory Data
APAR.....	Affected Property Assessment Report Site Listing
ASBESTOS.....	ASBESTOS
COAL ASH.....	Coal Ash Disposal Sites
DRYCLEANERS.....	Drycleaner Registration Database Listing
ED AQUIF.....	Edwards Aquifer Permits
ENF.....	Notice of Violations Listing
Financial Assurance.....	Financial Assurance Information Listing
GCC.....	Groundwater Contamination Cases
IOP.....	Innocent Owner/Operator Program
LEAD.....	LEAD
Ind. Haz Waste.....	Industrial & Hazardous Waste Database
MSD.....	Municipal Settings Designations Database
NPDES.....	NPDES Facility List
RWS.....	Radioactive Waste Sites
TIER 2.....	Tier 2 Chemical Inventory Reports
UIC.....	Underground Injection Wells Database Listing
IHW CORR ACTION.....	IHW CORR ACTION
PST STAGE 2.....	PST Stage 2
COMP HIST.....	Compliance History Listing
MINES MRDS.....	Mineral Resources Data System

### EDR HIGH RISK HISTORICAL RECORDS

#### ***EDR Exclusive Records***

EDR MGP.....	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto.....	EDR Exclusive Historical Auto Stations
EDR Hist Cleaner.....	EDR Exclusive Historical Cleaners

### EDR RECOVERED GOVERNMENT ARCHIVES

#### ***Exclusive Recovered Govt. Archives***

RGA HWS.....	Recovered Government Archive State Hazardous Waste Facilities List
RGA LF.....	Recovered Government Archive Solid Waste Facilities List

### SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

## EXECUTIVE SUMMARY

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

### **STANDARD ENVIRONMENTAL RECORDS**

#### ***State and tribal registered storage tank lists***

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Texas Commission on Environmental Quality's Petroleum Storage Tank Database.

A review of the UST list, as provided by EDR, and dated 03/05/2021 has revealed that there are 2 UST sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b><i>MR CS</i></b> Facility Status: ACTIVE Facility Id: 89681 Facility Num: 134792 AI Number: 483375802018012	<b><i>24001 CLAY RD</i></b>	<b><i>0 - 1/8 (0.001 mi.)</i></b>	<b><i>A1</i></b>	<b><i>8</i></b>
<b><i>TIME MART 29</i></b> Facility Status: ACTIVE Facility Id: 90272 Facility Num: 135378 AI Number: 587409792018316	<b><i>24002 CLAY RD</i></b>	<b><i>N 0 - 1/8 (0.002 mi.)</i></b>	<b><i>A2</i></b>	<b><i>18</i></b>

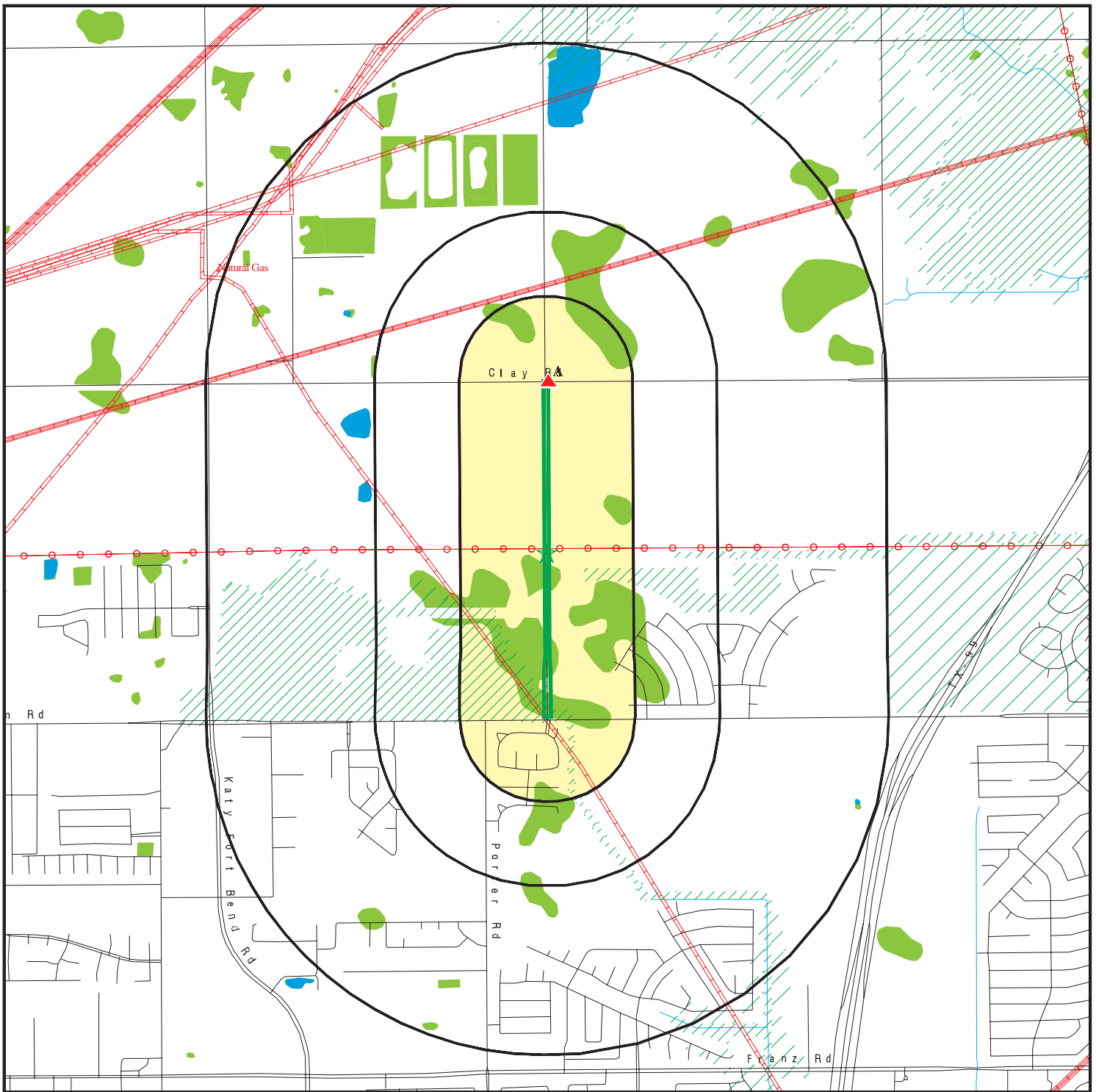
## EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 42 records.

<u>Site Name</u>	<u>Database(s)</u>
PORTER ROAD STREET DEDICATION SECT	COMP HIST, CENTRAL REGISTRY
PORTER RANCH FDC	COMP HIST, CENTRAL REGISTRY
COMET CLEANERS	DRYCLEANERS, CENTRAL REGISTRY
DR HOURTON-TEXAS VINEYARD MEADOWS	FINDS
PEEK ROAD SOUTH	FINDS
CLAY ROAD BUSINESS PARK	FINDS
PORTER RANCH SECTION 1	FINDS, ECHO
PITTS ROAD & CLAY ROAD TRACT	FINDS, ECHO
DR HOURTON-TEXAS VINEYARD MEADOWS	CENTRAL REGISTRY
CLAY ROAD IMPROVEMENTS	CENTRAL REGISTRY
FRY ROAD PAVING AND DRAINAGE FROM	CENTRAL REGISTRY
HARRIS COUNTY MASON ROAD	CENTRAL REGISTRY
MORTON ROAD FROM MASON ROAD TO WES	CENTRAL REGISTRY
DURWOOD GREENE CONSTRUCTION WESTGR	CENTRAL REGISTRY
CLAY ROAD MUD CYPRESS MEADOWS SECT	CENTRAL REGISTRY
PORTER RANCH SECTION 1	CENTRAL REGISTRY
PEEK ROAD SOUTH	ECHO
PEEK ROAD SOUTH	CENTRAL REGISTRY
HCFCF PROJ ID U102-00-00-X010 GENE	CENTRAL REGISTRY
CLAY ROAD BUSINESS PARK	CENTRAL REGISTRY
CLAY ROAD BUSINESS PARK	ECHO
NEC MORTON RANCH ROAD AT HWY 99	CENTRAL REGISTRY
MORTON RANCH ROAD	CENTRAL REGISTRY
MORTON RANCH ROAD SEGMENT 3 FROM E	CENTRAL REGISTRY
KATY-FORT BEND COUNTY ROAD	CENTRAL REGISTRY
PORTER ROAD EXTENSION TO SERVE KIN	CENTRAL REGISTRY
CLAY ROAD COMMERCIAL TRACT	CENTRAL REGISTRY
PEEK ROAD PHASE 1	CENTRAL REGISTRY
MORTON ROAD EXTENSION	CENTRAL REGISTRY
PEEK ROAD PHASE 1	CENTRAL REGISTRY
MORTON RANCH ROAD WEST OF PORTER W	CENTRAL REGISTRY
MORTON RANCH ROAD IMPROVEMENTS W O	CENTRAL REGISTRY
MASON ROAD LAKES AT MASON PARK	CENTRAL REGISTRY
PORTER RANCH SEC 2	CENTRAL REGISTRY
PORTER RANCH - SECTION 1 2 DETENTI	CENTRAL REGISTRY
PORTER RANCH LENNAR HOMES	CENTRAL REGISTRY
MASON ROAD CROSSING 72 STORM SEWER	CENTRAL REGISTRY
PORTER RANCH SECTION 1	CENTRAL REGISTRY
PITTS ROAD & CLAY ROAD TRACT	CENTRAL REGISTRY
PITTS ROAD & CLAY ROAD TRACT - LAK	CENTRAL REGISTRY
SH 99 SOUTH BOUND FRONTAGE ROAD IM	CENTRAL REGISTRY
HARRIS COUNTY MORTON ROAD SANITARY	CENTRAL REGISTRY



# OVERVIEW MAP - 6598817.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

Power transmission lines

Pipelines

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

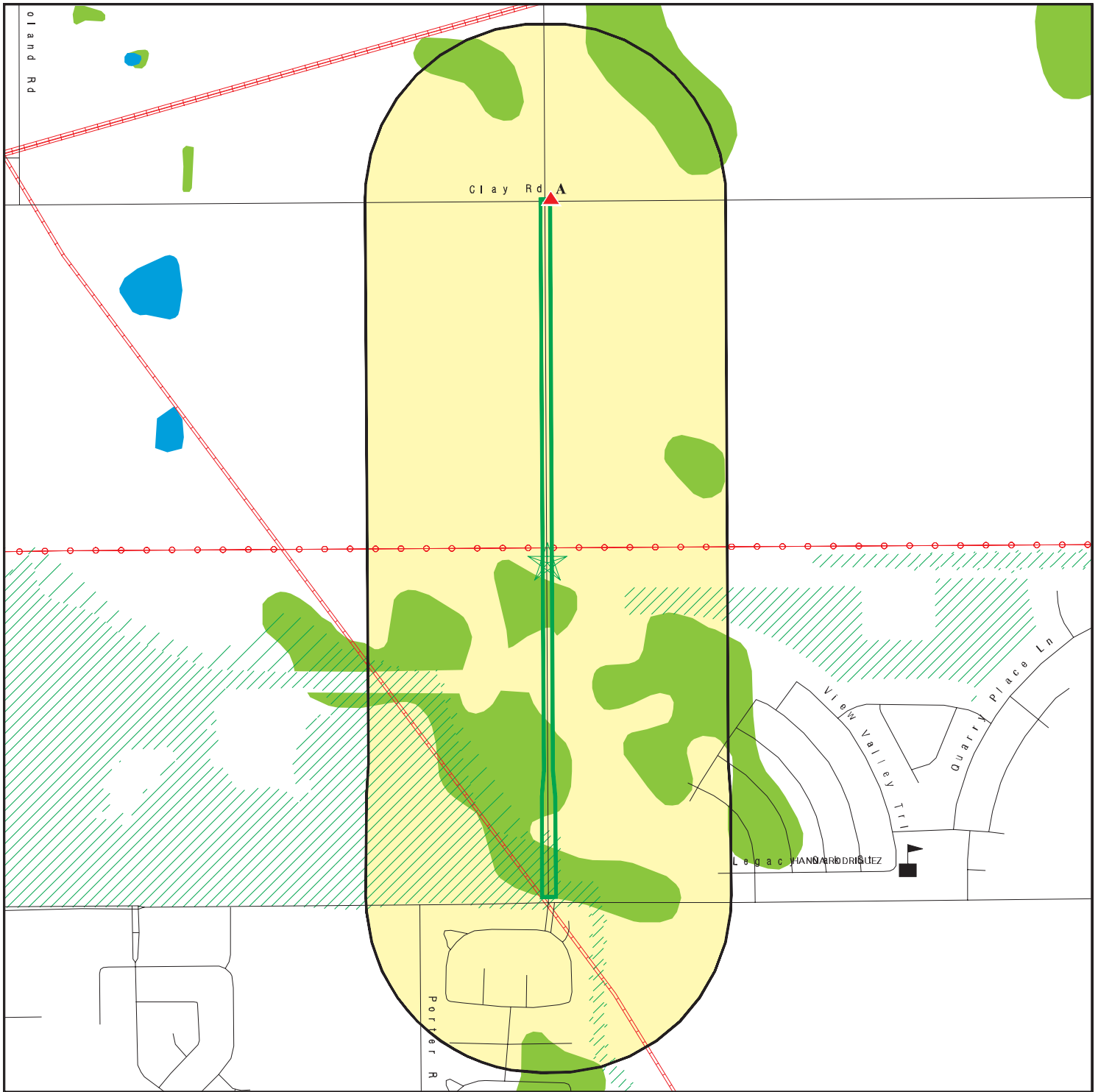









This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

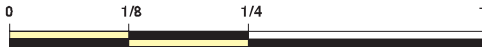







SITE NAME: Porter Road  
 ADDRESS: Porter Road  
 Katy TX 77493  
 LAT/LONG: 29.824034 / 95.790088

CLIENT: RPS JDC Inc.  
 CONTACT: Mark Katterjohn  
 INQUIRY #: 6598817.2s  
 DATE: July 29, 2021 4:23 pm

# DETAIL MAP - 6598817.2S



-  Target Property
-  Sites at elevations higher than or equal to the target property
-  Sites at elevations lower than the target property
-  Manufactured Gas Plants
-  Sensitive Receptors
-  National Priority List Sites
-  Dept. Defense Sites

-  0 1/8 1/4 1/2 Miles
-  Indian Reservations BIA
-  Power transmission lines
-  Pipelines
-  Special Flood Hazard Area (1%)
-  0.2% Annual Chance Flood Hazard
-  National Wetland Inventory
-  State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Porter Road  
 ADDRESS: Porter Road  
 Katy TX 77493  
 LAT/LONG: 29.824034 / 95.790088

CLIENT: RPS JDC Inc.  
 CONTACT: Mark Katterjohn  
 INQUIRY #: 6598817.2s  
 DATE: July 29, 2021 4:24 pm

## MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
<b>STANDARD ENVIRONMENTAL RECORDS</b>								
<b><i>Federal NPL site list</i></b>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
<b><i>Federal Delisted NPL site list</i></b>								
Delisted NPL	1.000		0	0	0	0	NR	0
<b><i>Federal CERCLIS list</i></b>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<b><i>Federal CERCLIS NFRAP site list</i></b>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<b><i>Federal RCRA CORRACTS facilities list</i></b>								
CORRACTS	1.000		0	0	0	0	NR	0
<b><i>Federal RCRA non-CORRACTS TSD facilities list</i></b>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<b><i>Federal RCRA generators list</i></b>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
<b><i>Federal institutional controls / engineering controls registries</i></b>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
<b><i>Federal ERNS list</i></b>								
ERNS	TP		NR	NR	NR	NR	NR	0
<b><i>State- and tribal - equivalent NPL</i></b>								
SHWS	1.000		0	0	0	0	NR	0
<b><i>State and tribal landfill and/or solid waste disposal site lists</i></b>								
SWF/LF	0.500		0	0	0	NR	NR	0
CLI	0.500		0	0	0	NR	NR	0
DEBRIS	0.500		0	0	0	NR	NR	0
WASTE MGMT	TP		NR	NR	NR	NR	NR	0
<b><i>State and tribal leaking storage tank lists</i></b>								
INDIAN LUST	0.500		0	0	0	NR	NR	0

## MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LPST	0.500		0	0	0	NR	NR	0
<b>State and tribal registered storage tank lists</b>								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		2	0	NR	NR	NR	2
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
<b>State and tribal institutional control / engineering control registries</b>								
AUL	0.500		0	0	0	NR	NR	0
<b>State and tribal voluntary cleanup sites</b>								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
<b>State and tribal Brownfields sites</b>								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
<b>ADDITIONAL ENVIRONMENTAL RECORDS</b>								
<b>Local Brownfield lists</b>								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
<b>Local Lists of Landfill / Solid Waste Disposal Sites</b>								
SWRCY	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
<b>Local Lists of Hazardous waste / Contaminated Sites</b>								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
PRIORITYCLEANERS	0.500		0	0	0	NR	NR	0
DEL SHWS	1.000		0	0	0	0	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
CENTRAL REGISTRY	TP		NR	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
<b>Local Lists of Registered Storage Tanks</b>								
NON REGIST PST	0.250		0	0	NR	NR	NR	0
<b>Local Land Records</b>								
HIST LIENS	TP		NR	NR	NR	NR	NR	0
LIENS	TP		NR	NR	NR	NR	NR	0
LIENS 2	TP		NR	NR	NR	NR	NR	0
<b>Records of Emergency Release Reports</b>								
HMIRS	TP		NR	NR	NR	NR	NR	0

## MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SPILLS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
SPILLS 80	TP		NR	NR	NR	NR	NR	0
<b>Other Ascertainable Records</b>								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0
APAR	TP		NR	NR	NR	NR	NR	0
ASBESTOS	TP		NR	NR	NR	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
ED AQUIF	TP		NR	NR	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
GCC	TP		NR	NR	NR	NR	NR	0

## MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
IOP	TP		NR	NR	NR	NR	NR	0
LEAD	TP		NR	NR	NR	NR	NR	0
Ind. Haz Waste	0.250		0	0	NR	NR	NR	0
MSD	0.500		0	0	0	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
RWS	TP		NR	NR	NR	NR	NR	0
TIER 2	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
IHW CORR ACTION	0.250		0	0	NR	NR	NR	0
PST STAGE 2	0.250		0	0	NR	NR	NR	0
COMP HIST	TP		NR	NR	NR	NR	NR	0
MINES MRDS	TP		NR	NR	NR	NR	NR	0

### EDR HIGH RISK HISTORICAL RECORDS

#### *EDR Exclusive Records*

EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0

### EDR RECOVERED GOVERNMENT ARCHIVES

#### *Exclusive Recovered Govt. Archives*

RGA HWS	TP		NR	NR	NR	NR	NR	0
RGA LF	TP		NR	NR	NR	NR	NR	0

- Totals -- 0 2 0 0 0 0 0 2

#### NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**A1**      **MR CS**      **UST**      **U004313057**  
**< 1/8**      **24001 CLAY RD**      **Financial Assurance**      **N/A**  
**0.001 mi.**      **KATY, TX 77493**  
**5 ft.**      **Site 1 of 2 in cluster A**

**Relative:**  
**Higher**  
**Actual:**  
**145 ft.**

**UST:**  
 Name: MR CS  
 Address: 24001 CLAY RD  
 City,State,Zip: KATY, TX 774938138  
 AI Number: 89681  
 Facility Type: RETAIL  
 Facility Begin Date: 01/25/2018  
 Facility Status: ACTIVE  
 Additional ID: 483375802018012  
 Facility Exempt Status: N  
 Records Off-Site: No  
 UST Financial Assurance Required: Yes  
 Number Of Active UST: 2  
 Site Location Description: Not reported  
 Site Location (Nearest City Name): KATY  
 Site Location (County Name): HARRIS  
 Site Location (Tceq Region): 12  
 Site Location (Location Zip): 77493  
 Contact Name/Title: KARIM M MOMIN,OWNER  
 Contact Organization Name: MR CS  
 Contact Mailing Address1: Not reported  
 Contact Mailing Address2: Not reported  
 Contact Mailing City/State/Zip: Not reported  
 Contact Telephone: 7135399115  
 Facility Contact Address Deliverable: Not reported  
 Contact Fax Number: Not reported  
 Contact Email Address: KARIM@STARTEXOIL.COM  
 Signature Date On Earliest Reg Form: 04/23/2020  
 Signature Name/Title On Earliest Reg Form: ALI KARIM,REP  
 Application Received Date On Earliest Reg Form: 04/24/2020  
 Signature Role On Earliest Reg Form: LEGAL AUTH REP OWNER  
 Signature Company On Earliest Reg Form: Not reported  
 Enforcement Action: No  
 Facility Not Inspectable: No

**Operator:**  
 Princ ID: 453598662019128  
 Additional ID: 483375802018012  
 Ai Number: 89681  
 Operator CN: CN605655125  
 Operator Name: CLAY PORTER STORES GROUP LLC  
 Operator Effective Begin Date: 01/25/2018  
 Operator Type: CO  
 Operator Role: OWNOPRCON  
 Contact Name: KARIM M MOMIN/OWNER  
 Contact Organization Name: CLAY PORTER STORES GROUP LLC  
 Contact Mailing Address (Delivery): 12750 S KIRKWOOD RD STE 200  
 Contact Mailing Address (Internal Delivery): Not reported  
 Contact Mailing City/State/Zip: STAFFORD TX 77477-3860  
 Contact Phone Country Code: 1  
 Contact Phone Area Code: 713  
 Contact Phone Number: 5399115  
 Contact Phone Extension: 0  
 Contact Fax Country Code: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

MR CS (Continued)

U004313057

Contact Fax Area Code: Not reported  
Contact Fax Number: Not reported  
Contact Fax Extension: Not reported  
Contact Email Address: Not reported  
Contact Address Deliverable: Not reported

Owner:

Owner CN: CN605655125  
Owner Last Name: CLAY PORTER STORES GROUP LLC  
Owner First Name: Not reported  
Owner Middle Name: Not reported  
Owner Type: CO  
Contact Mailing Address (Delivery): 12750 S KIRKWOOD RD STE 200  
Contact Mailing Address (Internal Delivery): Not reported  
Contact Mailing City: STAFFORD  
Contact Mailing State: TX  
Contact Mailing Zip: 77477  
Contact Mailing Zip5: 3860  
Contact Phone Number/Ext: 1 713 5399115/0  
Contact Fax Country Code: Not reported  
Contact Fax Number/Ext: /  
Contact Email Address: Not reported  
Contact Address Deliverable: Not reported  
Princ ID: 453598662019128  
Additional ID: 483375802018012  
AI Number: 89681  
Owner Effective Begin Date: 01/25/2018  
State Tax ID: 32067930118  
Contact Role: OWNOPRCON  
Contact Name/Title: KARIM M MOMIN/OWNER  
Contact Organization Name: CLAY PORTER STORES GROUP LLC

Self Certification:

Self Cert ID: 134792  
Cert ID: 336070  
AI Number: 89681  
Self Certification Date: 04/23/2020  
Signature Name/Title: ALI KARIM REP  
Signature Type Role: LEGAL AUTH REP OWNER  
Filing Status: RENEWAL  
Registration Self Certification Flag: Y  
Facility Fees Self Certification Flag: Y  
Financial Assurance Self Certification Flag: Y  
Technical Standards Self Certification Flag: Y  
Delivery Certificate Expiration Date: 04/30/2021  
Reporting Method: P  
Tank Corrosion Protection Compliance: Y  
Piping Corrosion Protection Compliance: Y  
Compartment Release Detection Compliance: Y  
Piping Release Detection Compliance: N  
Spill Prevention/Overfill Compliance: Y

Self Cert ID: 134792  
Cert ID: 320371  
AI Number: 89681  
Self Certification Date: 04/15/2019



Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**MR CS (Continued)**

**U004313057**

Signature Name/Title:	KARIM M MOMIN OWNER OPR
Signature Type Role:	OWNER
Filing Status:	INITIAL
Registration Self Certification Flag:	Y
Facility Fees Self Certification Flag:	Y
Financial Assurance Self Certification Flag:	Y
Technical Standards Self Certification Flag:	Y
Delivery Certificate Expiration Date:	04/30/2020
Reporting Method:	P
Tank Corrosion Protection Compliance:	Y
Piping Corrosion Protection Compliance:	Y
Compartment Release Detection Compliance:	Y
Piping Release Detection Compliance:	N
Spill Prevention/Overfill Compliance:	Y

**Tank:**

Install Date:	01/25/2018
Tank Registration Date:	05/07/2019
Number of Compartments:	1
Tank Capacity:	20000
Tank Singlewall:	N
Tank Doublewall:	Y
Pipe Type:	P
UST ID:	223851
Facility ID:	134792
Ai Number:	89681
Tank Id:	1
Tank Status (Current):	IN USE
Tank Status Date:	01/25/2018
Empty:	N
Tank Regulatory Status:	FULLY REGULATED
Tank Int Prot (Internal Tank Lining Date):	Not reported
Piping Design (Single Wall):	N
Piping Design (Double Wall):	Y
Tank Ext Cont(Fac-Built Nonmetallic Jacket):	N
Tank Ext Cont(Syn Tank-Pit/Piping-Trench Liner):	N
Tank Ext Cont(Tank Vault/Rigid Trench Liner):	N
Piping Ext Cont(Fac-Built Nonmetallic Jacket):	N
Piping Ext Cont(Syn Tank-Pit/Piping-Trench Liner):	N
Piping Ext Cont(Tank Vault/Rigid Trench Liner):	N
Tank Material (Steel):	N
Tank Material(Frp(Fiberglass-Reinforced Plastic):	Y
Tank Mat(Composite (Steel W/Ext Frp Cladding)):	N
Tank Mat(Concrete):	N
Tank Mat(Jacketed (Steel W/Ext Nonmetallic Jck)):	N
Tank Mat(Coated(Steel W/ExtPolyurethane Cladding)):	N
Piping Material (Steel):	N
Piping Mat(Frp(Fiberglass Reinforced Plastic):	Y
Piping Mat(Concrete):	N
Piping Mat(Jacketed(Steel W/Ext Nonmetallic Jacket)):	N
Piping Mat(Nonmetallic Flex Piping):	N
PipingConnect/Valves(Shear/Impact Valves(Under Disp)):	N
Piping Connect/Valves(Steel Swing-Joints(End Of Piping)):	N
Piping Connect/Valves (Flex Connectors(Ends Of Piping)):	N
Tank Corr Prot Meth(TCPM)(Cathodic-Field Installation):	N
TCPM (ExtDielectricCoat/Laminate/Tape/Wrap):	Y
TCPM(Cathodic Prot-FacInstallation):	N

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**MR CS (Continued)**

**U004313057**

TCPM(Composite Tank(Steel W/Frp Ext Laminate):	N
TCPMeth(Coated Tank(Steel W/ExtPolyurethaneLaminate):	N
TCPM(FRP Tank Or Piping(Noncorrodible):	Y
TCPM(Ext Nonmetallic Jacket):	N
TCPMeth(Unnecessary Per Corrosion Prot Spec):	N
Piping Corr Prot Meth(Dielectric Coat/Laminate/Tape/Wrap):	Y
Piping Corr Prot Method(PCPM) (Cathodic Factory Install):	N
PCPM(Cathodic Prot-Field Install):	N
PCPMeth (FRP Tank Or Piping(Noncorrodible):	Y
PCPM(Nonmetallic FlexPiping (Noncorrodible):	N
PCPMeth(Isolated Open Area/2nd Containment):	Y
PCPM (Dual Protected):	Y
PCPM(Unnec Per Corrosion Prot Specialist):	N
Tank Corr Prot Compliance Flag:	Y
Piping Corr Prot Compliance Flag:	Y
Tank Corrosion Prot Variance:	N
Piping Corrosion Prot Variance:	N
Temp Out Of Service Compliance:	N
Technical Compliance Flag:	N
Tank Tested Flag:	Y
Installation Signature Date:	04/08/2019
<b>Compartment Records:</b>	
Tank ID:	1
Tank Capacity:	20000
UST Comprt ID:	194316
UST ID:	223851
AI Number:	89681
Compartment ID:	A
Substance Stored1:	GASOLINE
Substance Stored2:	Not reported
Substance Stored3:	Not reported
CompartmentReleaseDetectionMethod(Vapor):	N
CRDM(GW Monitoring):	N
CRDM(Monitoring Of Secondary Cont Barrier):	Y
CRDM(Auto Tank Gauge Test/Inv Control):	Y
CRDM(Interstitial Monitoring SecWall/Jacket):	Y
CRDM(Wkly Manual Gauging(Tanks<=1000 G):	N
CRDM(Mthly Tank Gauging(Emer Gen Tanks):	N
CRDM(Sir (Stat Inv Reconciliation)/Inv Control):	Y
PipingReleaseDetectionMethod(PRDM)(Vapor):	N
PRDM(Groundwater Monitoring):	N
PRDM(Monitoring Sec Containment Barrier):	Y
PRDM(InterstitialMonitoring w/in SecWall/Jacket):	Y
PRDM(Mthly Piping Tightness Test)@.2Gph:	N
PRDM(AnnualPipingTightTest/ElecMon@.1Gph:	Y
PRDM(TriennialTightTest(Suction/GravityPiping):	N
PRDM AutoLineLeakDet(3.0 Gph PressPiping):	N
PRDM(Sir(StatInv Recon)/Inv Control):	Y
PRDM(Exempt System Suction:	N
Spill Overfill Prevention Equip(SOPE):	Y
SOPE(Spill Cont/Bucket/Sump):	Y
SOPE(DelShut-Off Valve) ):	Y
SOPE(FlowRestrictorValue:	N
SOPE(Alarm (Set@<=90%) W/3a Or 3b:	Y
SOPE(N/A Deliveries To Tank<=25G):	N
Compartment Release Det Compliance Flag:	Y
Piping Release Detection Compliance Flag ):	N

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**MR CS (Continued)**

**U004313057**

Spill/OverfillPreventionCompliance Flag:	Y
Compartment Release Detection Variance:	N
Piping Release Detection Variance:	N
Spill And Overfill Prevention Variance:	N
Stage I Vapor Recovery:	TWO POINT SYSTEM
Stage 1 Installation Date:	01/25/2018
Install Date:	01/25/2018
Tank Registration Date:	05/07/2019
Number of Compartments:	2
Tank Capacity:	20000
Tank Singlewall:	N
Tank Doublewall:	Y
Pipe Type:	P
UST ID:	223852
Facility ID:	134792
Ai Number:	89681
Tank Id:	2
Tank Status (Current):	IN USE
Tank Status Date:	01/25/2018
Empty:	N
Tank Regulatory Status:	FULLY REGULATED
Tank Int Prot (Internal Tank Lining Date):	Not reported
Piping Design (Single Wall):	N
Piping Design (Double Wall):	Y
Tank Ext Cont(Fac-Built Nonmetallic Jacket):	N
Tank Ext Cont(Syn Tank-Pit/Piping-Trench Liner):	N
Tank Ext Cont(Tank Vault/Rigid Trench Liner):	N
Piping Ext Cont(Fac-Built Nonmetallic Jacket):	N
Piping Ext Cont(Syn Tank-Pit/Piping-Trench Liner):	N
Piping Ext Cont(Tank Vault/Rigid Trench Liner):	N
Tank Material (Steel):	N
Tank Material(Frp(Fiberglass-Reinforced Plastic):	Y
Tank Mat(Composite (Steel W/Ext Frp Cladding)):	N
Tank Mat(Concrete):	N
Tank Mat(Jacketed (Steel W/Ext Nonmetallic Jck)):	N
Tank Mat(Coated(Steel W/ExtPolyurethane Cladding)):	N
Piping Material (Steel):	N
Piping Mat(Frp(Fiberglass Reinforced Plastic):	Y
Piping Mat(Concrete):	N
Piping Mat(Jacketed(Steel W/Ext Nonmetallic Jacket)):	N
Piping Mat(Nonmetallic Flex Piping):	N
PipingConnect/Valves(Shear/Impact Valves(Under Disp)):	N
Piping Connect/Valves(Steel Swing-Joints(End Of Piping)):	N
Piping Connect/Valves (Flex Connectors(Ends Of Piping)):	N
Tank Corr Prot Meth(TCPM)(Cathodic-Field Installation):	N
TCPM (ExtDielectricCoat/Laminate/Tape/Wrap):	Y
TCPM(Cathodic Prot-FacInstallation):	N
TCPM(Composite Tank(Steel W/Frp Ext Laminate):	N
TCPMeth(Coated Tank(Steel W/ExtPolyurethaneLaminate):	N
TCPM(FRP Tank Or Piping(Noncorrodible):	Y
TCPM(Ext Nonmetallic Jacket):	N
TCPMeth(Unnecessary Per Corrosion Prot Spec):	N
Piping Corr Prot Meth(Dielectric Coat/Laminate/Tape/Wrap):	Y
Piping Corr Prot Method(PCPM) (Cathodic Factory Install):	N
PCPM(Cathodic Prot-Field Install):	N

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**MR CS (Continued)**

**U004313057**

PCPMethod (FRP Tank Or Piping(Noncorrodible):	Y
PCPM(Nonmetallic FlexPiping (Noncorrodible)):	N
PCPMeth(Isolated Open Area/2nd Containment):	Y
PCPM (Dual Protected):	Y
PCPM(Unnec Per Corrosion Prot Specialist):	N
Tank Corr Prot Compliance Flag:	Y
Piping Corr Prot Compliance Flag:	Y
Tank Corrosion Prot Variance:	N
Piping Corrosion Prot Variance:	N
Temp Out Of Service Compliance:	N
Technical Compliance Flag:	Y
Tank Tested Flag:	Y
Installation Signature Date:	04/08/2019
<b>Compartment Records:</b>	
Tank ID:	2
Tank Capacity:	12000
UST Comprt ID:	194317
UST ID:	223852
AI Number:	89681
Compartment ID:	A
Substance Stored1:	GASOLINE
Substance Stored2:	Not reported
Substance Stored3:	Not reported
CompartmentReleaseDetectionMethod(Vapor):	N
CRDM(GW Monitoring):	N
CRDM(Monitoring Of Secondary Cont Barrier):	Y
CRDM(Auto Tank Gauge Test/Inv Control):	Y
CRDM(Interstitial Monitoring SecWall/Jacket):	N
CRDM(Wkly Manual Gauging(Tanks<=1000 G):	N
CRDM(Mthly Tank Gauging(Emer Gen Tanks):	N
CRDM(Sir (Stat Inv Reconciliation)/Inv Control):	Y
PipingReleaseDetectionMethod(PRDM)(Vapor):	N
PRDM(Groundwater Monitoring):	N
PRDM(Monitoring Sec Containment Barrier):	Y
PRDM(InterstitialMonitoring w/in SecWall/Jacket):	N
PRDM(Mthly Piping Tightness Test)@.2Gph:	N
PRDM(AnnualPipingTightTest/ElecMon@.1Gph:	Y
PRDM(TriennialTightTest(Suction/GravityPiping):	N
PRDM AutoLineLeakDet(3.0 Gph PressPiping):	Y
PRDM(Sir(StatInv Recon)/Inv Control):	Y
PRDM(Exempt System Suction:	N
Spill Overfill Prevention Equip(SOPE):	Y
SOPE(Spill Cont/Bucket/Sump):	Y
SOPE(DelShut-Off Valve ):	Y
SOPE(FlowRestrictorValue:	N
SOPE(Alarm (Set@<=90%) W/3a Or 3b:	Y
SOPE(N/A Deliveries To Tank<=25G):	N
Compartment Release Det Compliance Flag:	Y
Piping Release Detection Compliance Flag ):	Y
Spill/OverfillPreventionCompliance Flag:	Y
Compartment Release Detection Variance:	N
Piping Release Detection Variance:	N
Spill And Overfill Prevention Variance:	N
Stage I Vapor Recovery:	TWO POINT SYSTEM
Stage 1 Installation Date:	01/25/2018
Tank ID:	2

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**MR CS (Continued)**

**U004313057**

Tank Capacity:	8000
UST Comprt ID:	194318
UST ID:	223852
AI Number:	89681
Compartment ID:	B
Substance Stored1:	DIESEL
Substance Stored2:	Not reported
Substance Stored3:	Not reported
CompartmentReleaseDetectionMethod(Vapor):	N
CRDM(GW Monitoring):	N
CRDM(Monitoring Of Secondary Cont Barrier):	Y
CRDM(Auto Tank Gauge Test/Inv Control):	Y
CRDM(Interstitial Monitoring SecWall/Jacket):	N
CRDM(Wkly Manual Gauging(Tanks<=1000 G):	N
CRDM(Mthly Tank Gauging(Emer Gen Tanks):	N
CRDM(Sir (Stat Inv Reconciliation)/Inv Control):	Y
PipingReleaseDetectionMethod(PRDM)(Vapor):	N
PRDM(Groundwater Monitoring):	N
PRDM(Monitoring Sec Containment Barrier):	Y
PRDM(InterstitialMonitoring w/in SecWall/Jacket):	N
PRDM(Mthly Piping Tightness Test)@.2Gph:	N
PRDM(AnnualPipingTightTest/ElecMon@.1Gph:	Y
PRDM(TriennialTightTest(Suction/GravityPiping):	N
PRDM AutoLineLeakDet(3.0 Gph PressPiping):	Y
PRDM(Sir(StatInv Recon)/Inv Control):	Y
PRDM(Exempt System Suction:	N
Spill Overfill Prevention Equip(SOPE):	Y
SOPE(Spill Cont/Bucket/Sump):	Y
SOPE(DelShut-Off Valve ):	Y
SOPE(FlowRestrictorValue:	N
SOPE(Alarm (Set@<=90%) W/3a Or 3b:	Y
SOPE(N/A Deliveries To Tank<=25G):	N
Compartment Release Det Compliance Flag:	Y
Piping Release Detection Compliance Flag ):	Y
Spill/OverfillPreventionCompliance Flag:	Y
Compartment Release Detection Variance:	N
Piping Release Detection Variance:	N
Spill And Overfill Prevention Variance:	N
Stage I Vapor Recovery:	TWO POINT SYSTEM
Stage 1 Installation Date:	01/25/2018

**Construction Notification:**

NOC ID:	32418
Facility ID:	134792
AI Number:	89681
Application Received Date:	01/11/2018
Scheduled Construction Date:	02/12/2018
UST Improvement:	N
UST Installation:	Y
UST Removal:	N
UST Repair:	N
UST Return To Service:	N
UST Replacement:	N
UST Abandonment:	N
UST Stage I:	N
AST Installation:	N

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

MR CS (Continued)

U004313057

AST Stage I: N  
Historical Tracking Number: Not reported  
Waiver Flag: N  
Late Filing Flag: N  
Form Received Date: 01/11/2018  
Signature Date On Form: 01/10/2018  
Signature Name On Form: VICTOR L SAIENNI  
Signature Company On Form: Not reported  
Signature Title On Form: PM  
Signature Role: Not reported  
Owner Name At Time Of Construction: CAMILLO PROPERTIES GP INC  
Owner CN At Time Of Construction: CN605455104  
Owner AR At Time Of Construction: Not reported  
General Desc Of Prop Construct: INSTALL (1) 20K DW FRP TANK (1) 20K (12-8 COMP) TANK. INSTALL (7) MPDS, FRP TANK SUMPS AND UDCS. ALL PIPING DW FIBERGLASS

Contractor, Consultant and Installer:

Cont/Cons/Installer ID: 82317  
UST ID: 223851  
NOC ID: Not reported  
AI Number: 89681  
Type Of Contact: CONTRACTOR  
Contractor CRP Number Or Installer ILP Number: CRP001194  
Company Name: BEAR SERVICES LP  
Representative Name: Not reported  
Mailing Address (Delivery): PO BOX 2296  
Mailing Address (Internal Delivery): Not reported  
Mailing City: SPRING  
Mailing State: TX  
Mailing Zip: 77383  
Mailing Foreign Postal Code: Not reported  
Mailing County Code: Not reported  
Phone Number Country Code: 0  
Phone Number Area Code: 281  
Phone Number: 3558953  
Phone Number Extension: 0  
Fax Number Country Code: Not reported  
Fax Number Area Code: Not reported  
Fax Number: Not reported  
Email Address: Not reported

Cont/Cons/Installer ID: 82319  
UST ID: 223852  
NOC ID: Not reported  
AI Number: 89681  
Type Of Contact: CONTRACTOR  
Contractor CRP Number Or Installer ILP Number: CRP001194  
Company Name: BEAR SERVICES LP  
Representative Name: Not reported  
Mailing Address (Delivery): PO BOX 2296  
Mailing Address (Internal Delivery): Not reported  
Mailing City: SPRING  
Mailing State: TX  
Mailing Zip: 77383  
Mailing Foreign Postal Code: Not reported  
Mailing County Code: Not reported  
Phone Number Country Code: 0

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

MR CS (Continued)

U004313057

Phone Number Area Code:	281
Phone Number:	3558953
Phone Number Extension:	0
Fax Number Country Code:	Not reported
Fax Number Area Code:	Not reported
Fax Number:	Not reported
Email Address:	Not reported
Cont/Cons/Installer ID:	76725
UST ID:	Not reported
NOC ID:	32418
AI Number:	89681
Type Of Contact:	CONTRACTOR
Contractor CRP Number Or Installer ILP Number:	CRP001194
Company Name:	BEAR SERVICES LP
Representative Name:	Not reported
Mailing Address (Delivery):	PO BOX 2296
Mailing Address (Internal Delivery):	Not reported
Mailing City:	SPRING
Mailing State:	TX
Mailing Zip:	77383
Mailing Foreign Postal Code:	Not reported
Mailing County Code:	Not reported
Phone Number Country Code:	0
Phone Number Area Code:	281
Phone Number:	3558953
Phone Number Extension:	0
Fax Number Country Code:	Not reported
Fax Number Area Code:	Not reported
Fax Number:	Not reported
Email Address:	Not reported
Cont/Cons/Installer ID:	82320
UST ID:	223852
NOC ID:	Not reported
AI Number:	89681
Type Of Contact:	INSTALLER
Contractor CRP Number Or Installer ILP Number:	ILP000480
Company Name:	PHILLIPS FLAVIL WAYNE
Representative Name:	Not reported
Mailing Address (Delivery):	5902 INWAY DR
Mailing Address (Internal Delivery):	Not reported
Mailing City:	SPRING
Mailing State:	TX
Mailing Zip:	77389
Mailing Foreign Postal Code:	Not reported
Mailing County Code:	Not reported
Phone Number Country Code:	1
Phone Number Area Code:	281
Phone Number:	3558953
Phone Number Extension:	0
Fax Number Country Code:	Not reported
Fax Number Area Code:	Not reported
Fax Number:	Not reported
Email Address:	Not reported
Cont/Cons/Installer ID:	82318

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

MR CS (Continued)

U004313057

UST ID: 223851  
NOC ID: Not reported  
AI Number: 89681  
Type Of Contact: INSTALLER  
Contractor CRP Number Or Installer ILP Number: ILP000480  
Company Name: PHILLIPS FLAVIL WAYNE  
Representative Name: Not reported  
Mailing Address (Delivery): 5902 INWAY DR  
Mailing Address (Internal Delivery): Not reported  
Mailing City: SPRING  
Mailing State: TX  
Mailing Zip: 77389  
Mailing Foreign Postal Code: Not reported  
Mailing County Code: Not reported  
Phone Number Country Code: 1  
Phone Number Area Code: 281  
Phone Number: 3558953  
Phone Number Extension: 0  
Fax Number Country Code: Not reported  
Fax Number Area Code: Not reported  
Fax Number: Not reported  
Email Address: Not reported

Facility Billing Contacts:

Contact Organization Name: CLAY PORTER STORES GROUP LLC  
Contact Mailing Address (Delivery): 12750 S KIRKWOOD RD STE 200  
Contact Mailing Address (Internal Delivery): Not reported  
Contact Mailing City/State/Zip: STAFFORD, TX 77477 3860  
Phone Number/Ext: 713 5399115/0  
Contact Fax Number/Ext: /  
Contact Email Address: Not reported  
Contact Address Deliverable: Y  
Facility ID: 134792  
Additional ID: 483375802018012  
Princ ID: 453598662019128  
AI Number: 89681  
Facility Name: MR CS  
AR Number: 80704  
AR UST Number Suffix: Not reported  
AR AST Number Suffix: U  
Contact Name/Title: KARIM M MOMIN/OWNER

TX Financial Assurance 2:

Name: MR CS  
Address: 24001 CLAY RD  
City,State,Zip: KATY, TX 77493  
Region: 2  
Facility ID: 134792  
Finass ID: 230889  
AI: 89681  
Mechanism Type Other: Not reported  
Multiple Mechanism Types: N  
Coverage Amt per Annual Aggregate: 1,000,000  
Meets Financial Assurance Req Flag: Y  
Financial Responsibility Type: INSURANCE OR RISK RETENTION



Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**MR CS (Continued)**

**U004313057**

Corrective Action MET Flag: Y  
 3rd Party MET Flag: Y  
 Financial Assurance Begin Date: 04/22/2020  
 Date Financial Assurance Form Rec: 04/24/2020  
 Issuer Name: MID-CONTINENT INS CO  
 Issuer Phone: 1 800 7224994  
 Policy Number: 04-TOP-000009712  
 Coverage Amount: 1,000,000  
 Coverage Expiration Date: 04/22/2021  
 Ins Premium Pre-Paid For Entire Yr: No  
 Proof of Financial Assurance: Yes

Name: MR CS  
 Address: 24001 CLAY RD  
 City,State,Zip: KATY, TX 77493  
 Region: 2  
 Facility ID: 134792  
 Finass ID: 213970  
 AI: 89681  
 Mechanism Type Other: Not reported  
 Multiple Mechanism Types: N  
 Coverage Amt per Annual Aggregate: 1,000,000  
 Meets Financial Assurance Req Flag: Y  
 Financial Responsibility Type: INSURANCE OR RISK RETENTION  
 Corrective Action MET Flag: Y  
 3rd Party MET Flag: Y  
 Financial Assurance Begin Date: 04/22/2019  
 Date Financial Assurance Form Rec: 04/24/2020  
 Issuer Name: MID-CONTINENT INS CO  
 Issuer Phone: 1 800 7224994  
 Policy Number: 04-TOP-005001067  
 Coverage Amount: 1,000,000  
 Coverage Expiration Date: 04/22/2020  
 Ins Premium Pre-Paid For Entire Yr: Yes  
 Proof of Financial Assurance: Yes

**A2**  
**North**  
**< 1/8**  
**0.002 mi.**  
**9 ft.**

**TIME MART 29**  
**24002 CLAY RD**  
**KATY, TX 77493**  
**Site 2 of 2 in cluster A**

**UST** **U004332765**  
**Financial Assurance** **N/A**

**Relative:**  
**Higher**  
**Actual:**  
**145 ft.**

UST:  
 Name: TIME MART 29  
 Address: 24002 CLAY RD  
 City,State,Zip: KATY, TX 774938137  
 AI Number: 90272  
 Facility Type: RETAIL  
 Facility Begin Date: 01/27/2019  
 Facility Status: ACTIVE  
 Additional ID: 587409792018316  
 Facility Exempt Status: N  
 Records Off-Site: No  
 UST Financial Assurance Required: Yes  
 Number Of Active UST: 1  
 Site Location Description: Not reported  
 Site Location (Nearest City Name): Not reported  
 Site Location (County Name): HARRIS

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**TIME MART 29 (Continued)**

**U004332765**

Site Location (Tceq Region):	12
Site Location (Location Zip):	77493
Contact Name/Title:	SAM N ALI,MGR
Contact Organization Name:	TIME MART 29
Contact Mailing Address1:	Not reported
Contact Mailing Address2:	Not reported
Contact Mailing City/State/Zip:	Not reported
Contact Telephone:	8323109563
Facility Contact Address Deliverable:	Not reported
Contact Fax Number:	Not reported
Contact Email Address:	Not reported
Signature Date On Earliest Reg Form:	10/14/2020
Signature Name/Title On Earliest Reg Form:	M SADIQ DURRANI,REP
Application Received Date On Earliest Reg Form:	10/15/2020
Signature Role On Earliest Reg Form:	LEGAL AUTH REP OWNER
Signature Company On Earliest Reg Form:	Not reported
Enforcement Action:	No
Facility Not Inspectable:	No
Operator:	
Princ ID:	500592612020163
Additional ID:	587409792018316
Ai Number:	90272
Operator CN:	CN605786383
Operator Name:	PORTER BUSINESS INC
Operator Effective Begin Date:	01/27/2019
Operator Type:	CO
Operator Role:	OWNOPRCON
Contact Name:	SAM N ALI/MGR
Contact Organization Name:	PORTER BUSINESS INC
Contact Mailing Address (Delivery):	503 FM 2977 RD
Contact Mailing Address (Internal Delivery):	Not reported
Contact Mailing City/State/Zip:	ROSENBERG TX 77469-7507
Contact Phone Country Code:	1
Contact Phone Area Code:	832
Contact Phone Number:	3109563
Contact Phone Extension:	0
Contact Fax Country Code:	Not reported
Contact Fax Area Code:	Not reported
Contact Fax Number:	Not reported
Contact Fax Extension:	Not reported
Contact Email Address:	Not reported
Contact Address Deliverable:	Not reported
Owner:	
Owner CN:	CN605786383
Owner Last Name:	PORTER BUSINESS INC
Owner First Name:	Not reported
Owner Middle Name:	Not reported
Owner Type:	CO
Contact Mailing Address (Delivery):	503 FM 2977 RD
Contact Mailing Address (Internal Delivery):	Not reported
Contact Mailing City:	ROSENBERG
Contact Mailing State:	TX
Contact Mailing Zip:	77469
Contact Mailing Zip5:	7507
Contact Phone Number/Ext:	1 832 3109563/0

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**TIME MART 29 (Continued)**

**U004332765**

Contact Fax Country Code: Not reported  
Contact Fax Number/Ext: /  
Contact Email Address: Not reported  
Contact Address Deliverable: Not reported  
Princ ID: 500592612020163  
Additional ID: 587409792018316  
AI Number: 90272  
Owner Effective Begin Date: 01/27/2019  
State Tax ID: 32070881779  
Contact Role: OWNOPRCON  
Contact Name/Title: SAM N ALI/MGR  
Contact Organization Name: PORTER BUSINESS INC

Self Certification:

Self Cert ID: 135378  
Cert ID: 345091  
AI Number: 90272  
Self Certification Date: 10/14/2020  
Signature Name/Title: M SADIQ DURRANI REP  
Signature Type Role: LEGAL AUTH REP OWNER  
Filing Status: RENEWAL  
Registration Self Certification Flag: Y  
Facility Fees Self Certification Flag: Y  
Financial Assurance Self Certification Flag: Y  
Technical Standards Self Certification Flag: Y  
Delivery Certificate Expiration Date: 10/31/2021  
Reporting Method: P  
Tank Corrosion Protection Compliance: Y  
Piping Corrosion Protection Compliance: Y  
Compartment Release Detection Compliance: Y  
Piping Release Detection Compliance: Y  
Spill Prevention/Overfill Compliance: Y

Self Cert ID: 135378  
Cert ID: 337832  
AI Number: 90272  
Self Certification Date: 06/09/2020  
Signature Name/Title: M SADIQ DURRANI REP  
Signature Type Role: LEGAL AUTH REP OWNER  
Filing Status: RENEWAL  
Registration Self Certification Flag: Y  
Facility Fees Self Certification Flag: Y  
Financial Assurance Self Certification Flag: Y  
Technical Standards Self Certification Flag: Y  
Delivery Certificate Expiration Date: 10/31/2020  
Reporting Method: P  
Tank Corrosion Protection Compliance: Y  
Piping Corrosion Protection Compliance: Y  
Compartment Release Detection Compliance: Y  
Piping Release Detection Compliance: Y  
Spill Prevention/Overfill Compliance: Y

Tank:

Install Date: 01/27/2019  
Tank Registration Date: 06/10/2020  
Number of Compartments: 3

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**TIME MART 29 (Continued)**

**U004332765**

Tank Capacity:	30000
Tank Singlewall:	N
Tank Doublewall:	Y
Pipe Type:	P
UST ID:	224608
Facility ID:	135378
Ai Number:	90272
Tank Id:	1
Tank Status (Current):	IN USE
Tank Status Date:	01/27/2019
Empty:	N
Tank Regulatory Status:	FULLY REGULATED
Tank Int Prot (Internal Tank Lining Date):	Not reported
Piping Design (Single Wall):	N
Piping Design (Double Wall):	Y
Tank Ext Cont(Fac-Built Nonmetallic Jacket):	N
Tank Ext Cont(Syn Tank-Pit/Piping-Trench Liner):	Y
Tank Ext Cont(Tank Vault/Rigid Trench Liner):	N
Piping Ext Cont(Fac-Built Nonmetallic Jacket):	N
Piping Ext Cont(Syn Tank-Pit/Piping-Trench Liner):	N
Piping Ext Cont(Tank Vault/Rigid Trench Liner):	N
Tank Material (Steel):	N
Tank Material(Frp(Fiberglass-Reinforced Plastic):	N
Tank Mat(Composite (Steel W/Ext Frp Cladding)):	N
Tank Mat(Concrete):	N
Tank Mat(Jacketed (Steel W/Ext Nonmetallic Jck)):	N
Tank Mat(Coated(Steel W/ExtPolyurethane Cladding)):	N
Piping Material (Steel):	N
Piping Mat(Frp(Fiberglass Reinforced Plastic):	Y
Piping Mat(Concrete):	N
Piping Mat(Jacketed(Steel W/Ext Nonmetallic Jacket)):	N
Piping Mat(Nonmetallic Flex Piping):	N
PipingConnect/Valves(Shear/Impact Valves(Under Disp)):	N
Piping Connect/Valves(Steel Swing-Joints(End Of Piping)):	N
Piping Connect/Valves (Flex Connectors(Ends Of Piping)):	N
Tank Corr Prot Meth(TCPM)(Cathodic-Field Installation):	N
TCPM (ExtDielectricCoat/Laminate/Tape/Wrap):	N
TCPM(Cathodic Prot-FacInstallation):	N
TCPM(Composite Tank(Steel W/Frp Ext Laminate):	Y
TCPMeth(Coated Tank(Steel W/ExtPolyurethaneLaminate):	N
TCPM(FRP Tank Or Piping(Noncorrodible)):	N
TCPM(Ext Nonmetallic Jacket):	N
TCPMeth(Unnecessary Per Corrosion Prot Spec):	N
Piping Corr Prot Meth(Dielectric Coat/Laminate/Tape/Wrap):	N
Piping Corr Prot Method(PCPM) (Cathodic Factory Install):	N
PCPM(Cathodic Prot-Field Install):	N
PCPMeth (FRP Tank Or Piping(Noncorrodible):	N
PCPM(Nonmetallic FlexPiping (Noncorrodible)):	Y
PCPMeth(Isolated Open Area/2nd Containment):	N
PCPM (Dual Protected):	N
PCPM(Unnec Per Corrosion Prot Specialist):	N
Tank Corr Prot Compliance Flag:	Y
Piping Corr Prot Compliance Flag:	Y
Tank Corrosion Prot Variance:	N
Piping Corrosion Prot Variance:	N
Temp Out Of Service Compliance:	N
Technical Compliance Flag:	Y

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**TIME MART 29 (Continued)**

**U004332765**

Tank Tested Flag:	Not reported
Installation Signature Date:	Not reported
Compartment Records:	
Tank ID:	1
Tank Capacity:	18000
UST Comprt ID:	195542
UST ID:	224608
AI Number:	90272
Compartment ID:	A
Substance Stored1:	GASOLINE
Substance Stored2:	Not reported
Substance Stored3:	Not reported
CompartmentReleaseDetectionMethod(Vapor):	N
CRDM(GW Monitoring):	N
CRDM(Monitoring Of Secondary Cont Barrier):	N
CRDM(Auto Tank Gauge Test/Inv Control):	Y
CRDM(Interstitial Monitoring SecWall/Jacket):	Y
CRDM(Wkly Manual Gauging(Tanks<=1000 G):	N
CRDM(Mthly Tank Gauging(Emer Gen Tanks):	N
CRDM(Sir (Stat Inv Reconciliation)/Inv Control):	N
PipingReleaseDetectionMethod(PRDM)(Vapor):	N
PRDM(Groundwater Monitoring):	N
PRDM(Monitoring Sec Containment Barrier):	N
PRDM(InterstitialMonitoring w/in SecWall/Jacket):	N
PRDM(Mthly Piping Tightness Test)@.2Gph:	Y
PRDM(AnnualPipingTightTest/ElecMon@.1Gph:	Y
PRDM(TriennialTightTest(Suction/GravityPiping):	N
PRDM AutoLineLeakDet(3.0 Gph PressPiping):	Y
PRDM(Sir(StatInv Recon)/Inv Control):	N
PRDM(Exempt System Suction:	N
Spill Overfill Prevention Equip(SOPE):	Y
SOPE(Spill Cont/Bucket/Sump):	Y
SOPE(DelShut-Off Valve ):	N
SOPE(FlowRestrictorValue:	Y
SOPE(Alarm (Set@<=90%) W/3a Or 3b:	Y
SOPE(N/A Deliveries To Tank<=25G):	N
Compartment Release Det Compliance Flag:	Y
Piping Release Detection Compliance Flag ):	Y
Spill/OverfillPreventionCompliance Flag:	Y
Compartment Release Detection Variance:	N
Piping Release Detection Variance:	N
Spill And Overfill Prevention Variance:	N
Stage I Vapor Recovery:	TWO POINT SYSTEM
Stage 1 Installation Date:	02/04/2019
Tank ID:	1
Tank Capacity:	6000
UST Comprt ID:	195543
UST ID:	224608
AI Number:	90272
Compartment ID:	B
Substance Stored1:	GASOLINE
Substance Stored2:	Not reported
Substance Stored3:	Not reported
CompartmentReleaseDetectionMethod(Vapor):	N
CRDM(GW Monitoring):	N
CRDM(Monitoring Of Secondary Cont Barrier):	N

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**TIME MART 29 (Continued)**

**U004332765**

CRDM(Auto Tank Gauge Test/Inv Control):	Y
CRDM(Interstitial Monitoring SecWall/Jacket):	Y
CRDM(Wkly Manual Gauging(Tanks<=1000 G):	N
CRDM(Mthly Tank Gauging(Emer Gen Tanks):	N
CRDM(Sir (Stat Inv Reconciliation)/Inv Control):	N
PipingReleaseDetectionMethod(PRDM)(Vapor):	N
PRDM(Groundwater Monitoring):	N
PRDM(Monitoring Sec Containment Barrier):	N
PRDM(InterstitialMonitoring w/in SecWall/Jacket):	N
PRDM(Mthly Piping Tightness Test)@.2Gph:	Y
PRDM(AnnualPipingTightTest/ElecMon@.1Gph:	Y
PRDM(TriennialTightTest(Suction/GravityPiping):	N
PRDM AutoLineLeakDet(3.0 Gph PressPiping):	Y
PRDM(Sir(StatInv Recon)/Inv Control)):	N
PRDM(Exempt System Suction:	N
Spill Overfill Prevention Equip(SOPE):	Y
SOPE(Spill Cont/Bucket/Sump):	Y
SOPE(DelShut-Off Valve ):	N
SOPE(FlowRestrictorValue:	Y
SOPE(Alarm (Set@<=90%) W/3a Or 3b:	Y
SOPE(N/A Deliveries To Tank<=25G):	N
Compartment Release Det Compliance Flag:	Y
Piping Release Detection Compliance Flag ):	Y
Spill/OverfillPreventionCompliance Flag:	Y
Compartment Release Detection Variance:	N
Piping Release Detection Variance:	N
Spill And Overfill Prevention Variance:	N
Stage 1 Vapor Recovery:	TWO POINT SYSTEM
Stage 1 Installation Date:	02/04/2019
Tank ID:	1
Tank Capacity:	6000
UST Comprt ID:	195544
UST ID:	224608
AI Number:	90272
Compartment ID:	C
Substance Stored1:	DIESEL
Substance Stored2:	Not reported
Substance Stored3:	Not reported
CompartmentReleaseDetectionMethod(Vapor):	N
CRDM(GW Monitoring):	N
CRDM(Monitoring Of Secondary Cont Barrier):	N
CRDM(Auto Tank Gauge Test/Inv Control):	Y
CRDM(Interstitial Monitoring SecWall/Jacket):	Y
CRDM(Wkly Manual Gauging(Tanks<=1000 G):	N
CRDM(Mthly Tank Gauging(Emer Gen Tanks):	N
CRDM(Sir (Stat Inv Reconciliation)/Inv Control):	N
PipingReleaseDetectionMethod(PRDM)(Vapor):	N
PRDM(Groundwater Monitoring):	N
PRDM(Monitoring Sec Containment Barrier):	N
PRDM(InterstitialMonitoring w/in SecWall/Jacket):	N
PRDM(Mthly Piping Tightness Test)@.2Gph:	Y
PRDM(AnnualPipingTightTest/ElecMon@.1Gph:	Y
PRDM(TriennialTightTest(Suction/GravityPiping):	N
PRDM AutoLineLeakDet(3.0 Gph PressPiping):	Y
PRDM(Sir(StatInv Recon)/Inv Control)):	N
PRDM(Exempt System Suction:	N

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**TIME MART 29 (Continued)**

**U004332765**

Spill Overfill Prevention Equip(SOPE):	Y
SOPE(Spill Cont/Bucket/Sump):	Y
SOPE(DelShut-Off Valve ):	N
SOPE(FlowRestrictorValue:	Y
SOPE(Alarm (Set@<=90%) W/3a Or 3b:	Y
SOPE(N/A Deliveries To Tank<=25G):	N
Compartment Release Det Compliance Flag:	Y
Piping Release Detection Compliance Flag ):	Y
Spill/OverfillPreventionCompliance Flag:	Y
Compartment Release Detection Variance:	N
Piping Release Detection Variance:	N
Spill And Overfill Prevention Variance:	N
Stage I Vapor Recovery:	TWO POINT SYSTEM
Stage 1 Installation Date:	02/04/2019

Construction Notification:

NOC ID:	36430
Facility ID:	135378
AI Number:	90272
Application Received Date:	05/11/2020
Scheduled Construction Date:	06/20/2020
UST Improvement:	N
UST Installation:	Y
UST Removal:	N
UST Repair:	N
UST Return To Service:	N
UST Replacement:	N
UST Abandonment:	N
UST Stage I:	N
AST Installation:	N
AST Stage I:	N
Historical Tracking Number:	Not reported
Waiver Flag:	Not reported
Late Filing Flag:	N
Form Received Date:	05/11/2020
Signature Date On Form:	05/11/2020
Signature Name On Form:	EDGAR GOMEZ
Signature Company On Form:	Not reported
Signature Title On Form:	Not reported
Signature Role:	Not reported
Owner Name At Time Of Construction:	KATY POINT INVESTMENTS LLC
Owner CN At Time Of Construction:	CN605590124
Owner AR At Time Of Construction:	Not reported
General Desc Of Prop Construct:	INSTALL 32K TANK WITH 6 DISPENSERS AMENDED NOC NEW CONSTRUCTION DATE

NOC ID:	33821
Facility ID:	135378
AI Number:	90272
Application Received Date:	11/09/2018
Scheduled Construction Date:	12/09/2018
UST Improvement:	N
UST Installation:	Y
UST Removal:	N
UST Repair:	N
UST Return To Service:	N
UST Replacement:	N

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**TIME MART 29 (Continued)**

**U004332765**

UST Abandonment: N  
UST Stage I: N  
AST Installation: N  
AST Stage I: N  
Historical Tracking Number: Not reported  
Waiver Flag: Not reported  
Late Filing Flag: N  
Form Received Date: 05/11/2020  
Signature Date On Form: 05/11/2020  
Signature Name On Form: EDGAR GOMEZ  
Signature Company On Form: Not reported  
Signature Title On Form: Not reported  
Signature Role: Not reported  
Owner Name At Time Of Construction: KATY POINT INVESTMENTS LLC  
Owner CN At Time Of Construction: CN605590124  
Owner AR At Time Of Construction: Not reported  
General Desc Of Prop Construct: UST INSTALLATION

Contractor, Consultant and Installer:

Cont/Cons/Installer ID: 80121  
UST ID: Not reported  
NOC ID: 33821  
AI Number: 90272  
Type Of Contact: CONSULTANT  
Contractor CRP Number Or Installer ILP Number: Not reported  
Company Name: TEXAS FUEL SOLUTIONS LLC  
Representative Name: EDGAR GOMEZ  
Mailing Address (Delivery): 14006 MCDERMOTT DR  
Mailing Address (Internal Delivery): Not reported  
Mailing City: HOUSTON  
Mailing State: TX  
Mailing Zip: 77032  
Mailing Foreign Postal Code: Not reported  
Mailing County Code: Not reported  
Phone Number Country Code: 1  
Phone Number Area Code: 832  
Phone Number: 6271536  
Phone Number Extension: Not reported  
Fax Number Country Code: Not reported  
Fax Number Area Code: Not reported  
Fax Number: Not reported  
Email Address: Not reported

Cont/Cons/Installer ID: 86692  
UST ID: 224608  
NOC ID: Not reported  
AI Number: 90272  
Type Of Contact: CONTRACTOR  
Contractor CRP Number Or Installer ILP Number: Not reported  
Company Name: TEXAS FUEL SOLUTIONS LLC  
Representative Name: Not reported  
Mailing Address (Delivery): Not reported  
Mailing Address (Internal Delivery): Not reported  
Mailing City: Not reported  
Mailing State: Not reported  
Mailing Zip: Not reported  
Mailing Foreign Postal Code: Not reported



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**TIME MART 29 (Continued)**

**U004332765**

Mailing County Code:	Not reported
Phone Number Country Code:	Not reported
Phone Number Area Code:	Not reported
Phone Number:	Not reported
Phone Number Extension:	Not reported
Fax Number Country Code:	Not reported
Fax Number Area Code:	Not reported
Fax Number:	Not reported
Email Address:	Not reported
Cont/Cons/Installer ID:	86398
UST ID:	Not reported
NOC ID:	36430
AI Number:	90272
Type Of Contact:	CONTRACTOR
Contractor CRP Number Or Installer ILP Number:	Not reported
Company Name:	TEXAS FUEL SOLUTIONS INC
Representative Name:	EDGAR GOMEZ
Mailing Address (Delivery):	14006 MCDERMOTT DR
Mailing Address (Internal Delivery):	Not reported
Mailing City:	HOUSTON
Mailing State:	TX
Mailing Zip:	77032
Mailing Foreign Postal Code:	Not reported
Mailing County Code:	Not reported
Phone Number Country Code:	1
Phone Number Area Code:	832
Phone Number:	3721080
Phone Number Extension:	Not reported
Fax Number Country Code:	Not reported
Fax Number Area Code:	Not reported
Fax Number:	Not reported
Email Address:	Not reported
Cont/Cons/Installer ID:	80120
UST ID:	Not reported
NOC ID:	33821
AI Number:	90272
Type Of Contact:	CONTRACTOR
Contractor CRP Number Or Installer ILP Number:	Not reported
Company Name:	TEXAS FUEL SOLUTIONS LLC
Representative Name:	EDGAR GOMEZ
Mailing Address (Delivery):	14006 MCDERMOTT DR
Mailing Address (Internal Delivery):	Not reported
Mailing City:	HOUSTON
Mailing State:	TX
Mailing Zip:	77032
Mailing Foreign Postal Code:	Not reported
Mailing County Code:	Not reported
Phone Number Country Code:	1
Phone Number Area Code:	832
Phone Number:	6271536
Phone Number Extension:	Not reported
Fax Number Country Code:	Not reported
Fax Number Area Code:	Not reported
Fax Number:	Not reported
Email Address:	Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**TIME MART 29 (Continued)**

**U004332765**

Cont/Cons/Installer ID: 86399  
UST ID: Not reported  
NOC ID: 36430  
AI Number: 90272  
Type Of Contact: INSTALLER  
Contractor CRP Number Or Installer ILP Number: ILP001167  
Company Name: Not reported  
Representative Name: Not reported  
Mailing Address (Delivery): Not reported  
Mailing Address (Internal Delivery): Not reported  
Mailing City: Not reported  
Mailing State: Not reported  
Mailing Zip: Not reported  
Mailing Foreign Postal Code: Not reported  
Mailing County Code: Not reported  
Phone Number Country Code: Not reported  
Phone Number Area Code: Not reported  
Phone Number: Not reported  
Phone Number Extension: Not reported  
Fax Number Country Code: Not reported  
Fax Number Area Code: Not reported  
Fax Number: Not reported  
Email Address: Not reported

Cont/Cons/Installer ID: 86693  
UST ID: 224608  
NOC ID: Not reported  
AI Number: 90272  
Type Of Contact: INSTALLER  
Contractor CRP Number Or Installer ILP Number: Not reported  
Company Name: Not reported  
Representative Name: EDGAR GOMEZ  
Mailing Address (Delivery): Not reported  
Mailing Address (Internal Delivery): Not reported  
Mailing City: Not reported  
Mailing State: Not reported  
Mailing Zip: Not reported  
Mailing Foreign Postal Code: Not reported  
Mailing County Code: Not reported  
Phone Number Country Code: Not reported  
Phone Number Area Code: Not reported  
Phone Number: Not reported  
Phone Number Extension: Not reported  
Fax Number Country Code: Not reported  
Fax Number Area Code: Not reported  
Fax Number: Not reported  
Email Address: Not reported

Facility Billing Contacts:  
Contact Organization Name: PORTER BUSINESS INC  
Contact Mailing Address (Delivery): 503 FM 2977 RD  
Contact Mailing Address (Internal Delivery): Not reported  
Contact Mailing City/State/Zip: ROSENBERG, TX 77469 7507  
Phone Number/Ext: 832 3109563/0  
Contact Fax Number/Ext: /  
Contact Email Address: Not reported  
Contact Address Deliverable: Y

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**TIME MART 29 (Continued)**

**U004332765**

Facility ID: 135378  
Additional ID: 587409792018316  
Princ ID: 500592612020163  
Al Number: 90272  
Facility Name: TIME MART 29  
AR Number: 81790  
AR UST Number Suffix: Not reported  
AR AST Number Suffix: U  
Contact Name/Title: SAM N ALI/MGR

**TX Financial Assurance 2:**

Name: TIME MART 29  
Address: 24002 CLAY RD  
City,State,Zip: KATY, TX 77493  
Region: 2  
Facility ID: 135378  
Finass ID: 232680  
Al: 90272  
Mechanism Type Other: Not reported  
Multiple Mechanism Types: N  
Coverage Amt per Annual Aggregate: 1,000,000  
Meets Financial Assurance Req Flag: Y  
Financial Responsibility Type: INSURANCE OR RISK RETENTION  
Corrective Action MET Flag: Y  
3rd Party MET Flag: Y  
Financial Assurance Begin Date: 06/03/2020  
Date Financial Assurance Form Rec: 10/15/2020  
Issuer Name: ACE AMERICAN INS CO  
Issuer Phone: 1 215 6401000  
Policy Number: G28313214 001  
Coverage Amount: 1,000,000  
Coverage Expiration Date: 06/03/2021  
Ins Premium Pre-Paid For Entire Yr: Yes  
Proof of Financial Assurance: Yes

Name: TIME MART 29  
Address: 24002 CLAY RD  
City,State,Zip: KATY, TX 77493  
Region: 2  
Facility ID: 135378  
Finass ID: 239792  
Al: 90272  
Mechanism Type Other: Not reported  
Multiple Mechanism Types: N  
Coverage Amt per Annual Aggregate: 1,000,000  
Meets Financial Assurance Req Flag: Y  
Financial Responsibility Type: INSURANCE OR RISK RETENTION  
Corrective Action MET Flag: Y  
3rd Party MET Flag: Y  
Financial Assurance Begin Date: 06/03/2020  
Date Financial Assurance Form Rec: 10/15/2020  
Issuer Name: ACE AMERICAN INS CO  
Issuer Phone: Not reported  
Policy Number: G28313214 001  
Coverage Amount: 1,000,000  
Coverage Expiration Date: 06/03/2021

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**TIME MART 29 (Continued)**

**U004332765**

Ins Premium Pre-Paid For Entire Yr: Yes  
Proof of Financial Assurance: Yes

## ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
HOUSTON	S126765957	DR HOURTON-TEXAS VINEYARD MEADOWS	ON 0.25 MILE W OF INTERSECTION	77449	CENTRAL REGISTRY
HOUSTON	1011326756	DR HOURTON-TEXAS VINEYARD MEADOWS	ON 0.25 MILE W OF INTERSECTION	77449	FINDS
HOUSTON	S126754026	CLAY ROAD IMPROVEMENTS	ON CLAY ROAD, WEST OF PEEK ROAD	77449	CENTRAL REGISTRY
HOUSTON	S126712198	FRY ROAD PAVING AND DRAINAGE FROM	ON FRY ROAD FROM CLAY ROAD TO	77449	CENTRAL REGISTRY
HOUSTON	S126712376	HARRIS COUNTY MASON ROAD	ON MASON RD BETWEEN FRANZ RD &	77449	CENTRAL REGISTRY
HOUSTON	S126814075	MORTON ROAD FROM MASON ROAD TO WES	MORTON ROAD 2.20 MILES NORTH O	77449	CENTRAL REGISTRY
HOUSTON	S126758435	DURWOOD GREENE CONSTRUCTION WESTGR	ON S OF CLAY RD & E OF INTEX O	77449	CENTRAL REGISTRY
KATY	S126727956	CLAY ROAD MUD CYPRESS MEADOWS SECT	ON APPROX 1.5 M N OF INTERX CL	77449	CENTRAL REGISTRY
KATY	S126963285	PORTER ROAD STREET DEDICATION SECT	APPROX. 600 FEET SOUTH OF THE	77493	COMP HIST, CENTRAL REGISTRY
KATY	S126945929	PORTER RANCH SECTION 1	APPROX. 500 FEET SOUTHWEST OF	77493	CENTRAL REGISTRY
KATY	1025824429	PEEK ROAD SOUTH	APPROXIMATELY 500 FT NORTH OF	77493	FINDS
KATY	1025903426	PEEK ROAD SOUTH	APPROXIMATELY 500 FT NORTH OF	77493	ECHO
KATY	S126957427	PEEK ROAD SOUTH	APPROXIMATELY 500 FT NORTH OF	77493	CENTRAL REGISTRY
KATY	S126800682	HCPCD PROJ ID U102-00-00-X010 GENE	CLAY RD TO GREENHOUSE RD	77449	CENTRAL REGISTRY
KATY	1025449729	CLAY ROAD BUSINESS PARK	NORTHWEST CORNER CLAY ROAD & W	77449	FINDS
KATY	S126950996	CLAY ROAD BUSINESS PARK	NORTHWEST CORNER CLAY ROAD & W	77449	CENTRAL REGISTRY
KATY	1024729736	CLAY ROAD BUSINESS PARK	NORTHWEST CORNER CLAY ROAD & W	77449	ECHO
KATY	S126902337	NEC MORTON RANCH ROAD AT HWY 99	NORTHEAST CORNER OF MORTON RAN	77449	CENTRAL REGISTRY
KATY	S126850934	MORTON RANCH ROAD	FROM WEST OF PORTER ROAD TO WE	77449	CENTRAL REGISTRY
KATY	S126875466	MORTON RANCH ROAD SEGMENT 3 FROM E	IMPROVEMENTS TO MORTON RANCH R	77449	CENTRAL REGISTRY
KATY	S126807425	KATY-FORT BEND COUNTY ROAD	KATY-FORT BEND COUNTY ROAD FRO	77493	CENTRAL REGISTRY
KATY	S126897658	PORTER ROAD EXTENSION TO SERVE KIN	KATY-HOCKLEY CUT OFF ROAD AND	77493	CENTRAL REGISTRY
KATY	S126923684	CLAY ROAD COMMERCIAL TRACT	LOCATED IN THE SW QUADRANT OF	77449	CENTRAL REGISTRY
KATY	S126906281	PEEK ROAD PHASE 1	LOCATED AT THE INTERSECTION OF	77449	CENTRAL REGISTRY
KATY	S126813662	MORTON ROAD EXTENSION	LOCATED EAST OF THE INTERSECTI	77449	CENTRAL REGISTRY
KATY	S126907094	PEEK ROAD PHASE 1	LOCATED AT THE INTERSECTION OF	77449	CENTRAL REGISTRY
KATY	S126851431	MORTON RANCH ROAD WEST OF PORTER W	MORTON RANCH ROAD FROM 350 WES	77493	CENTRAL REGISTRY
KATY	S126826363	MORTON RANCH ROAD IMPROVEMENTS W O	MORTON RANCH ROAD IMPROVEMENTS	77449	CENTRAL REGISTRY
KATY	S126956779	COMET CLEANERS	22811 MORTON RANCH RD STE 100	77449	DRYCLEANERS, CENTRAL REGISTF
KATY	S126722583	MASON ROAD LAKES AT MASON PARK	ON NORTH MASON ROAD LEFT OF MO	77449	CENTRAL REGISTRY
KATY	S126957414	PORTER RANCH SEC 2	SOUTHWEST OF THE INTERSECTION	77493	CENTRAL REGISTRY
KATY	S126940741	PORTER RANCH - SECTION 1 2 DETENTI	SOUTHWEST OF THE INTERSECTION	77493	CENTRAL REGISTRY
KATY	S126972941	PORTER RANCH FDC	SOUTHWEST OF THE INTERSECTION	77493	COMP HIST, CENTRAL REGISTRY
KATY	S126950262	PORTER RANCH LENNAR HOMES	SOUTHWEST OF THE INTERSECTION	77493	CENTRAL REGISTRY
KATY	S126787815	MASON ROAD CROSSING 72 STORM SEWER	NORTH OF I-10, SOUTH OF CLAY R	77449	CENTRAL REGISTRY
KATY	S126943486	PORTER RANCH SECTION 1	PORTER ROAD AT STOCKDICK SCHOO	77493	CENTRAL REGISTRY
KATY	1024442064	PORTER RANCH SECTION 1	PORTER ROAD AT STOCKDICK SCHOO	77493	FINDS, ECHO
KATY	1024440406	PITTS ROAD & CLAY ROAD TRACT	NW QUADRANT OF INTERSECTION OF	77493	FINDS, ECHO
KATY	S126912005	PITTS ROAD & CLAY ROAD TRACT	NW QUADRANT OF INTERSECTION OF	77493	CENTRAL REGISTRY
KATY	S126912434	PITTS ROAD & CLAY ROAD TRACT - LAK	NW QUADRANT OF INTERSECTION OF	77493	CENTRAL REGISTRY
KATY	S126912191	SH 99 SOUTH BOUND FRONTAGE ROAD IM	SITE IS LOCATED ON SH 99/GRAND	77449	CENTRAL REGISTRY
KATY	S126715176	HARRIS COUNTY MORTON ROAD SANITARY	ON THE SE INT OF MORTON RD AND	77449	CENTRAL REGISTRY

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

**Number of Days to Update:** Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

## **STANDARD ENVIRONMENTAL RECORDS**

### ***Federal NPL site list***

#### **NPL: National Priority List**

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/27/2021	Source: EPA
Date Data Arrived at EDR: 05/03/2021	Telephone: N/A
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 06/29/2021
Number of Days to Update: 16	Next Scheduled EDR Contact: 10/11/2021
	Data Release Frequency: Quarterly

#### **NPL Site Boundaries**

##### **Sources:**

EPA's Environmental Photographic Interpretation Center (EPIC)  
Telephone: 202-564-7333

EPA Region 1  
Telephone 617-918-1143

EPA Region 6  
Telephone: 214-655-6659

EPA Region 3  
Telephone 215-814-5418

EPA Region 7  
Telephone: 913-551-7247

EPA Region 4  
Telephone 404-562-8033

EPA Region 8  
Telephone: 303-312-6774

EPA Region 5  
Telephone 312-886-6686

EPA Region 9  
Telephone: 415-947-4246

EPA Region 10  
Telephone 206-553-8665

#### **Proposed NPL: Proposed National Priority List Sites**

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 04/27/2021	Source: EPA
Date Data Arrived at EDR: 05/03/2021	Telephone: N/A
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 06/29/2021
Number of Days to Update: 16	Next Scheduled EDR Contact: 10/11/2021
	Data Release Frequency: Quarterly

#### **NPL LIENS: Federal Superfund Liens**

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/15/1991  
Date Data Arrived at EDR: 02/02/1994  
Date Made Active in Reports: 03/30/1994  
Number of Days to Update: 56

Source: EPA  
Telephone: 202-564-4267  
Last EDR Contact: 08/15/2011  
Next Scheduled EDR Contact: 11/28/2011  
Data Release Frequency: No Update Planned

## ***Federal Delisted NPL site list***

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 04/27/2021  
Date Data Arrived at EDR: 05/03/2021  
Date Made Active in Reports: 05/19/2021  
Number of Days to Update: 16

Source: EPA  
Telephone: N/A  
Last EDR Contact: 06/29/2021  
Next Scheduled EDR Contact: 10/11/2021  
Data Release Frequency: Quarterly

## ***Federal CERCLIS list***

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 02/22/2021  
Date Data Arrived at EDR: 03/30/2021  
Date Made Active in Reports: 06/17/2021  
Number of Days to Update: 79

Source: Environmental Protection Agency  
Telephone: 703-603-8704  
Last EDR Contact: 06/23/2021  
Next Scheduled EDR Contact: 10/11/2021  
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 04/27/2021  
Date Data Arrived at EDR: 05/03/2021  
Date Made Active in Reports: 05/19/2021  
Number of Days to Update: 16

Source: EPA  
Telephone: 800-424-9346  
Last EDR Contact: 06/29/2021  
Next Scheduled EDR Contact: 10/25/2021  
Data Release Frequency: Quarterly

## ***Federal CERCLIS NFRAP site list***

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 04/27/2021	Source: EPA
Date Data Arrived at EDR: 05/03/2021	Telephone: 800-424-9346
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 06/29/2021
Number of Days to Update: 16	Next Scheduled EDR Contact: 10/25/2021
	Data Release Frequency: Quarterly

## ***Federal RCRA CORRACTS facilities list***

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/22/2021	Source: EPA
Date Data Arrived at EDR: 03/23/2021	Telephone: 800-424-9346
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 06/21/2021
Number of Days to Update: 57	Next Scheduled EDR Contact: 10/04/2021
	Data Release Frequency: Quarterly

## ***Federal RCRA non-CORRACTS TSD facilities list***

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/22/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/23/2021	Telephone: 214-665-6444
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 06/21/2021
Number of Days to Update: 57	Next Scheduled EDR Contact: 10/04/2021
	Data Release Frequency: Quarterly

## ***Federal RCRA generators list***

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/22/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/23/2021	Telephone: 214-665-6444
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 06/21/2021
Number of Days to Update: 57	Next Scheduled EDR Contact: 10/04/2021
	Data Release Frequency: Quarterly



# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/22/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/23/2021	Telephone: 214-665-6444
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 06/21/2021
Number of Days to Update: 57	Next Scheduled EDR Contact: 10/04/2021
	Data Release Frequency: Quarterly

## RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/22/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/23/2021	Telephone: 214-665-6444
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 06/21/2021
Number of Days to Update: 57	Next Scheduled EDR Contact: 10/04/2021
	Data Release Frequency: Quarterly

## ***Federal institutional controls / engineering controls registries***

### LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 02/09/2021	Source: Department of the Navy
Date Data Arrived at EDR: 02/11/2021	Telephone: 843-820-7326
Date Made Active in Reports: 03/22/2021	Last EDR Contact: 05/05/2021
Number of Days to Update: 39	Next Scheduled EDR Contact: 08/23/2021
	Data Release Frequency: Varies

### US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 02/22/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/23/2021	Telephone: 703-603-0695
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 05/21/2021
Number of Days to Update: 85	Next Scheduled EDR Contact: 09/06/2021
	Data Release Frequency: Varies

### US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 02/22/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/23/2021	Telephone: 703-603-0695
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 05/21/2021
Number of Days to Update: 85	Next Scheduled EDR Contact: 09/06/2021
	Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## ***Federal ERNS list***

### **ERNS: Emergency Response Notification System**

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/22/2021  
Date Data Arrived at EDR: 03/24/2021  
Date Made Active in Reports: 06/17/2021  
Number of Days to Update: 85

Source: National Response Center, United States Coast Guard  
Telephone: 202-267-2180  
Last EDR Contact: 06/17/2021  
Next Scheduled EDR Contact: 10/04/2021  
Data Release Frequency: Quarterly

## ***State- and tribal - equivalent NPL***

### **SHWS: State Superfund Registry**

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 06/30/2020  
Date Data Arrived at EDR: 07/17/2020  
Date Made Active in Reports: 10/06/2020  
Number of Days to Update: 81

Source: Texas Commission on Environmental Quality  
Telephone: 512-239-5680  
Last EDR Contact: 06/16/2021  
Next Scheduled EDR Contact: 10/04/2021  
Data Release Frequency: Semi-Annually

## ***State and tribal landfill and/or solid waste disposal site lists***

### **SWF/LF: Permitted Solid Waste Facilities**

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 04/26/2021  
Date Data Arrived at EDR: 04/27/2021  
Date Made Active in Reports: 07/16/2021  
Number of Days to Update: 80

Source: Texas Commission on Environmental Quality  
Telephone: 512-239-6706  
Last EDR Contact: 07/13/2021  
Next Scheduled EDR Contact: 10/31/2021  
Data Release Frequency: Quarterly

### **DEBRIS: DEBRIS**

A listing of temporary debris management sites and MSW landfills for debris resulting from Hurricane Harvey.

Date of Government Version: 03/27/2018  
Date Data Arrived at EDR: 04/04/2018  
Date Made Active in Reports: 06/08/2018  
Number of Days to Update: 65

Source: Texas Commission on Environmental Quality  
Telephone: 512-239-6840  
Last EDR Contact: 06/03/2021  
Next Scheduled EDR Contact: 09/20/2021  
Data Release Frequency: Varies

### **H-GAC CLI: Houston-Galveston Closed Landfill Inventory**

Closed Landfill Inventory for the Houston-Galveston Area Council Region. In 1993, the Texas Legislature passed House Bill (HB) 2537, which required Councils of Governments (COGs) to develop an inventory of closed municipal solid waste landfills for their regional solid waste management plans.

Date of Government Version: 03/30/2021  
Date Data Arrived at EDR: 03/31/2021  
Date Made Active in Reports: 06/23/2021  
Number of Days to Update: 84

Source: Houston-Galveston Area Council  
Telephone: 832-681-2518  
Last EDR Contact: 06/28/2021  
Next Scheduled EDR Contact: 10/11/2021  
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## CLI: Closed Landfill Inventory

Closed and abandoned landfills (permitted as well as unauthorized) across the state of Texas. For current information regarding any of the sites included in this database, contact the appropriate Council of Governments agency.

Date of Government Version: 08/30/1999	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 09/28/2000	Telephone: N/A
Date Made Active in Reports: 10/30/2000	Last EDR Contact: 06/23/2021
Number of Days to Update: 32	Next Scheduled EDR Contact: 10/11/2021
	Data Release Frequency: Varies

## WASTE MGMT: Commercial Hazardous & Solid Waste Management Facilities

This list contains commercial recycling facilities and facilities permitted or authorized (interim status) by the Texas Natural Resource Conservation Commission.

Date of Government Version: 10/16/2019	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 01/10/2020	Telephone: 512-239-2920
Date Made Active in Reports: 03/18/2020	Last EDR Contact: 07/02/2021
Number of Days to Update: 68	Next Scheduled EDR Contact: 10/11/2021
	Data Release Frequency: Varies

## **State and tribal leaking storage tank lists**

### INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/12/2020	Source: EPA Region 10
Date Data Arrived at EDR: 12/16/2020	Telephone: 206-553-2857
Date Made Active in Reports: 03/12/2021	Last EDR Contact: 06/11/2021
Number of Days to Update: 86	Next Scheduled EDR Contact: 11/01/2021
	Data Release Frequency: Varies

### INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 10/07/2020	Source: EPA, Region 5
Date Data Arrived at EDR: 12/16/2020	Telephone: 312-886-7439
Date Made Active in Reports: 03/12/2021	Last EDR Contact: 06/11/2021
Number of Days to Update: 86	Next Scheduled EDR Contact: 11/01/2021
	Data Release Frequency: Varies

### INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 10/01/2020	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/16/2020	Telephone: 415-972-3372
Date Made Active in Reports: 03/12/2021	Last EDR Contact: 06/11/2021
Number of Days to Update: 86	Next Scheduled EDR Contact: 11/01/2021
	Data Release Frequency: Varies

### INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/09/2020	Source: EPA Region 8
Date Data Arrived at EDR: 12/16/2020	Telephone: 303-312-6271
Date Made Active in Reports: 03/12/2021	Last EDR Contact: 06/11/2021
Number of Days to Update: 86	Next Scheduled EDR Contact: 11/01/2021
	Data Release Frequency: Varies

### INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/30/2020	Source: EPA Region 7
Date Data Arrived at EDR: 12/22/2020	Telephone: 913-551-7003
Date Made Active in Reports: 03/12/2021	Last EDR Contact: 06/11/2021
Number of Days to Update: 80	Next Scheduled EDR Contact: 11/01/2021
	Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land  
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/02/2020	Source: EPA Region 4
Date Data Arrived at EDR: 12/18/2020	Telephone: 404-562-8677
Date Made Active in Reports: 03/12/2021	Last EDR Contact: 06/17/2021
Number of Days to Update: 84	Next Scheduled EDR Contact: 11/01/2021
	Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land  
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/01/2020	Source: EPA Region 1
Date Data Arrived at EDR: 12/16/2020	Telephone: 617-918-1313
Date Made Active in Reports: 03/12/2021	Last EDR Contact: 06/11/2021
Number of Days to Update: 86	Next Scheduled EDR Contact: 11/01/2021
	Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land  
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/08/2020	Source: EPA Region 6
Date Data Arrived at EDR: 05/20/2020	Telephone: 214-665-6597
Date Made Active in Reports: 08/12/2020	Last EDR Contact: 06/11/2021
Number of Days to Update: 84	Next Scheduled EDR Contact: 11/01/2021
	Data Release Frequency: Varies

LPST: Leaking Petroleum Storage Tank Database

An inventory of reported leaking petroleum storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 03/25/2021	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 03/30/2021	Telephone: 512-239-2200
Date Made Active in Reports: 06/22/2021	Last EDR Contact: 06/16/2021
Number of Days to Update: 84	Next Scheduled EDR Contact: 10/04/2021
	Data Release Frequency: Quarterly

## ***State and tribal registered storage tank lists***

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/29/2021	Source: FEMA
Date Data Arrived at EDR: 02/17/2021	Telephone: 202-646-5797
Date Made Active in Reports: 03/22/2021	Last EDR Contact: 06/29/2021
Number of Days to Update: 33	Next Scheduled EDR Contact: 10/18/2021
	Data Release Frequency: Varies

UST: Petroleum Storage Tank Database

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/05/2021  
Date Data Arrived at EDR: 03/24/2021  
Date Made Active in Reports: 06/16/2021  
Number of Days to Update: 84

Source: Texas Commission on Environmental Quality  
Telephone: 512-239-2160  
Last EDR Contact: 06/22/2021  
Next Scheduled EDR Contact: 10/04/2021  
Data Release Frequency: Quarterly

AST: Petroleum Storage Tank Database  
Registered Aboveground Storage Tanks.

Date of Government Version: 03/05/2021  
Date Data Arrived at EDR: 03/24/2021  
Date Made Active in Reports: 06/16/2021  
Number of Days to Update: 84

Source: Texas Commission on Environmental Quality  
Telephone: 512-239-2160  
Last EDR Contact: 06/22/2021  
Next Scheduled EDR Contact: 10/04/2021  
Data Release Frequency: Quarterly

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/08/2020  
Date Data Arrived at EDR: 05/20/2020  
Date Made Active in Reports: 08/12/2020  
Number of Days to Update: 84

Source: EPA Region 6  
Telephone: 214-665-7591  
Last EDR Contact: 06/11/2021  
Next Scheduled EDR Contact: 11/01/2021  
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/30/2020  
Date Data Arrived at EDR: 12/22/2020  
Date Made Active in Reports: 03/12/2021  
Number of Days to Update: 80

Source: EPA Region 7  
Telephone: 913-551-7003  
Last EDR Contact: 06/11/2021  
Next Scheduled EDR Contact: 11/01/2021  
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 10/02/2020  
Date Data Arrived at EDR: 12/18/2020  
Date Made Active in Reports: 03/12/2021  
Number of Days to Update: 84

Source: EPA Region 4  
Telephone: 404-562-9424  
Last EDR Contact: 06/17/2021  
Next Scheduled EDR Contact: 11/01/2021  
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/01/2020  
Date Data Arrived at EDR: 12/16/2020  
Date Made Active in Reports: 03/12/2021  
Number of Days to Update: 86

Source: EPA, Region 1  
Telephone: 617-918-1313  
Last EDR Contact: 06/11/2021  
Next Scheduled EDR Contact: 11/01/2021  
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/07/2020  
Date Data Arrived at EDR: 12/16/2020  
Date Made Active in Reports: 03/12/2021  
Number of Days to Update: 86

Source: EPA Region 5  
Telephone: 312-886-6136  
Last EDR Contact: 06/11/2021  
Next Scheduled EDR Contact: 11/01/2021  
Data Release Frequency: Varies

## INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/09/2020  
Date Data Arrived at EDR: 12/16/2020  
Date Made Active in Reports: 03/12/2021  
Number of Days to Update: 86

Source: EPA Region 8  
Telephone: 303-312-6137  
Last EDR Contact: 06/11/2021  
Next Scheduled EDR Contact: 11/01/2021  
Data Release Frequency: Varies

## INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 10/01/2020  
Date Data Arrived at EDR: 12/16/2020  
Date Made Active in Reports: 03/12/2021  
Number of Days to Update: 86

Source: EPA Region 9  
Telephone: 415-972-3368  
Last EDR Contact: 06/11/2021  
Next Scheduled EDR Contact: 11/01/2021  
Data Release Frequency: Varies

## INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 11/12/2020  
Date Data Arrived at EDR: 12/16/2020  
Date Made Active in Reports: 03/12/2021  
Number of Days to Update: 86

Source: EPA Region 10  
Telephone: 206-553-2857  
Last EDR Contact: 06/11/2021  
Next Scheduled EDR Contact: 11/01/2021  
Data Release Frequency: Varies

## ***State and tribal institutional control / engineering control registries***

### AUL: Sites with Controls

Activity and use limitations include both engineering controls and institutional controls.

Date of Government Version: 12/22/2020  
Date Data Arrived at EDR: 01/28/2021  
Date Made Active in Reports: 04/20/2021  
Number of Days to Update: 82

Source: Texas Commission on Environmental Quality  
Telephone: 512-239-5891  
Last EDR Contact: 06/23/2021  
Next Scheduled EDR Contact: 10/11/2021  
Data Release Frequency: Varies

## ***State and tribal voluntary cleanup sites***

### VCP RRC: Voluntary Cleanup Program Sites

The Voluntary Cleanup Program (RRC-VCP) provides an incentive to remediate Oil & Gas related pollution by participants as long as they did not cause or contribute to the contamination. Applicants to the program receive a release of liability to the state in exchange for a successful cleanup.

Date of Government Version: 03/30/2021  
Date Data Arrived at EDR: 04/01/2021  
Date Made Active in Reports: 06/23/2021  
Number of Days to Update: 83

Source: Railroad Commission of Texas  
Telephone: 512-463-6969  
Last EDR Contact: 06/28/2021  
Next Scheduled EDR Contact: 10/11/2021  
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## VCP TCEQ: Voluntary Cleanup Program Database

The Texas Voluntary Cleanup Program was established to provide administrative, technical, and legal incentives to encourage the cleanup of contaminated sites in Texas.

Date of Government Version: 03/31/2021	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 04/13/2021	Telephone: 512-239-5891
Date Made Active in Reports: 07/01/2021	Last EDR Contact: 07/02/2021
Number of Days to Update: 79	Next Scheduled EDR Contact: 10/11/2021
	Data Release Frequency: Quarterly

## INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015	Source: EPA, Region 1
Date Data Arrived at EDR: 09/29/2015	Telephone: 617-918-1102
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 06/15/2021
Number of Days to Update: 142	Next Scheduled EDR Contact: 10/04/2021
	Data Release Frequency: No Update Planned

## INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008	Source: EPA, Region 7
Date Data Arrived at EDR: 04/22/2008	Telephone: 913-551-7365
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 07/08/2021
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: No Update Planned

## **State and tribal Brownfields sites**

### BROWNFIELDS: Brownfields Site Assessments

Brownfield site assessments that are being cleaned under EPA grant monies.

Date of Government Version: 03/01/2021	Source: TCEQ
Date Data Arrived at EDR: 03/31/2021	Telephone: 512-239-5872
Date Made Active in Reports: 06/22/2021	Last EDR Contact: 07/02/2021
Number of Days to Update: 83	Next Scheduled EDR Contact: 10/11/2021
	Data Release Frequency: Semi-Annually

## **ADDITIONAL ENVIRONMENTAL RECORDS**

### **Local Brownfield lists**

#### US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 03/15/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/16/2021	Telephone: 202-566-2777
Date Made Active in Reports: 06/10/2021	Last EDR Contact: 06/10/2021
Number of Days to Update: 86	Next Scheduled EDR Contact: 09/27/2021
	Data Release Frequency: Semi-Annually

### **Local Lists of Landfill / Solid Waste Disposal Sites**

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## NCTCOG LI: North Central Landfill Inventory

North Central Texas Council of Governments landfill database.

Date of Government Version: 03/30/2021  
Date Data Arrived at EDR: 03/31/2021  
Date Made Active in Reports: 06/23/2021  
Number of Days to Update: 84

Source: North Central Texas Council of Governments  
Telephone: 817-695-9223  
Last EDR Contact: 06/28/2021  
Next Scheduled EDR Contact: 10/11/2021  
Data Release Frequency: Varies

## CAPCOG LI: Capitol Area Landfill Inventory

Permitted and unpermitted landfills for the CAPCOG region. Serving Bastrop, Blanco, Burnet, Caldwell, Fayette, Hays, Lee, Llano, Travis, and Williamson Counties.

Date of Government Version: 01/06/2017  
Date Data Arrived at EDR: 01/10/2017  
Date Made Active in Reports: 03/15/2017  
Number of Days to Update: 64

Source: Capital Area Council of Governments  
Telephone: 512-916-6000  
Last EDR Contact: 06/23/2021  
Next Scheduled EDR Contact: 10/11/2021  
Data Release Frequency: Varies

## SWRCY: Recycling Facility Listing

A listing of recycling facilities in the state.

Date of Government Version: 02/12/2021  
Date Data Arrived at EDR: 02/23/2021  
Date Made Active in Reports: 05/13/2021  
Number of Days to Update: 79

Source: TCEQ  
Telephone: 512-239-6700  
Last EDR Contact: 05/06/2021  
Next Scheduled EDR Contact: 08/23/2021  
Data Release Frequency: Varies

## INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998  
Date Data Arrived at EDR: 12/03/2007  
Date Made Active in Reports: 01/24/2008  
Number of Days to Update: 52

Source: Environmental Protection Agency  
Telephone: 703-308-8245  
Last EDR Contact: 07/20/2021  
Next Scheduled EDR Contact: 11/08/2021  
Data Release Frequency: No Update Planned

## ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985  
Date Data Arrived at EDR: 08/09/2004  
Date Made Active in Reports: 09/17/2004  
Number of Days to Update: 39

Source: Environmental Protection Agency  
Telephone: 800-424-9346  
Last EDR Contact: 06/09/2004  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

## DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009  
Date Data Arrived at EDR: 05/07/2009  
Date Made Active in Reports: 09/21/2009  
Number of Days to Update: 137

Source: EPA, Region 9  
Telephone: 415-947-4219  
Last EDR Contact: 07/13/2021  
Next Scheduled EDR Contact: 11/01/2021  
Data Release Frequency: No Update Planned

## IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.



# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/01/2014  
Date Data Arrived at EDR: 08/06/2014  
Date Made Active in Reports: 01/29/2015  
Number of Days to Update: 176

Source: Department of Health & Human Services, Indian Health Service  
Telephone: 301-443-1452  
Last EDR Contact: 07/20/2021  
Next Scheduled EDR Contact: 11/08/2021  
Data Release Frequency: Varies

## **Local Lists of Hazardous waste / Contaminated Sites**

### **US HIST CDL: National Clandestine Laboratory Register**

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 12/07/2020  
Date Data Arrived at EDR: 12/09/2020  
Date Made Active in Reports: 03/02/2021  
Number of Days to Update: 83

Source: Drug Enforcement Administration  
Telephone: 202-307-1000  
Last EDR Contact: 05/22/2021  
Next Scheduled EDR Contact: 09/06/2021  
Data Release Frequency: No Update Planned

### **CDL: Clandestine Drug Site Locations Listing**

A listing of former clandestine drug site locations

Date of Government Version: 08/07/2017  
Date Data Arrived at EDR: 08/15/2017  
Date Made Active in Reports: 05/11/2018  
Number of Days to Update: 269

Source: Department of Public Safety  
Telephone: 512-424-2144  
Last EDR Contact: 07/21/2021  
Next Scheduled EDR Contact: 11/08/2021  
Data Release Frequency: Varies

### **PRIORITY CLEANERS: Dry Cleaner Remediation Program Prioritization List**

A listing of dry cleaner related contaminated sites.

Date of Government Version: 09/01/2020  
Date Data Arrived at EDR: 12/02/2020  
Date Made Active in Reports: 02/19/2021  
Number of Days to Update: 79

Source: Texas Commission on Environmental Quality  
Telephone: 512-239-5658  
Last EDR Contact: 06/01/2021  
Next Scheduled EDR Contact: 09/13/2021  
Data Release Frequency: Varies

### **DEL SHWS: Deleted Superfund Registry Sites**

Sites have been deleted from the state Superfund registry in accordance with the Act, ?361.189

Date of Government Version: 06/30/2020  
Date Data Arrived at EDR: 07/17/2020  
Date Made Active in Reports: 10/06/2020  
Number of Days to Update: 81

Source: Texas Commission on Environmental Quality  
Telephone: 512-239-0666  
Last EDR Contact: 06/16/2021  
Next Scheduled EDR Contact: 10/04/2021  
Data Release Frequency: Quarterly

### **US CDL: Clandestine Drug Labs**

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 12/07/2020  
Date Data Arrived at EDR: 12/09/2020  
Date Made Active in Reports: 03/02/2021  
Number of Days to Update: 83

Source: Drug Enforcement Administration  
Telephone: 202-307-1000  
Last EDR Contact: 05/18/2021  
Next Scheduled EDR Contact: 09/06/2021  
Data Release Frequency: Quarterly

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## CENTRAL REGISTRY: The Central Registry

The Central Registry, a common record area of the TCEQ, maintains information about TCEQ customers and regulated activities, such as company names, addresses, and telephone numbers. This information is commonly referred to as a core data. The Central Registry provides the regulated community with a central access point within the agency to check core data and make changes when necessary.

Date of Government Version: 02/26/2021	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 03/01/2021	Telephone: 512-239-5175
Date Made Active in Reports: 03/11/2021	Last EDR Contact: 06/23/2021
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/11/2021
	Data Release Frequency: Varies

## PFAS: PFAS Contamination Site Location Listing

PFOS and PFOA stand for perfluorooctane sulfonate and perfluorooctanoic acid, respectively. Both are fluorinated organic chemicals, part of a larger family of compounds referred to as perfluoroalkyl substances (PFASs).

Date of Government Version: 03/09/2021	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 03/12/2021	Telephone: 512-239-2341
Date Made Active in Reports: 06/01/2021	Last EDR Contact: 05/27/2021
Number of Days to Update: 81	Next Scheduled EDR Contact: 09/13/2021
	Data Release Frequency: Varies

## Local Lists of Registered Storage Tanks

### NON REGIST PST: Petroleum Storage Tank Non Registered

A listing of non-registered petroleum storage tank site locations.

Date of Government Version: 05/06/2021	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 05/07/2021	Telephone: 512-239-2081
Date Made Active in Reports: 06/08/2021	Last EDR Contact: 07/27/2021
Number of Days to Update: 32	Next Scheduled EDR Contact: 11/15/2021
	Data Release Frequency: Quarterly

## Local Land Records

### HIST LIENS: Environmental Liens Listing

This listing contains information fields that are no longer tracked in the LIENS database.

Date of Government Version: 03/23/2007	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 03/23/2007	Telephone: 512-239-2209
Date Made Active in Reports: 05/02/2007	Last EDR Contact: 12/17/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

### LIENS: Environmental Liens Listing

The listing covers TCEQ liens placed against either State Superfund sites or Federal Superfund sites to recover cost incurred by TCEQ.

Date of Government Version: 03/31/2021	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 04/20/2021	Telephone: 512-239-2209
Date Made Active in Reports: 04/22/2021	Last EDR Contact: 06/23/2021
Number of Days to Update: 2	Next Scheduled EDR Contact: 10/11/2021
	Data Release Frequency: Varies

### LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/27/2021  
Date Data Arrived at EDR: 05/03/2021  
Date Made Active in Reports: 05/19/2021  
Number of Days to Update: 16

Source: Environmental Protection Agency  
Telephone: 202-564-6023  
Last EDR Contact: 06/29/2021  
Next Scheduled EDR Contact: 10/11/2021  
Data Release Frequency: Semi-Annually

## **Records of Emergency Release Reports**

### HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/22/2021  
Date Data Arrived at EDR: 03/24/2021  
Date Made Active in Reports: 06/17/2021  
Number of Days to Update: 85

Source: U.S. Department of Transportation  
Telephone: 202-366-4555  
Last EDR Contact: 06/17/2021  
Next Scheduled EDR Contact: 10/04/2021  
Data Release Frequency: Quarterly

### SPILLS: Spills Database

Spills reported to the Emergency Response Division.

Date of Government Version: 02/12/2021  
Date Data Arrived at EDR: 02/12/2021  
Date Made Active in Reports: 05/11/2021  
Number of Days to Update: 88

Source: Texas Commission on Environmental Quality  
Telephone: 512-239-2507  
Last EDR Contact: 07/07/2021  
Next Scheduled EDR Contact: 10/25/2021  
Data Release Frequency: Quarterly

### SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 10/23/2012  
Date Data Arrived at EDR: 01/03/2013  
Date Made Active in Reports: 03/07/2013  
Number of Days to Update: 63

Source: FirstSearch  
Telephone: N/A  
Last EDR Contact: 01/03/2013  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

### SPILLS 80: SPILLS80 data from FirstSearch

Spills 80 includes those spill and release records available from FirstSearch databases prior to 1990. Typically, they may include chemical, oil and/or hazardous substance spills recorded before 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 80.

Date of Government Version: 05/15/2005  
Date Data Arrived at EDR: 01/03/2013  
Date Made Active in Reports: 03/07/2013  
Number of Days to Update: 63

Source: FirstSearch  
Telephone: N/A  
Last EDR Contact: 01/03/2013  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

## **Other Ascertainable Records**

### RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/22/2021  
Date Data Arrived at EDR: 03/23/2021  
Date Made Active in Reports: 05/19/2021  
Number of Days to Update: 57

Source: Environmental Protection Agency  
Telephone: 214-665-6444  
Last EDR Contact: 06/21/2021  
Next Scheduled EDR Contact: 10/04/2021  
Data Release Frequency: Quarterly

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 02/11/2021	Source: U.S. Army Corps of Engineers
Date Data Arrived at EDR: 02/17/2021	Telephone: 202-528-4285
Date Made Active in Reports: 04/05/2021	Last EDR Contact: 05/18/2021
Number of Days to Update: 47	Next Scheduled EDR Contact: 08/30/2021
	Data Release Frequency: Varies

## DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 11/10/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 07/13/2021
Number of Days to Update: 62	Next Scheduled EDR Contact: 10/25/2021
	Data Release Frequency: Varies

## FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018	Source: U.S. Geological Survey
Date Data Arrived at EDR: 04/11/2018	Telephone: 888-275-8747
Date Made Active in Reports: 11/06/2019	Last EDR Contact: 07/09/2021
Number of Days to Update: 574	Next Scheduled EDR Contact: 10/18/2021
	Data Release Frequency: N/A

## SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/03/2017	Telephone: 615-532-8599
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 05/18/2021
Number of Days to Update: 63	Next Scheduled EDR Contact: 08/23/2021
	Data Release Frequency: Varies

## US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/22/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/23/2021	Telephone: 202-566-1917
Date Made Active in Reports: 06/17/2021	Last EDR Contact: 06/21/2021
Number of Days to Update: 86	Next Scheduled EDR Contact: 10/04/2021
	Data Release Frequency: Quarterly

## EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/30/2013  
Date Data Arrived at EDR: 03/21/2014  
Date Made Active in Reports: 06/17/2014  
Number of Days to Update: 88

Source: Environmental Protection Agency  
Telephone: 617-520-3000  
Last EDR Contact: 07/26/2021  
Next Scheduled EDR Contact: 11/15/2021  
Data Release Frequency: No Update Planned

## 2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017  
Date Data Arrived at EDR: 05/08/2018  
Date Made Active in Reports: 07/20/2018  
Number of Days to Update: 73

Source: Environmental Protection Agency  
Telephone: 703-308-4044  
Last EDR Contact: 05/07/2021  
Next Scheduled EDR Contact: 08/16/2021  
Data Release Frequency: Varies

## TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016  
Date Data Arrived at EDR: 06/17/2020  
Date Made Active in Reports: 09/10/2020  
Number of Days to Update: 85

Source: EPA  
Telephone: 202-260-5521  
Last EDR Contact: 06/17/2021  
Next Scheduled EDR Contact: 09/27/2021  
Data Release Frequency: Every 4 Years

## TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2018  
Date Data Arrived at EDR: 08/14/2020  
Date Made Active in Reports: 11/04/2020  
Number of Days to Update: 82

Source: EPA  
Telephone: 202-566-0250  
Last EDR Contact: 05/17/2021  
Next Scheduled EDR Contact: 08/30/2021  
Data Release Frequency: Annually

## SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 04/19/2021  
Date Data Arrived at EDR: 04/20/2021  
Date Made Active in Reports: 07/16/2021  
Number of Days to Update: 87

Source: EPA  
Telephone: 202-564-4203  
Last EDR Contact: 07/19/2021  
Next Scheduled EDR Contact: 11/01/2021  
Data Release Frequency: Annually

## ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 04/27/2021  
Date Data Arrived at EDR: 05/03/2021  
Date Made Active in Reports: 05/19/2021  
Number of Days to Update: 16

Source: EPA  
Telephone: 703-416-0223  
Last EDR Contact: 06/29/2021  
Next Scheduled EDR Contact: 09/13/2021  
Data Release Frequency: Annually

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 01/22/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/18/2021	Telephone: 202-564-8600
Date Made Active in Reports: 05/11/2021	Last EDR Contact: 07/14/2021
Number of Days to Update: 82	Next Scheduled EDR Contact: 11/01/2021
	Data Release Frequency: Varies

## RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 06/02/2008
Number of Days to Update: 35	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: No Update Planned

## PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 12/30/2020	Source: EPA
Date Data Arrived at EDR: 01/14/2021	Telephone: 202-564-6023
Date Made Active in Reports: 03/05/2021	Last EDR Contact: 06/29/2021
Number of Days to Update: 50	Next Scheduled EDR Contact: 08/16/2021
	Data Release Frequency: Quarterly

## PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 11/19/2020	Source: EPA
Date Data Arrived at EDR: 01/08/2021	Telephone: 202-566-0500
Date Made Active in Reports: 03/22/2021	Last EDR Contact: 07/09/2021
Number of Days to Update: 73	Next Scheduled EDR Contact: 10/18/2021
	Data Release Frequency: Annually

## ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/23/2016	Telephone: 202-564-2501
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 06/29/2021
Number of Days to Update: 79	Next Scheduled EDR Contact: 10/18/2021
	Data Release Frequency: No Update Planned

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

**FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)**  
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: No Update Planned

**FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)**  
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009	Source: EPA
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: No Update Planned

**MLTS: Material Licensing Tracking System**

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/08/2021	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 03/11/2021	Telephone: 301-415-7169
Date Made Active in Reports: 05/11/2021	Last EDR Contact: 07/14/2021
Number of Days to Update: 61	Next Scheduled EDR Contact: 11/01/2021
	Data Release Frequency: Quarterly

**COAL ASH DOE: Steam-Electric Plant Operation Data**

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2019	Source: Department of Energy
Date Data Arrived at EDR: 12/01/2020	Telephone: 202-586-8719
Date Made Active in Reports: 02/09/2021	Last EDR Contact: 05/27/2021
Number of Days to Update: 70	Next Scheduled EDR Contact: 09/13/2021
	Data Release Frequency: Varies

**COAL ASH EPA: Coal Combustion Residues Surface Impoundments List**

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/05/2019	Telephone: N/A
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 05/27/2021
Number of Days to Update: 251	Next Scheduled EDR Contact: 09/13/2021
	Data Release Frequency: Varies

**PCB TRANSFORMER: PCB Transformer Registration Database**

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/06/2019	Telephone: 202-566-0517
Date Made Active in Reports: 02/10/2020	Last EDR Contact: 05/07/2021
Number of Days to Update: 96	Next Scheduled EDR Contact: 08/16/2021
	Data Release Frequency: Varies

**RADINFO: Radiation Information Database**

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/01/2019  
Date Data Arrived at EDR: 07/01/2019  
Date Made Active in Reports: 09/23/2019  
Number of Days to Update: 84

Source: Environmental Protection Agency  
Telephone: 202-343-9775  
Last EDR Contact: 06/22/2021  
Next Scheduled EDR Contact: 10/11/2021  
Data Release Frequency: No Update Planned

## HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006  
Date Data Arrived at EDR: 03/01/2007  
Date Made Active in Reports: 04/10/2007  
Number of Days to Update: 40

Source: Environmental Protection Agency  
Telephone: 202-564-2501  
Last EDR Contact: 12/17/2007  
Next Scheduled EDR Contact: 03/17/2008  
Data Release Frequency: No Update Planned

## HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006  
Date Data Arrived at EDR: 03/01/2007  
Date Made Active in Reports: 04/10/2007  
Number of Days to Update: 40

Source: Environmental Protection Agency  
Telephone: 202-564-2501  
Last EDR Contact: 12/17/2008  
Next Scheduled EDR Contact: 03/17/2008  
Data Release Frequency: No Update Planned

## DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020  
Date Data Arrived at EDR: 01/28/2020  
Date Made Active in Reports: 04/17/2020  
Number of Days to Update: 80

Source: Department of Transportation, Office of Pipeline Safety  
Telephone: 202-366-4595  
Last EDR Contact: 07/23/2021  
Next Scheduled EDR Contact: 11/08/2021  
Data Release Frequency: Quarterly

## CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2021  
Date Data Arrived at EDR: 07/14/2021  
Date Made Active in Reports: 07/16/2021  
Number of Days to Update: 2

Source: Department of Justice, Consent Decree Library  
Telephone: Varies  
Last EDR Contact: 07/02/2021  
Next Scheduled EDR Contact: 10/18/2021  
Data Release Frequency: Varies

## BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2017  
Date Data Arrived at EDR: 06/22/2020  
Date Made Active in Reports: 11/20/2020  
Number of Days to Update: 151

Source: EPA/NTIS  
Telephone: 800-424-9346  
Last EDR Contact: 06/21/2021  
Next Scheduled EDR Contact: 10/04/2021  
Data Release Frequency: Biennially



# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014	Source: USGS
Date Data Arrived at EDR: 07/14/2015	Telephone: 202-208-3710
Date Made Active in Reports: 01/10/2017	Last EDR Contact: 07/02/2021
Number of Days to Update: 546	Next Scheduled EDR Contact: 10/18/2021
	Data Release Frequency: Varies

## FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017	Source: Department of Energy
Date Data Arrived at EDR: 09/11/2018	Telephone: 202-586-3559
Date Made Active in Reports: 09/14/2018	Last EDR Contact: 07/23/2021
Number of Days to Update: 3	Next Scheduled EDR Contact: 11/15/2021
	Data Release Frequency: Varies

## UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019	Source: Department of Energy
Date Data Arrived at EDR: 11/15/2019	Telephone: 505-845-0011
Date Made Active in Reports: 01/28/2020	Last EDR Contact: 05/21/2021
Number of Days to Update: 74	Next Scheduled EDR Contact: 08/30/2021
	Data Release Frequency: Varies

## LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 04/27/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/03/2021	Telephone: 703-603-8787
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 06/29/2021
Number of Days to Update: 16	Next Scheduled EDR Contact: 10/11/2021
	Data Release Frequency: Varies

## LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001	Source: American Journal of Public Health
Date Data Arrived at EDR: 10/27/2010	Telephone: 703-305-6451
Date Made Active in Reports: 12/02/2010	Last EDR Contact: 12/02/2009
Number of Days to Update: 36	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

## US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/12/2016  
Date Data Arrived at EDR: 10/26/2016  
Date Made Active in Reports: 02/03/2017  
Number of Days to Update: 100

Source: EPA  
Telephone: 202-564-2496  
Last EDR Contact: 09/26/2017  
Next Scheduled EDR Contact: 01/08/2018  
Data Release Frequency: No Update Planned

## US AIRS MINOR: Air Facility System Data A listing of minor source facilities.

Date of Government Version: 10/12/2016  
Date Data Arrived at EDR: 10/26/2016  
Date Made Active in Reports: 02/03/2017  
Number of Days to Update: 100

Source: EPA  
Telephone: 202-564-2496  
Last EDR Contact: 09/26/2017  
Next Scheduled EDR Contact: 01/08/2018  
Data Release Frequency: No Update Planned

## MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 05/27/2021  
Date Data Arrived at EDR: 05/27/2021  
Date Made Active in Reports: 06/10/2021  
Number of Days to Update: 14

Source: DOL, Mine Safety & Health Admi  
Telephone: 202-693-9424  
Last EDR Contact: 07/01/2021  
Next Scheduled EDR Contact: 09/13/2021  
Data Release Frequency: Quarterly

## US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/01/2021  
Date Data Arrived at EDR: 02/24/2021  
Date Made Active in Reports: 05/19/2021  
Number of Days to Update: 84

Source: Department of Labor, Mine Safety and Health Administration  
Telephone: 303-231-5959  
Last EDR Contact: 05/25/2021  
Next Scheduled EDR Contact: 09/06/2021  
Data Release Frequency: Semi-Annually

## US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/06/2020  
Date Data Arrived at EDR: 05/27/2020  
Date Made Active in Reports: 08/13/2020  
Number of Days to Update: 78

Source: USGS  
Telephone: 703-648-7709  
Last EDR Contact: 05/27/2021  
Next Scheduled EDR Contact: 09/06/2021  
Data Release Frequency: Varies

## US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011  
Date Data Arrived at EDR: 06/08/2011  
Date Made Active in Reports: 09/13/2011  
Number of Days to Update: 97

Source: USGS  
Telephone: 703-648-7709  
Last EDR Contact: 05/27/2021  
Next Scheduled EDR Contact: 09/06/2021  
Data Release Frequency: Varies

## ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/23/2021  
Date Data Arrived at EDR: 03/25/2021  
Date Made Active in Reports: 06/17/2021  
Number of Days to Update: 84

Source: Department of Interior  
Telephone: 202-208-2609  
Last EDR Contact: 06/14/2021  
Next Scheduled EDR Contact: 09/20/2021  
Data Release Frequency: Quarterly

## FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/03/2021  
Date Data Arrived at EDR: 03/03/2021  
Date Made Active in Reports: 04/05/2021  
Number of Days to Update: 33

Source: EPA  
Telephone: (214) 665-2200  
Last EDR Contact: 05/18/2021  
Next Scheduled EDR Contact: 09/13/2021  
Data Release Frequency: Quarterly

## ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 04/04/2021  
Date Data Arrived at EDR: 04/06/2021  
Date Made Active in Reports: 06/25/2021  
Number of Days to Update: 80

Source: Environmental Protection Agency  
Telephone: 202-564-2280  
Last EDR Contact: 07/01/2021  
Next Scheduled EDR Contact: 10/18/2021  
Data Release Frequency: Quarterly

## DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 11/03/2020  
Date Data Arrived at EDR: 11/17/2020  
Date Made Active in Reports: 02/09/2021  
Number of Days to Update: 84

Source: Environmental Protection Agency  
Telephone: 202-564-0527  
Last EDR Contact: 05/21/2021  
Next Scheduled EDR Contact: 09/06/2021  
Data Release Frequency: Varies

## UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2018  
Date Data Arrived at EDR: 07/02/2020  
Date Made Active in Reports: 09/17/2020  
Number of Days to Update: 77

Source: Department of Defense  
Telephone: 703-704-1564  
Last EDR Contact: 07/07/2021  
Next Scheduled EDR Contact: 10/25/2021  
Data Release Frequency: Varies

## FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/17/2021  
Date Data Arrived at EDR: 02/17/2021  
Date Made Active in Reports: 03/22/2021  
Number of Days to Update: 33

Source: EPA  
Telephone: 800-385-6164  
Last EDR Contact: 05/14/2021  
Next Scheduled EDR Contact: 08/30/2021  
Data Release Frequency: Quarterly

## AIRS: Current Emission Inventory Data

The database lists by company, along with their actual emissions, the TNRCC air accounts that emit EPA criteria pollutants.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/24/2021  
Date Data Arrived at EDR: 03/25/2021  
Date Made Active in Reports: 06/16/2021  
Number of Days to Update: 83

Source: Texas Commission on Environmental Quality  
Telephone: N/A  
Last EDR Contact: 06/03/2021  
Next Scheduled EDR Contact: 09/20/2021  
Data Release Frequency: Semi-Annually

## APAR: Affected Property Assessment Report Site Listing

Listing of Sites That Have Received an APAR (Affected Property Assessment Report)

Date of Government Version: 04/06/2021  
Date Data Arrived at EDR: 04/16/2021  
Date Made Active in Reports: 07/01/2021  
Number of Days to Update: 76

Source: Texas Commission on Environmental Quality  
Telephone: 512-239-5872  
Last EDR Contact: 06/30/2021  
Next Scheduled EDR Contact: 10/18/2021  
Data Release Frequency: Varies

## ASBESTOS: Asbestos Notification Listing

A listing of asbestos notification site locations.

Date of Government Version: 03/01/2021  
Date Data Arrived at EDR: 03/04/2021  
Date Made Active in Reports: 05/24/2021  
Number of Days to Update: 81

Source: Department of State Health Services  
Telephone: 512-834-6787  
Last EDR Contact: 05/13/2021  
Next Scheduled EDR Contact: 08/30/2021  
Data Release Frequency: Varies

## COAL ASH: Coal Ash Disposal Sites

A listing of facilities that use surface impoundments or landfills to dispose of coal ash.

Date of Government Version: 04/29/2021  
Date Data Arrived at EDR: 05/03/2021  
Date Made Active in Reports: 07/21/2021  
Number of Days to Update: 79

Source: Texas Commission on Environmental Quality  
Telephone: 512-239-6624  
Last EDR Contact: 07/21/2021  
Next Scheduled EDR Contact: 11/08/2021  
Data Release Frequency: Varies

## DRYCLEANERS: Drycleaner Registration Database Listing

A listing of drycleaning facilities.

Date of Government Version: 02/04/2021  
Date Data Arrived at EDR: 02/24/2021  
Date Made Active in Reports: 05/17/2021  
Number of Days to Update: 82

Source: Texas Commission on Environmental Quality  
Telephone: 512-239-2160  
Last EDR Contact: 05/25/2021  
Next Scheduled EDR Contact: 09/06/2021  
Data Release Frequency: Varies

## ED AQUIF: Edwards Aquifer Permits

A listing of permits in the Edwards Aquifer Protection Program database. The information provided is for the counties located in the Austin Region (Hays, Travis, and Williamson counties).

Date of Government Version: 04/19/2021  
Date Data Arrived at EDR: 04/21/2021  
Date Made Active in Reports: 07/09/2021  
Number of Days to Update: 79

Source: Texas Commission on Environmental Quality, Austin Region  
Telephone: 512-339-2929  
Last EDR Contact: 06/16/2021  
Next Scheduled EDR Contact: 10/04/2021  
Data Release Frequency: Varies

## ENFORCEMENT: Notice of Violations Listing

A listing of permit violations.

Date of Government Version: 04/15/2021  
Date Data Arrived at EDR: 04/21/2021  
Date Made Active in Reports: 04/23/2021  
Number of Days to Update: 2

Source: Texas Commission on Environmental Quality  
Telephone: 512-239-6012  
Last EDR Contact: 06/23/2021  
Next Scheduled EDR Contact: 10/11/2021  
Data Release Frequency: Semi-Annually

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## Financial Assurance 1: Financial Assurance Information Listing

Financial assurance information.

Date of Government Version: 03/22/2021

Date Data Arrived at EDR: 04/07/2021

Date Made Active in Reports: 06/25/2021

Number of Days to Update: 79

Source: Texas Commission on Environmental Quality

Telephone: 512-239-6239

Last EDR Contact: 06/16/2021

Next Scheduled EDR Contact: 10/04/2021

Data Release Frequency: Varies

## Financial Assurance 2: Financial Assurance Information Listing

Financial Assurance information for underground storage tank facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay

Date of Government Version: 03/05/2021

Date Data Arrived at EDR: 03/24/2021

Date Made Active in Reports: 06/16/2021

Number of Days to Update: 84

Source: Texas Commission on Environmental Quality

Telephone: 512-239-0986

Last EDR Contact: 06/22/2021

Next Scheduled EDR Contact: 10/04/2021

Data Release Frequency: Quarterly

## GCC: Groundwater Contamination Cases

Texas Water Code, Section 26.406 requires the annual report to describe the current status of groundwater monitoring activities conducted or required by each agency at regulated facilities or associated with regulated activities.

The report is required to contain a description of each case of groundwater contamination documented during the previous calendar year. Also to be included, is a description of each case of contamination documented during previous periods for which voluntary clean up action was incomplete at the time the preceding report was issued.

The report is also required to indicate the status of enforcement action for each listed case.

Date of Government Version: 12/31/2019

Date Data Arrived at EDR: 11/30/2020

Date Made Active in Reports: 02/09/2021

Number of Days to Update: 71

Source: Texas Commission on Environmental Quality

Telephone: 512-239-5690

Last EDR Contact: 05/28/2021

Next Scheduled EDR Contact: 09/06/2021

Data Release Frequency: Annually

## IOP: Innocent Owner/Operator Program

Contains information on all sites that are in the IOP. An IOP is an innocent owner or operator whose property is contaminated as a result of a release or migration of contaminants from a source or sources not located on the property, and they did not cause or contribute to the source or sources of contamination.

Date of Government Version: 03/31/2021

Date Data Arrived at EDR: 04/13/2021

Date Made Active in Reports: 07/01/2021

Number of Days to Update: 79

Source: Texas Commission on Environmental Quality

Telephone: 512-239-5894

Last EDR Contact: 07/16/2021

Next Scheduled EDR Contact: 10/11/2021

Data Release Frequency: Quarterly

## LEAD: Lead Inspection Listing

Lead inspection sites

Date of Government Version: 02/16/2021

Date Data Arrived at EDR: 03/11/2021

Date Made Active in Reports: 06/08/2021

Number of Days to Update: 89

Source: Department of State Health Services

Telephone: 512-834-6600

Last EDR Contact: 05/13/2021

Next Scheduled EDR Contact: 08/30/2021

Data Release Frequency: Varies

## Ind. Haz Waste: Industrial & Hazardous Waste Database

Summary reports reported by waste handlers, generators and shippers in Texas.

Date of Government Version: 02/04/2021

Date Data Arrived at EDR: 04/14/2021

Date Made Active in Reports: 07/01/2021

Number of Days to Update: 78

Source: Texas Commission on Environmental Quality

Telephone: 512-239-0985

Last EDR Contact: 07/14/2021

Next Scheduled EDR Contact: 10/25/2021

Data Release Frequency: Annually

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## MSD: Municipal Settings Designations Database

An MSD is an official state designation given to property within a municipality or its extraterritorial jurisdiction that certifies that designated groundwater at the property is not use as potable water, and is prohibited from future use as potatable water because that groundwater is contaminated in excess of the applicable potable-water protective concentration level.

Date of Government Version: 04/26/2021  
Date Data Arrived at EDR: 05/07/2021  
Date Made Active in Reports: 07/23/2021  
Number of Days to Update: 77

Source: Texas Commission on Environmental Quality  
Telephone: 512-239-4982  
Last EDR Contact: 07/21/2021  
Next Scheduled EDR Contact: 11/08/2021  
Data Release Frequency: Varies

## NPDES: NPDES Facility List

Permitted wastewater outfalls.

Date of Government Version: 01/29/2021  
Date Data Arrived at EDR: 01/29/2021  
Date Made Active in Reports: 02/04/2021  
Number of Days to Update: 6

Source: Texas Commission on Environmental Quality  
Telephone: 512-239-4591  
Last EDR Contact: 05/12/2021  
Next Scheduled EDR Contact: 08/23/2021  
Data Release Frequency: Varies

## RWS: Radioactive Waste Sites

Sites in the State of Texas that have been designated as Radioactive Waste sites.

Date of Government Version: 07/24/2006  
Date Data Arrived at EDR: 12/14/2006  
Date Made Active in Reports: 01/23/2007  
Number of Days to Update: 40

Source: Texas Commission on Environmental Quality  
Telephone: 512-239-0859  
Last EDR Contact: 05/10/2021  
Next Scheduled EDR Contact: 08/23/2021  
Data Release Frequency: Semi-Annually

## TIER 2: Tier 2 Chemical Inventory Reports

A listing of facilities which store or manufacture hazardous materials and submit a chemical inventory report.

Date of Government Version: 12/31/2012  
Date Data Arrived at EDR: 06/07/2013  
Date Made Active in Reports: 07/22/2013  
Number of Days to Update: 45

Source: Department of State Health Services  
Telephone: 512-834-6603  
Last EDR Contact: 05/13/2021  
Next Scheduled EDR Contact: 08/30/2021  
Data Release Frequency: Annually

## UIC: Underground Injection Wells Database Listing

Class V injection wells regulated by the TCEQ. Class V wells are used to inject non-hazardous fluids underground. Most Class V wells are used to dispose of wastes into or above underground sources of drinking water and can pose a threat to ground water quality, if not managed properly.

Date of Government Version: 02/10/2021  
Date Data Arrived at EDR: 02/11/2021  
Date Made Active in Reports: 05/05/2021  
Number of Days to Update: 83

Source: Texas Commission on Environmental Quality  
Telephone: 512-239-6627  
Last EDR Contact: 07/07/2021  
Next Scheduled EDR Contact: 10/25/2021  
Data Release Frequency: Varies

## IHW CORR ACTION: IHW CORR ACTION

Industrial hazardous waste facilities with corrective actions.

Date of Government Version: 03/31/2021  
Date Data Arrived at EDR: 04/13/2021  
Date Made Active in Reports: 07/01/2021  
Number of Days to Update: 79

Source: Texas Commission on Environmental Quality  
Telephone: 512-239-5872  
Last EDR Contact: 06/22/2021  
Next Scheduled EDR Contact: 10/11/2021  
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## PST STAGE 2: PST Stage 2

State II Vapor Recovery. Decommissioning of Stage II Rule - Gasoline dispensing facilities (GDFs) may begin the process of removing Stage II equipment on May 16, 2014 providing that all other requirements for decommissioning have been met, including appropriate notification.

Date of Government Version: 07/17/2019	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 07/18/2019	Telephone: 512-239-2160
Date Made Active in Reports: 09/24/2019	Last EDR Contact: 06/16/2021
Number of Days to Update: 68	Next Scheduled EDR Contact: 10/04/2021
	Data Release Frequency: Varies

## COMP HIST: Compliance History Listing

A listing of compliance histories of regulated entities

Date of Government Version: 11/23/2020	Source: Txas Commission on Environmental Quality
Date Data Arrived at EDR: 11/25/2020	Telephone: 512-239-3282
Date Made Active in Reports: 02/16/2021	Last EDR Contact: 05/28/2021
Number of Days to Update: 83	Next Scheduled EDR Contact: 09/06/2021
	Data Release Frequency: Varies

## PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014	Source: EPA
Date Data Arrived at EDR: 02/05/2015	Telephone: 202-564-2497
Date Made Active in Reports: 03/06/2015	Last EDR Contact: 06/30/2021
Number of Days to Update: 29	Next Scheduled EDR Contact: 10/18/2021
	Data Release Frequency: No Update Planned

## PCS INACTIVE: Listing of Inactive PCS Permits

An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014	Source: EPA
Date Data Arrived at EDR: 01/06/2015	Telephone: 202-564-2496
Date Made Active in Reports: 05/06/2015	Last EDR Contact: 06/30/2021
Number of Days to Update: 120	Next Scheduled EDR Contact: 10/18/2021
	Data Release Frequency: No Update Planned

## PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011	Source: EPA, Office of Water
Date Data Arrived at EDR: 08/05/2011	Telephone: 202-564-2496
Date Made Active in Reports: 09/29/2011	Last EDR Contact: 06/30/2021
Number of Days to Update: 55	Next Scheduled EDR Contact: 10/18/2021
	Data Release Frequency: No Update Planned

## MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 04/06/2018	Source: USGS
Date Data Arrived at EDR: 10/21/2019	Telephone: 703-648-6533
Date Made Active in Reports: 10/24/2019	Last EDR Contact: 05/27/2021
Number of Days to Update: 3	Next Scheduled EDR Contact: 09/06/2021
	Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## EDR HIGH RISK HISTORICAL RECORDS

### ***EDR Exclusive Records***

#### EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A  
Date Data Arrived at EDR: N/A  
Date Made Active in Reports: N/A  
Number of Days to Update: N/A

Source: EDR, Inc.  
Telephone: N/A  
Last EDR Contact: N/A  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

#### EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A  
Date Data Arrived at EDR: N/A  
Date Made Active in Reports: N/A  
Number of Days to Update: N/A

Source: EDR, Inc.  
Telephone: N/A  
Last EDR Contact: N/A  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

#### EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A  
Date Data Arrived at EDR: N/A  
Date Made Active in Reports: N/A  
Number of Days to Update: N/A

Source: EDR, Inc.  
Telephone: N/A  
Last EDR Contact: N/A  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

## EDR RECOVERED GOVERNMENT ARCHIVES

### ***Exclusive Recovered Govt. Archives***

#### RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Texas Commission of Environmental Quality in Texas formerly known as Texas Natural Resources Conservation Commission which changed in 2002.



# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: N/A  
Date Data Arrived at EDR: 07/01/2013  
Date Made Active in Reports: 12/26/2013  
Number of Days to Update: 178

Source: Texas Commission on Environmental Quality  
Telephone: N/A  
Last EDR Contact: 06/01/2012  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

## RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Texas Commission of Environmental Quality in Texas formerly known as Texas Natural Resources Conservation Commission which changed in 2002.

Date of Government Version: N/A  
Date Data Arrived at EDR: 07/01/2013  
Date Made Active in Reports: 01/13/2014  
Number of Days to Update: 196

Source: Texas Commission on Environmental Quality  
Telephone: N/A  
Last EDR Contact: 06/01/2012  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

## COUNTY RECORDS

### TRAVIS COUNTY:

#### HIST UST AUSTIN: Historic Tank Records

A listing of historic records from the City of Austin.

Date of Government Version: 06/25/2012  
Date Data Arrived at EDR: 06/29/2012  
Date Made Active in Reports: 08/23/2012  
Number of Days to Update: 55

Source: Department of Planning & Development Review  
Telephone: 512-974-2715  
Last EDR Contact: 05/27/2021  
Next Scheduled EDR Contact: 09/13/2021  
Data Release Frequency: Varies

## OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

#### CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 03/24/2021  
Date Data Arrived at EDR: 05/11/2021  
Date Made Active in Reports: 07/28/2021  
Number of Days to Update: 78

Source: Department of Energy & Environmental Protection  
Telephone: 860-424-3375  
Last EDR Contact: 05/11/2021  
Next Scheduled EDR Contact: 08/23/2021  
Data Release Frequency: No Update Planned

#### NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2018  
Date Data Arrived at EDR: 04/10/2019  
Date Made Active in Reports: 05/16/2019  
Number of Days to Update: 36

Source: Department of Environmental Protection  
Telephone: N/A  
Last EDR Contact: 07/09/2021  
Next Scheduled EDR Contact: 10/18/2021  
Data Release Frequency: Annually

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019  
Date Data Arrived at EDR: 04/29/2020  
Date Made Active in Reports: 07/10/2020  
Number of Days to Update: 72

Source: Department of Environmental Conservation  
Telephone: 518-402-8651  
Last EDR Contact: 04/30/2021  
Next Scheduled EDR Contact: 08/09/2021  
Data Release Frequency: Quarterly

## PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/30/2018  
Date Data Arrived at EDR: 07/19/2019  
Date Made Active in Reports: 09/10/2019  
Number of Days to Update: 53

Source: Department of Environmental Protection  
Telephone: 717-783-8990  
Last EDR Contact: 07/07/2021  
Next Scheduled EDR Contact: 10/25/2021  
Data Release Frequency: Annually

## RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2019  
Date Data Arrived at EDR: 02/11/2021  
Date Made Active in Reports: 02/24/2021  
Number of Days to Update: 13

Source: Department of Environmental Management  
Telephone: 401-222-2797  
Last EDR Contact: 05/13/2021  
Next Scheduled EDR Contact: 08/30/2021  
Data Release Frequency: Annually

## VT MANIFEST: Hazardous Waste Manifest Data

Hazardous waste manifest information.

Date of Government Version: 10/28/2019  
Date Data Arrived at EDR: 10/29/2019  
Date Made Active in Reports: 01/09/2020  
Number of Days to Update: 72

Source: Department of Environmental Conservation  
Telephone: 802-241-3443  
Last EDR Contact: 07/07/2021  
Next Scheduled EDR Contact: 10/25/2021  
Data Release Frequency: Annually

## WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 05/31/2018  
Date Data Arrived at EDR: 06/19/2019  
Date Made Active in Reports: 09/03/2019  
Number of Days to Update: 76

Source: Department of Natural Resources  
Telephone: N/A  
Last EDR Contact: 06/03/2021  
Next Scheduled EDR Contact: 09/20/2021  
Data Release Frequency: Annually

## Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

## Electric Power Transmission Line Data

Source: Endeavor Business Media

This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

**Sensitive Receptors:** There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

### Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers for Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

### Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

### Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

### Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

### Daycare Centers: Child Care Facility List

Source: Department of Protective & Regulatory Services

Telephone: 512-438-3269

**Flood Zone Data:** This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

**NWI:** National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

### State Wetlands Data: Wetland Inventory

Source: Texas General Land Office

Telephone: 512-463-0745

### Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

## **STREET AND ADDRESS INFORMATION**

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

## GEOCHECK<sup>®</sup> - PHYSICAL SETTING SOURCE ADDENDUM

### TARGET PROPERTY ADDRESS

PORTER ROAD  
PORTER ROAD  
KATY, TX 77493

### TARGET PROPERTY COORDINATES

Latitude (North):	29.824034 - 29° 49' 26.52"
Longitude (West):	95.790088 - 95° 47' 24.32"
Universal Tranverse Mercator:	Zone 15
UTM X (Meters):	230369.3
UTM Y (Meters):	3302374.5
Elevation:	145 ft. above sea level

### USGS TOPOGRAPHIC MAP

Target Property Map:	5937157 KATY, TX
Version Date:	2013

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

## GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

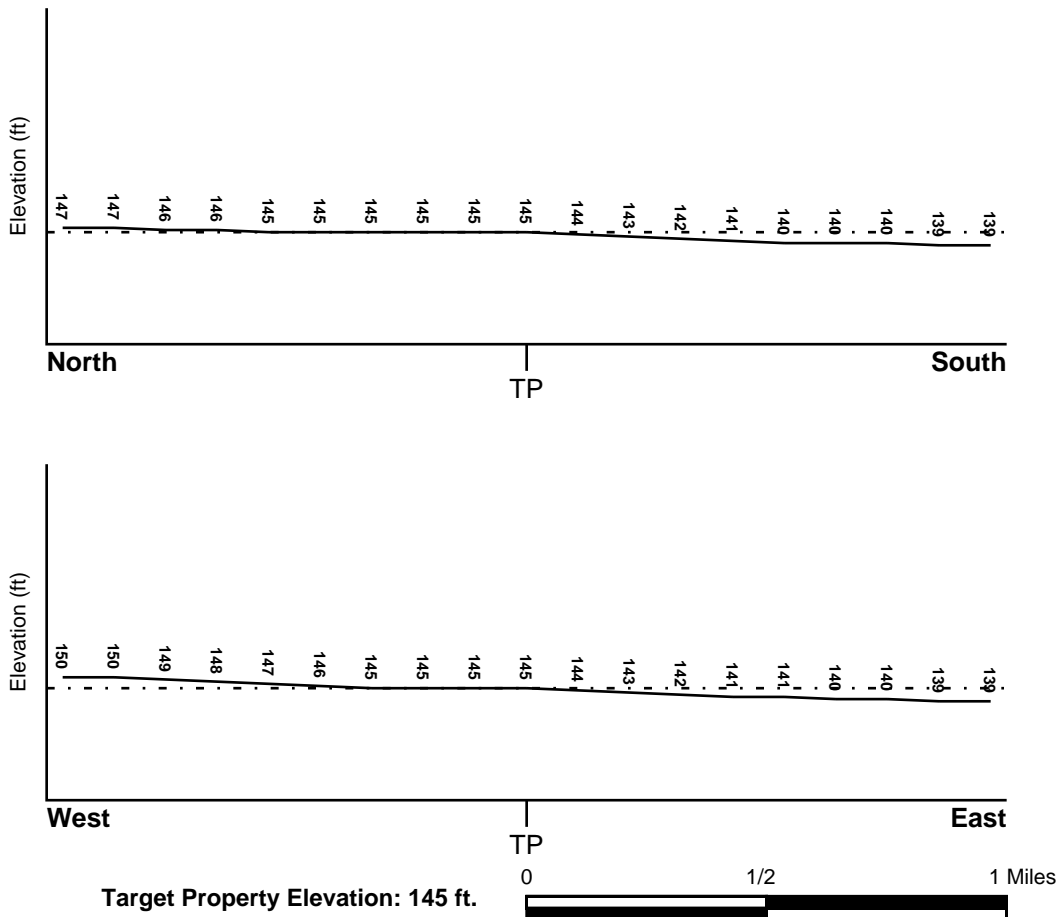
## TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

## TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SE

## SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

## HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

## **FEMA FLOOD ZONE**

<u>Flood Plain Panel at Target Property</u>	<u>FEMA Source Type</u>
48201C0585L	FEMA FIRM Flood data
<u>Additional Panels in search area:</u>	<u>FEMA Source Type</u>
48473C0375E	FEMA FIRM Flood data

## **NATIONAL WETLAND INVENTORY**

<u>NWI Quad at Target Property</u>	<u>NWI Electronic Data Coverage</u>
KATY	YES - refer to the Overview Map and Detail Map

## HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

### ***Site-Specific Hydrogeological Data\*:***

Search Radius:	1.25 miles
Status:	Not found

## **AQUIFLOW®**

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

## GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

### GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

### GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

#### **ROCK STRATIGRAPHIC UNIT**

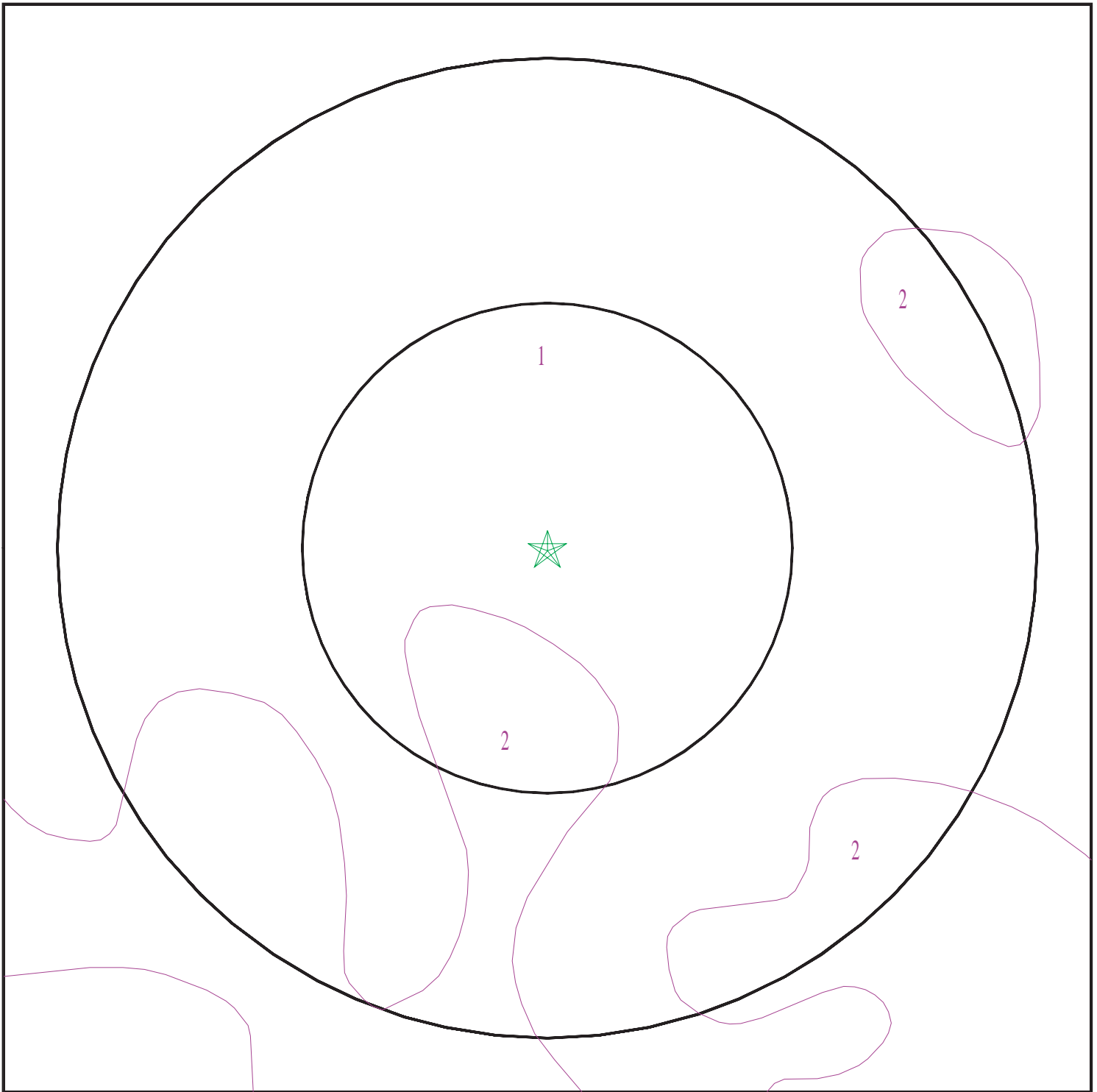
Era: Cenozoic  
System: Quaternary  
Series: Pleistocene  
Code: Qp (*decoded above as Era, System & Series*)

#### **GEOLOGIC AGE IDENTIFICATION**

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

# SSURGO SOIL MAP - 6598817.2s



- ★ Target Property
- ∩ SSURGO Soil
- ∩ Water

0 1/16 1/8 1/4 Miles



SITE NAME: Porter Road  
ADDRESS: Porter Road  
Katy TX 77493  
LAT/LONG: 29.824034 / 95.790088

CLIENT: RPS JDC Inc.  
CONTACT: Mark Katterjohn  
INQUIRY #: 6598817.2s  
DATE: July 29, 2021 4:25 pm



# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

## DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

### Soil Map ID: 1

Soil Component Name: Katy

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Somewhat poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	27 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.3 Min: 5.1
2	27 inches	50 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.3 Min: 5.1
3	50 inches	64 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.3 Min: 5.1
4	64 inches	79 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.3 Min: 5.1

## GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

**Soil Map ID: 2**

Soil Component Name: Gessner

Soil Surface Texture: loam

Hydrologic Group: Class B/D - Drained/undrained hydrology class of soils that can be drained and are classified.

Soil Drainage Class: Poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	16 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 8.4 Min: 6.6
2	16 inches	79 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 8.4 Min: 6.6

**LOCAL / REGIONAL WATER AGENCY RECORDS**

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

## WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

## **FEDERAL USGS WELL INFORMATION**

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
K39	USGS40001167195	1/2 - 1 Mile SW

## **FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION**

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

Note: PWS System location is not always the same as well location.

## **STATE DATABASE WELL INFORMATION**

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
A1	TXMON5000155733	0 - 1/8 Mile NNE
A2	TXGH50000009989	0 - 1/8 Mile NNE
B3	TXGH50000011379	0 - 1/8 Mile SE
B4	TXGH50000000834	1/8 - 1/4 Mile SSE
B5	TXWDB7000106012	1/8 - 1/4 Mile SSE
C6	TXMON5000359770	1/8 - 1/4 Mile North
C7	TXGH50000011438	1/4 - 1/2 Mile North
8	TXMON5000383931	1/4 - 1/2 Mile NW
9	TXGH50000012543	1/4 - 1/2 Mile North
D10	TXMON5000362431	1/4 - 1/2 Mile West
D11	TXMON5000368375	1/4 - 1/2 Mile West
D12	TXPLU5000048807	1/4 - 1/2 Mile West
D13	TXGH50000011031	1/4 - 1/2 Mile West
14	TXMON5000210404	1/2 - 1 Mile NNE
D15	TXGH50000010878	1/2 - 1 Mile West
E16	TXEQ60000011872	1/2 - 1 Mile NW
E17	TXMON5000104659	1/2 - 1 Mile NW
E18	TXGH50000008960	1/2 - 1 Mile NW
19	TXPLU5000022704	1/2 - 1 Mile SW
20	TXMON5000043885	1/2 - 1 Mile SSW
F21	TXGH50000005793	1/2 - 1 Mile SE
G22	TXWDB7000106015	1/2 - 1 Mile NE
G23	TXMON5000109151	1/2 - 1 Mile NE
F24	TXMON5000158259	1/2 - 1 Mile SE
H25	TXGH50000011474	1/2 - 1 Mile East

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

## STATE DATABASE WELL INFORMATION

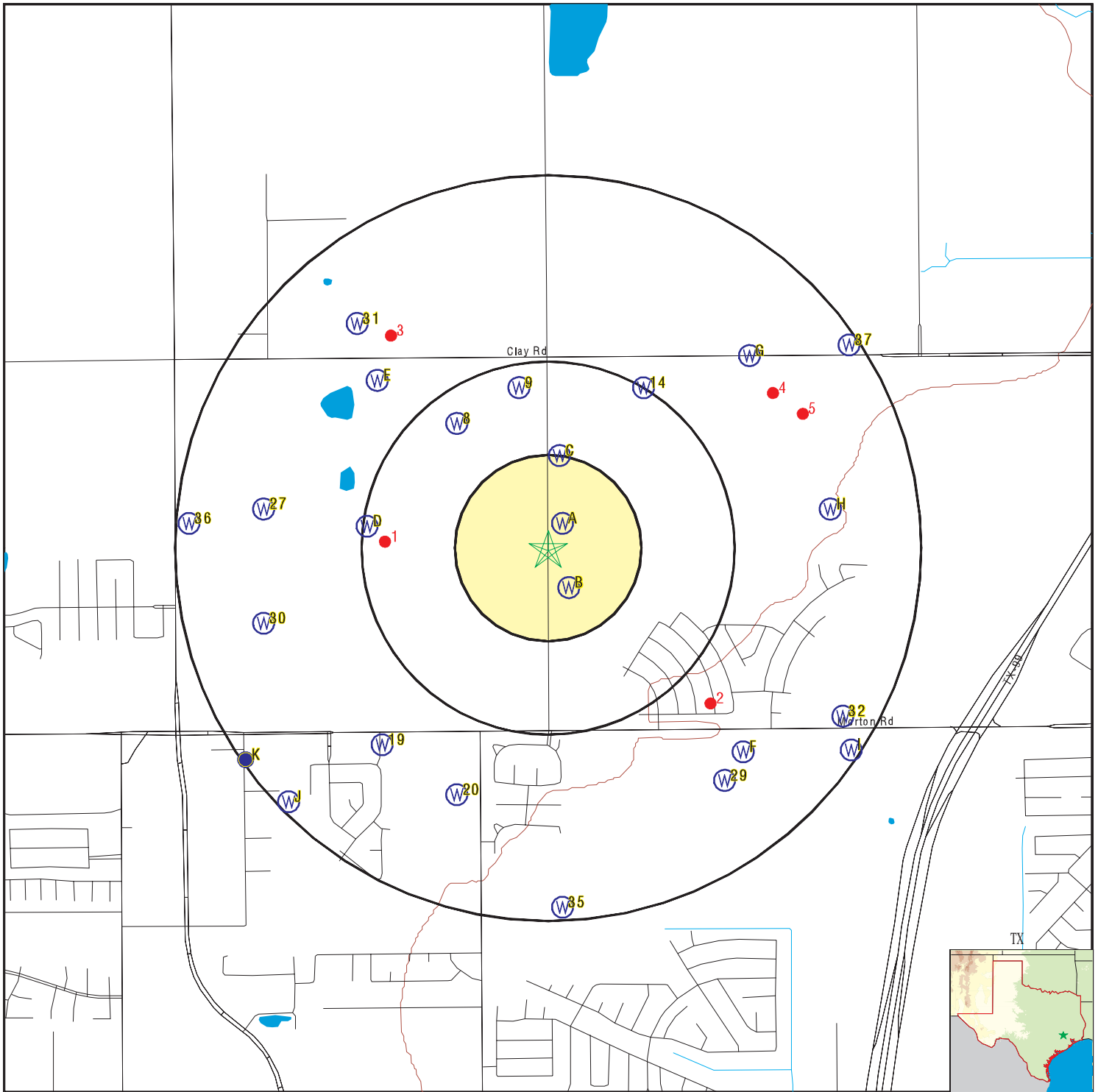
<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
H26	TXMON5000386478	1/2 - 1 Mile East
27	TXGH50000012661	1/2 - 1 Mile West
F28	TXWDB7000106016	1/2 - 1 Mile SE
29	TXWDB7000106014	1/2 - 1 Mile SE
30	TXGH50000012273	1/2 - 1 Mile WSW
31	TXWDB7000106002	1/2 - 1 Mile NW
32	TXMON5000026077	1/2 - 1 Mile ESE
I33	TXGH50000001382	1/2 - 1 Mile SE
J34	TXMON5000220829	1/2 - 1 Mile SW
35	TXEQ60000011939	1/2 - 1 Mile South
36	TXWDB7000106003	1/2 - 1 Mile West
37	TXPLU5000009913	1/2 - 1 Mile NE
J38	TXGH50000003173	1/2 - 1 Mile SW
K40	TXWDB7000106005	1/2 - 1 Mile SW
I41	TXPLU5000160055	1/2 - 1 Mile ESE

## OTHER STATE DATABASE INFORMATION

## STATE OIL/GAS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
1	TXOG90001092919	1/4 - 1/2 Mile West
2	TXOG90001092926	1/2 - 1 Mile SE
3	TXOG90001092851	1/2 - 1 Mile NW
4	TXOG90001092857	1/2 - 1 Mile NE
5	TXOG90001092858	1/2 - 1 Mile ENE

# PHYSICAL SETTING SOURCE MAP - 6598817.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil or gas wells

SITE NAME: Porter Road  
 ADDRESS: Porter Road  
 Katy TX 77493  
 LAT/LONG: 29.824034 / 95.790088

CLIENT: RPS JDC Inc.  
 CONTACT: Mark Katterjohn  
 INQUIRY #: 6598817.2s  
 DATE: July 29, 2021 4:24 pm

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID  
 Direction  
 Distance  
 Elevation

Database      EDR ID Number

**A1**  
**NNE**  
**0 - 1/8 Mile**  
**Higher**

**TX WELLS      TXMON5000155733**

Database:	Submitted Drillers Reports Database (Monitoring)		
Well Rpt #:	158235	Well Type:	New Well
Proposed Use:	Domestic	Borehole Depth (ft):	270
Injurious Water Quality:	no	Plugging Rpt #:	Not Reported

Submitted Date:	2008-11-04	Owner Name:	Barnier Building Systems
Well #:	Not Reported	# Wells Drilled:	Not Reported
Elevation:	Not Reported	Type of Work:	New Well
Work Type Desc:	Not Reported	Original Well Rpt Track #:	Not Reported
Proposed Use:	Domestic	Proposed Use Desc:	Not Reported
TCEQ Approved Plans:	Not Reported	PWS #:	Not Reported
Drill Start Date:	2008-09-18	Drill End Date:	2008-09-19
Seal Method:	Positive Displacement	Seal Method Desc:	Not Reported
Dist to Septic/Other Contam:	none	Distance to Septic Tank:	Not Reported
Dist to Property Line:	60	Distance Verify Meth:	owner
Approved by Variance:	Not Reported	Sealed by Driller:	No
Sealed by Name:	SDI	Surface Completion:	Surface Slab Installed
Surf Complete Desc:	Not Reported	Completed by Driller:	Not Reported
Pump Type:	Submersible	Pump Type Desc:	Not Reported
Pump Depth:	231.00	Chemical Analysis:	No
Injurious Water:	No	Company Name:	Scott Drilling, Inc.
Driller Name:	Scott G Robinson	Comments:	Not Reported
Plugged within 48 hrs:	No	Plugging Rpt Tracking #:	Not Reported
Driller License #:	4839	Apprentice Reg #:	Not Reported

Details Reports For:	Well Bore Hole	Diameter:	8.5
Top Depth:	0	Bottom Depth:	270

Details Reports For:	Well Drilling Method	Drill Method:	Mud (Hydraulic) Rotary
----------------------	----------------------	---------------	------------------------

Details Reports For:	Well Completion	Borehole Completion:	Other - 2 String
----------------------	-----------------	----------------------	------------------

Details Reports For:	Well Seal Range	Top Depth:	Not Reported
Bottom Depth:	Not Reported	Annular Seal:	4 Bentonite
Amount:	Not Reported	Unit:	Not Reported

Details Reports For:	Well Seal Range	Top Depth:	0
Bottom Depth:	10	Annular Seal:	10
Amount:	Not Reported	Unit:	Not Reported

Details Reports For:	Well Seal Range	Top Depth:	0
Bottom Depth:	250	Annular Seal:	40
Amount:	Not Reported	Unit:	Not Reported

Details Reports For:	Well Levels	Measurement:	150
Measurement Date:	2008-10-01	Artesian Flow:	Not Reported
Measurement Method:	Unknown		

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Details Reports For: Packers:	Well Packers KP-240	Migrated Sort #: Depth:	1 Not Reported
Details Reports For: Yield: Hours:	Well Test 50 Not Reported	Test Type: Drawdown:	Jetted Not Reported
Details Reports For: Top Depth: Lithology:	Well Lithology 0 clay	Migrated Sort #: Bottom Depth:	0 70
Details Reports For: Top Depth: Lithology:	Well Lithology 70 sand & gravel	Migrated Sort #: Bottom Depth:	0 270
Details Reports For: Top Depth: Migrated Casing Info: Casing Status: Casing Type: Gauge:	Well Casing Not Reported 5 N PVC-Casing 0-250 Not Reported Not Reported Not Reported	Migrated Sort #: Bottom Depth: Diameter: Casing Material: Schedule:	1 Not Reported Not Reported Not Reported Not Reported
Details Reports For: Top Depth: Migrated Casing Info: Casing Status: Casing Type: Gauge:	Well Casing Not Reported 2.5 N " " Liner 240-250 Not Reported Not Reported Not Reported	Migrated Sort #: Bottom Depth: Diameter: Casing Material: Schedule:	2 Not Reported Not Reported Not Reported Not Reported
Details Reports For: Top Depth: Migrated Casing Info: Diameter: Casing Material: Schedule:	Well Casing Not Reported 2.5 N " " Screen 250-270 .12 Not Reported Not Reported Not Reported	Migrated Sort #: Bottom Depth: Casing Status: Casing Type: Gauge:	3 Not Reported Not Reported Not Reported Not Reported

**A2  
NNE  
0 - 1/8 Mile  
Higher**

**TX WELLS      TXGH5000009989**

Database:	Water Well Database	Well #:	10879
Permittee:	Living Way Church	Year Drilled:	2008
Diameter:	5	Total Depth:	300
Depth to 1st Screen:	280	Active:	TRUE
Usage:	D		

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID  
Direction  
Distance  
Elevation

Database      EDR ID Number

**B3**  
**SE**  
**0 - 1/8 Mile**  
**Lower**

**TX WELLS      TXGH50000011379**

Database:	Water Well Database	Well #:	12238
Permittee:	Morton Creek Ranch Master Association	Diameter:	5
Year Drilled:	201	Depth to 1st Screen:	450
Total Depth:	600	Usage:	O
Active:	FALSE		

**B4**  
**SSE**  
**1/8 - 1/4 Mile**  
**Lower**

**TX WELLS      TXGH50000000834**

Database:	Water Well Database	Well #:	1907
Permittee:	Morton, Monroe	Year Drilled:	1948
Diameter:	18	Total Depth:	465
Depth to 1st Screen:	165	Active:	FALSE
Usage:	A		

**B5**  
**SSE**  
**1/8 - 1/4 Mile**  
**Lower**

**TX WELLS      TXWDB7000106012**

Database:	Groundwater Database	Well #:	6510601
Primary Water Use:	Irrigation	Elevation:	143
Well Depth:	462	Observation Type:	Miscellaneous Measurements
Water Quality Review:	N	Aquifer:	112CHCT - Chicot Aquifer
Well Type:	Withdrawal of Water		

**C6**  
**North**  
**1/8 - 1/4 Mile**  
**Higher**

**TX WELLS      TXMON5000359770**

Database:	Submitted Drillers Reports Database (Monitoring)	Well Type:	New Well
Well Rpt #:	364719	Borehole Depth (ft):	200
Proposed Use:	Domestic	Plugging Rpt #:	Not Reported
Injurious Water Quality:	no		
Submitted Date:	2014-06-04	Owner Name:	SAM DIMICELI
Well #:	Not Reported	# Wells Drilled:	Not Reported
Elevation:	Not Reported	Type of Work:	New Well
Work Type Desc:	Not Reported	Original Well Rpt Track #:	Not Reported
Proposed Use:	Domestic	Proposed Use Desc:	Not Reported
TCEQ Approved Plans:	Not Reported	PWS #:	Not Reported
Drill Start Date:	2013-09-24	Drill End Date:	2013-09-26
Seal Method:	Unknown	Seal Method Desc:	Not Reported
Dist to Septic/Other Contam:	Not Reported	Distance to Septic Tank:	Not Reported
Dist to Property Line:	Not Reported	Distance Verify Meth:	Not Reported



## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Approved by Variance:	Not Reported	Sealed by Driller:	Yes
Sealed by Name:	Not Reported	Surface Completion:	Surface Sleeve Installed
Surf Complete Desc:	Not Reported	Completed by Driller:	Not Reported
Pump Type:	Not Reported	Pump Type Desc:	Not Reported
Pump Depth:	Not Reported	Chemical Analysis:	No
Injurious Water:	No	Company Name:	HEFLIN WATER WORKS
Driller Name:	Steven Heflin	Comments:	Not Reported
Plugged within 48 hrs:	No	Plugging Rpt Tracking #:	Not Reported
Driller License #:	54853	Apprentice Reg #:	Not Reported
Details Reports For:	Well Bore Hole	Diameter:	7.875
Top Depth:	0	Bottom Depth:	200
Details Reports For:	Well Drilling Method	Drill Method:	Mud (Hydraulic) Rotary
Details Reports For:	Well Completion	Borehole Completion:	Straight Wall
Details Reports For:	Well Seal Range	Top Depth:	0
Bottom Depth:	20	Annular Seal:	15
Amount:	Not Reported	Unit:	Not Reported
Details Reports For:	Well Levels	Measurement:	120
Measurement Date:	2013-09-26	Artesian Flow:	Not Reported
Measurement Method:	Unknown		
Details Reports For:	Well Test	Test Type:	Jetted
Yield:	30	Drawdown:	Not Reported
Hours:	Not Reported		
Details Reports For:	Well Strata	Migrated Strata Depth:	Not Reported
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Water Type:	POTABLE		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	0	Bottom Depth:	3
Lithology:	TOPSOIL		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	3	Bottom Depth:	70
Lithology:	CLAY		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	70	Bottom Depth:	150
Lithology:	SAND/GRAVEL		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	150	Bottom Depth:	160
Lithology:	ROCK		
Details Reports For:	Well Lithology	Migrated Sort #:	0

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Top Depth:	160	Bottom Depth:	200
Lithology:	SAND/GRAVEL		
Details Reports For:	Well Casing	Migrated Sort #:	1
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	4" NEW PVC CASING 0-180'	Diameter:	Not Reported
Casing Status:	Not Reported	Casing Material:	Not Reported
Casing Type:	Not Reported	Schedule:	Not Reported
Gauge:	Not Reported		
Details Reports For:	Well Casing	Migrated Sort #:	2
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	4" NEW PVC SLOTTED SCREEN 180-200 .010		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

**C7**  
**North**  
**1/4 - 1/2 Mile**  
**Higher**

**TX WELLS TXGH50000011438**

Database:	Water Well Database	Well #:	12526
Permittee:	Dimiceli, Sam	Year Drilled:	201
Diameter:	4	Total Depth:	300
Depth to 1st Screen:	240	Active:	TRUE
Usage:	O		

**8**  
**NW**  
**1/4 - 1/2 Mile**  
**Higher**

**TX WELLS TXMON5000383931**

Database:	Submitted Drillers Reports Database (Monitoring)	Well Type:	New Well
Well Rpt #:	389427	Borehole Depth (ft):	1000
Proposed Use:	Public Supply	Plugging Rpt #:	Not Reported
Injurious Water Quality:	no		
Submitted Date:	2015-02-27	Owner Name:	Harris County MUD 434
Well #:	2	# Wells Drilled:	Not Reported
Elevation:	200	Type of Work:	New Well
Work Type Desc:	Not Reported	Original Well Rpt Track #:	Not Reported
Proposed Use:	Public Supply	Proposed Use Desc:	Not Reported
TCEQ Approved Plans:	Yes	PWS #:	Not Reported
Drill Start Date:	2014-12-01	Drill End Date:	2015-02-26
Seal Method:	Positive Displacement	Seal Method Desc:	Not Reported
Dist to Septic/Other Contam:	Not Reported	Distance to Septic Tank:	Not Reported
Dist to Property Line:	Not Reported	Distance Verify Meth:	Not Reported
Approved by Variance:	Not Reported	Sealed by Driller:	No
Sealed by Name:	Superior Energy Services	Surface Completion:	Surface Slab Installed
Surf Complete Desc:	Not Reported	Completed by Driller:	Not Reported
Pump Type:	Turbine	Pump Type Desc:	Not Reported
Pump Depth:	Not Reported	Chemical Analysis:	Yes
Injurious Water:	No	Company Name:	Weisinger Incorporated
Driller Name:	Clinton Ray Gaskins	Comments:	Not Reported

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Plugged within 48 hrs: Driller License #:	No 54561	Plugging Rpt Tracking #: Apprentice Reg #:	Not Reported Not Reported
Details Reports For: Top Depth:	Well Bore Hole 0	Diameter: Bottom Depth:	48 50
Details Reports For: Top Depth:	Well Bore Hole 0	Diameter: Bottom Depth:	30 690
Details Reports For: Top Depth:	Well Bore Hole 690	Diameter: Bottom Depth:	32 1000
Details Reports For:	Well Drilling Method	Drill Method:	Mud (Hydraulic) Rotary
Details Reports For:	Well Completion	Borehole Completion:	Filter Packed
Details Reports For:	Well Completion	Borehole Completion:	Under-reamed
Details Reports For: Top Depth: Size:	Well Filter 690 12-20	Filter Material: Bottom Depth:	Gravel 1000
Details Reports For: Bottom Depth: Amount:	Well Seal Range 50 Not Reported	Top Depth: Annular Seal: Unit:	0 150 - cement Not Reported
Details Reports For: Bottom Depth: Amount:	Well Seal Range 690 Not Reported	Top Depth: Annular Seal: Unit:	0 906 - cement Not Reported
Details Reports For: Measurement Date: Measurement Method:	Well Levels 2015-02-26 Unknown	Measurement: Artesian Flow:	331.22000000000003 Not Reported
Details Reports For: Packers:	Well Packers N/A	Migrated Sort #: Depth:	1 Not Reported
Details Reports For: Yield: Hours:	Well Test 1104 36	Test Type: Drawdown:	Pump 129.98
Details Reports For: Bottom Depth: Plugback:	Well Plugback Not Reported N/A	Top Depth: Migrated Sort #:	Not Reported 1
Details Reports For: Top Depth: Water Type:	Well Strata Not Reported Fresh	Migrated Strata Depth: Bottom Depth:	700-980 Not Reported

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	0	Bottom Depth:	30
Lithology:	Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	30	Bottom Depth:	64
Lithology:	Clay/Gravel		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	64	Bottom Depth:	80
Lithology:	Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	80	Bottom Depth:	94
Lithology:	Shale/Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	94	Bottom Depth:	100
Lithology:	Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	100	Bottom Depth:	130
Lithology:	Shale/Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	130	Bottom Depth:	140
Lithology:	Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	140	Bottom Depth:	170
Lithology:	Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	170	Bottom Depth:	190
Lithology:	Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	190	Bottom Depth:	240
Lithology:	Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	240	Bottom Depth:	260
Lithology:	Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	260	Bottom Depth:	270
Lithology:	Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	270	Bottom Depth:	300

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Lithology:	Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	300	Bottom Depth:	330
Lithology:	Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	330	Bottom Depth:	330
Lithology:	Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	330	Bottom Depth:	360
Lithology:	Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	360	Bottom Depth:	390
Lithology:	Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	390	Bottom Depth:	400
Lithology:	Shale/Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	400	Bottom Depth:	460
Lithology:	Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	460	Bottom Depth:	490
Lithology:	Sand/Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	460	Bottom Depth:	520
Lithology:	Clay/Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	520	Bottom Depth:	530
Lithology:	Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	530	Bottom Depth:	560
Lithology:	Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	560	Bottom Depth:	580
Lithology:	Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	580	Bottom Depth:	590
Lithology:	Shale/Sand		

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	590	Bottom Depth:	610
Lithology:	Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	610	Bottom Depth:	620
Lithology:	Sand/Shale		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	620	Bottom Depth:	710
Lithology:	Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	710	Bottom Depth:	740
Lithology:	Sand/Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	740	Bottom Depth:	770
Lithology:	Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	770	Bottom Depth:	800
Lithology:	Sand/Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	800	Bottom Depth:	820
Lithology:	Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	820	Bottom Depth:	860
Lithology:	Sand/Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	860	Bottom Depth:	890
Lithology:	Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	890	Bottom Depth:	920
Lithology:	Sand/clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	920	Bottom Depth:	950
Lithology:	Lime		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	950	Bottom Depth:	980
Lithology:	Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	980	Bottom Depth:	1000

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Lithology:	Clay		
Details Reports For:	Well Casing	Migrated Sort #:	1
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	36 N Grade B Carbon Steel Conductor	Casing 0-50	
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported
Details Reports For:	Well Casing	Migrated Sort #:	2
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	24 N Grade B Carbon Steel Surface	Casing 0-690	
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported
Details Reports For:	Well Casing	Migrated Sort #:	3
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Grade B Carbon Steel Blank Liner	610-700	
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported
Details Reports For:	Well Casing	Migrated Sort #:	4
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Type 304 SS Screen	700-772 .025	
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported
Details Reports For:	Well Casing	Migrated Sort #:	5
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Grade B Carbon Steel Blank Liner	772-786	
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported
Details Reports For:	Well Casing	Migrated Sort #:	6
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Type 304 SS Screen	786-800 .025	
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported
Details Reports For:	Well Casing	Migrated Sort #:	7
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Grade B Carbon Steel Blank Liner	800-821	
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported
Details Reports For:	Well Casing	Migrated Sort #:	8
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Type 304 SS Screen	821-827 .025	

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

Details Reports For:	Well Casing	Migrated Sort #:	9
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Grade B Carbon Steel Blank Liner 827-848		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

Details Reports For:	Well Casing	Migrated Sort #:	10
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Type 304 SS Screen 848-884 .025		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

Details Reports For:	Well Casing	Migrated Sort #:	11
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Grade B Carbon Steel Blank Liner 884-904		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

Details Reports For:	Well Casing	Migrated Sort #:	12
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Type 304 SS Screen 904-914 .025		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

Details Reports For:	Well Casing	Migrated Sort #:	13
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Grade B Carbon Steel Blank Liner 914-934		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

Details Reports For:	Well Casing	Migrated Sort #:	14
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Type 304 SS Screen 934-940 .025		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

Details Reports For:	Well Casing	Migrated Sort #:	15
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Grade B Carbon Steel Blank Liner 940-960		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

Details Reports For:	Well Casing	Migrated Sort #:	16
----------------------	-------------	------------------	----



## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Type 304 SS Screen 960-980 .025		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

Details Reports For:	Well Casing	Migrated Sort #:	17
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Grade B Carbon Steel Blank Liner & BPV 980-1000		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

**9  
North  
1/4 - 1/2 Mile  
Higher**

**TX WELLS      TXGH50000012543**

Database:	Water Well Database	Well #:	13745
Permittee:	West Harris County Regional Water Authority		
Year Drilled:	0	Diameter:	8
Total Depth:	450	Depth to 1st Screen:	390
Active:	FALSE	Usage:	L

**D10  
West  
1/4 - 1/2 Mile  
Higher**

**TX WELLS      TXMON5000362431**

Database:	Submitted Drillers Reports Database (Monitoring)		
Well Rpt #:	367409	Well Type:	New Well
Proposed Use:	Rig Supply	Borehole Depth (ft):	395
Injurious Water Quality:	no	Plugging Rpt #:	104700
Submitted Date:	2014-06-27	Owner Name:	HARRIS CO. MUD 536
Well #:	Not Reported	# Wells Drilled:	Not Reported
Elevation:	Not Reported	Type of Work:	New Well
Work Type Desc:	Not Reported	Original Well Rpt Track #:	Not Reported
Proposed Use:	Rig Supply	Proposed Use Desc:	Not Reported
TCEQ Approved Plans:	Not Reported	PWS #:	Not Reported
Drill Start Date:	2014-06-23	Drill End Date:	2014-06-25
Seal Method:	Positive Displacement	Seal Method Desc:	Not Reported
Dist to Septic/Other Contam:	Not Reported	Distance to Septic Tank:	Not Reported
Dist to Property Line:	Not Reported	Distance Verify Meth:	Not Reported
Approved by Variance:	Not Reported	Sealed by Driller:	Yes
Sealed by Name:	Not Reported	Surface Completion:	Surface Sleeve Installed
Surf Complete Desc:	Not Reported	Completed by Driller:	Not Reported
Pump Type:	Submersible	Pump Type Desc:	Not Reported
Pump Depth:	Not Reported	Chemical Analysis:	No
Injurious Water:	No	Company Name:	WEISINGER INCORPORATED
Driller Name:	Steven McGinnis		
Comments:	harris-galvaston subsidence district # 12974		
Plugged within 48 hrs:	No	Plugging Rpt Tracking #:	104700
Driller License #:	56045	Apprentice Reg #:	Not Reported

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Details Reports For: Top Depth:	Well Bore Hole 0	Diameter: Bottom Depth:	6.75 370
Details Reports For: Top Depth:	Well Bore Hole 370	Diameter: Bottom Depth:	4.5 400
Details Reports For:	Well Drilling Method	Drill Method:	Mud (Hydraulic) Rotary
Details Reports For:	Well Completion	Borehole Completion:	Other - 2-STRING
Details Reports For: Bottom Depth: Amount:	Well Seal Range 370 Not Reported	Top Depth: Annular Seal: Unit:	0 30 PORTLAND Not Reported
Details Reports For: Measurement Date: Measurement Method:	Well Levels 2014-06-25 Unknown	Measurement: Artesian Flow:	152 Not Reported
Details Reports For: Yield: Hours:	Well Test 75 Not Reported	Test Type: Drawdown:	Jetted Not Reported
Details Reports For: Top Depth: Water Type:	Well Strata Not Reported GOOD	Migrated Strata Depth: Bottom Depth:	366-394 Not Reported
Details Reports For: Top Depth: Lithology:	Well Lithology 0 CLAY	Migrated Sort #: Bottom Depth:	0 36
Details Reports For: Top Depth: Lithology:	Well Lithology 36 CLAY ROCK	Migrated Sort #: Bottom Depth:	0 62
Details Reports For: Top Depth: Lithology:	Well Lithology 62 SAND GRAVEL	Migrated Sort #: Bottom Depth:	0 110
Details Reports For: Top Depth: Lithology:	Well Lithology 110 CLAY	Migrated Sort #: Bottom Depth:	0 120
Details Reports For: Top Depth: Lithology:	Well Lithology 120 SAND	Migrated Sort #: Bottom Depth:	0 140
Details Reports For: Top Depth: Lithology:	Well Lithology 140 CLAY	Migrated Sort #: Bottom Depth:	0 150

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	150	Bottom Depth:	200
Lithology:	SAND ROCK ST.		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	200	Bottom Depth:	210
Lithology:	CLAY ROCK ST.		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	210	Bottom Depth:	220
Lithology:	SAND ROCK ST.		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	220	Bottom Depth:	230
Lithology:	CLAY ROCK ST.		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	230	Bottom Depth:	300
Lithology:	SAND ROCK ST.		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	300	Bottom Depth:	310
Lithology:	CLAY		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	310	Bottom Depth:	330
Lithology:	CLAY SAND ST.		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	330	Bottom Depth:	340
Lithology:	SAND		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	340	Bottom Depth:	370
Lithology:	CLAY		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	370	Bottom Depth:	390
Lithology:	SAND		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	390	Bottom Depth:	400
Lithology:	CLAY		
Details Reports For:	Well Casing	Migrated Sort #:	1
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	4" NEW SCH. 40 PVC WELL CASING	0-369	
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Details Reports For:	Well Casing	Migrated Sort #:	2
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	2.5"X4" K-PACKER 361-363	Diameter:	Not Reported
Casing Status:	Not Reported	Casing Material:	Not Reported
Casing Type:	Not Reported	Schedule:	Not Reported
Gauge:	Not Reported		

Details Reports For:	Well Casing	Migrated Sort #:	3
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	2.5" GALV. LINER 363-373	Diameter:	Not Reported
Casing Status:	Not Reported	Casing Material:	Not Reported
Casing Type:	Not Reported	Schedule:	Not Reported
Gauge:	Not Reported		

Details Reports For:	Well Casing	Migrated Sort #:	4
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	2.5" ROD BASE SS SCREEN 373-393	Casing Status:	Not Reported
Diameter:	Not Reported	Casing Type:	Not Reported
Casing Material:	Not Reported	Gauge:	Not Reported
Schedule:	Not Reported		

Details Reports For:	Well Casing	Migrated Sort #:	5
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	2.5" BHA 393-395	Diameter:	Not Reported
Casing Status:	Not Reported	Casing Material:	Not Reported
Casing Type:	Not Reported	Schedule:	Not Reported
Gauge:	Not Reported		

**D11  
West  
1/4 - 1/2 Mile  
Higher**

**TX WELLS      TXMON5000368375**

Database:	Submitted Drillers Reports Database (Monitoring)		
Well Rpt #:	373468	Well Type:	New Well
Proposed Use:	Public Supply	Borehole Depth (ft):	1108
Injurious Water Quality:	no	Plugging Rpt #:	Not Reported

Submitted Date:	2014-09-03	Owner Name:	Harris County MUD 536
Well #:	1	# Wells Drilled:	Not Reported
Elevation:	145	Type of Work:	New Well
Work Type Desc:	Not Reported	Original Well Rpt Track #:	Not Reported
Proposed Use:	Public Supply	Proposed Use Desc:	Not Reported
TCEQ Approved Plans:	Yes	PWS #:	Not Reported
Drill Start Date:	2014-06-23	Drill End Date:	2014-08-29
Seal Method:	Positive Displacement	Seal Method Desc:	Not Reported
Dist to Septic/Other Contam:	Not Reported	Distance to Septic Tank:	Not Reported
Dist to Property Line:	Not Reported	Distance Verify Meth:	Not Reported
Approved by Variance:	Not Reported	Sealed by Driller:	No
Sealed by Name:	Superior Energy Services	Surface Completion:	Surface Slab Installed
Surf Complete Desc:	Not Reported	Completed by Driller:	Not Reported
Pump Type:	Turbine	Pump Type Desc:	Not Reported
Pump Depth:	Not Reported	Chemical Analysis:	Yes
Injurious Water:	No	Company Name:	Weisinger Incorporated
Driller Name:	Keith Gilbert Ahee		
Comments:	assistant drillers: sacramento covarrubias vladimir ferrera randall davis miguel chigo-morales		

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Plugged within 48 hrs: Driller License #:	No 54547	Plugging Rpt Tracking #: Apprentice Reg #:	Not Reported Not Reported
Details Reports For: Top Depth:	Well Bore Hole 0	Diameter: Bottom Depth:	48 45
Details Reports For: Top Depth:	Well Bore Hole 0	Diameter: Bottom Depth:	30 830
Details Reports For: Top Depth:	Well Bore Hole 830	Diameter: Bottom Depth:	32 1100
Details Reports For:	Well Drilling Method	Drill Method:	Mud (Hydraulic) Rotary
Details Reports For:	Well Completion	Borehole Completion:	Filter Packed
Details Reports For:	Well Completion	Borehole Completion:	Under-reamed
Details Reports For: Top Depth: Size:	Well Filter 830 12-20	Filter Material: Bottom Depth:	Gravel 1100
Details Reports For: Bottom Depth: Amount:	Well Seal Range 830 Not Reported	Top Depth: Annular Seal: Unit:	0 1084 - cement Not Reported
Details Reports For: Bottom Depth: Amount:	Well Seal Range 50 Not Reported	Top Depth: Annular Seal: Unit:	0 170 - cement Not Reported
Details Reports For: Measurement Date: Measurement Method:	Well Levels 2014-08-29 Unknown	Measurement: Artesian Flow:	378 Not Reported
Details Reports For: Packers:	Well Packers N/A	Migrated Sort #: Depth:	1 Not Reported
Details Reports For: Yield: Hours:	Well Test 1511 36	Test Type: Drawdown:	Pump 148.02
Details Reports For: Bottom Depth: Plugback:	Well Plugback Not Reported N/A	Top Depth: Migrated Sort #:	Not Reported 1
Details Reports For: Top Depth: Water Type:	Well Strata Not Reported Fresh	Migrated Strata Depth: Bottom Depth:	832-1088 Not Reported

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	530	Bottom Depth:	600
Lithology:	clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	600	Bottom Depth:	650
Lithology:	sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	650	Bottom Depth:	670
Lithology:	clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	670	Bottom Depth:	680
Lithology:	sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	680	Bottom Depth:	690
Lithology:	clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	690	Bottom Depth:	750
Lithology:	sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	750	Bottom Depth:	770
Lithology:	clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	770	Bottom Depth:	800
Lithology:	sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	800	Bottom Depth:	820
Lithology:	clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	820	Bottom Depth:	890
Lithology:	sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	890	Bottom Depth:	1000
Lithology:	clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	1000	Bottom Depth:	1100
Lithology:	sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	1100	Bottom Depth:	1100

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Lithology:	shale and clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	1100	Bottom Depth:	1100
Lithology:	sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	1100	Bottom Depth:	1200
Lithology:	clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	1200	Bottom Depth:	1300
Lithology:	sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	1300	Bottom Depth:	1300
Lithology:	clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	1300	Bottom Depth:	1400
Lithology:	sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	1400	Bottom Depth:	1400
Lithology:	clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	0	Bottom Depth:	62
Lithology:	clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	62	Bottom Depth:	120
Lithology:	sand and gravel		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	120	Bottom Depth:	150
Lithology:	clay and gravel		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	150	Bottom Depth:	180
Lithology:	sand and gravel		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	180	Bottom Depth:	210
Lithology:	clay and gravel		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	210	Bottom Depth:	240
Lithology:	clay.		

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	240	Bottom Depth:	310
Lithology:	clay and gravel		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	310	Bottom Depth:	340
Lithology:	sand and clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	340	Bottom Depth:	430
Lithology:	clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	430	Bottom Depth:	520
Lithology:	sand and clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	520	Bottom Depth:	530
Lithology:	sand		
Details Reports For:	Well Casing	Migrated Sort #:	1
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	24 N Surface Casing 0-826	Diameter:	Not Reported
Casing Status:	Not Reported	Casing Material:	Not Reported
Casing Type:	Not Reported	Schedule:	Not Reported
Gauge:	Not Reported		
Details Reports For:	Well Casing	Migrated Sort #:	2
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Blank Liner 726-832	Diameter:	Not Reported
Casing Status:	Not Reported	Casing Material:	Not Reported
Casing Type:	Not Reported	Schedule:	Not Reported
Gauge:	Not Reported		
Details Reports For:	Well Casing	Migrated Sort #:	3
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Screen 832-888 .025	Diameter:	Not Reported
Casing Status:	Not Reported	Casing Material:	Not Reported
Casing Type:	Not Reported	Schedule:	Not Reported
Gauge:	Not Reported		
Details Reports For:	Well Casing	Migrated Sort #:	4
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Blank Liner 888-920	Diameter:	Not Reported
Casing Status:	Not Reported	Casing Material:	Not Reported
Casing Type:	Not Reported	Schedule:	Not Reported
Gauge:	Not Reported		
Details Reports For:	Well Casing	Migrated Sort #:	5
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Screen 920-925 .025	Diameter:	Not Reported
Casing Status:	Not Reported	Casing Material:	Not Reported
Casing Type:	Not Reported	Schedule:	Not Reported



## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Gauge: Not Reported

Details Reports For:	Well Casing	Migrated Sort #:	6
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Blank Liner 925-957	Diameter:	Not Reported
Casing Status:	Not Reported	Casing Material:	Not Reported
Casing Type:	Not Reported	Schedule:	Not Reported
Gauge:	Not Reported		

Details Reports For:	Well Casing	Migrated Sort #:	7
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Screen 957-963 .025	Diameter:	Not Reported
Casing Status:	Not Reported	Casing Material:	Not Reported
Casing Type:	Not Reported	Schedule:	Not Reported
Gauge:	Not Reported		

Details Reports For:	Well Casing	Migrated Sort #:	8
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Blank Liner 963-995	Diameter:	Not Reported
Casing Status:	Not Reported	Casing Material:	Not Reported
Casing Type:	Not Reported	Schedule:	Not Reported
Gauge:	Not Reported		

Details Reports For:	Well Casing	Migrated Sort #:	9
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Screen 995-1000 .025	Diameter:	Not Reported
Casing Status:	Not Reported	Casing Material:	Not Reported
Casing Type:	Not Reported	Schedule:	Not Reported
Gauge:	Not Reported		

Details Reports For:	Well Casing	Migrated Sort #:	10
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Blank Liner 1000-1032	Casing Status:	Not Reported
Diameter:	Not Reported	Casing Type:	Not Reported
Casing Material:	Not Reported	Gauge:	Not Reported
Schedule:	Not Reported		

Details Reports For:	Well Casing	Migrated Sort #:	11
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Screen 1032-1062 .025	Casing Status:	Not Reported
Diameter:	Not Reported	Casing Type:	Not Reported
Casing Material:	Not Reported	Gauge:	Not Reported
Schedule:	Not Reported		

Details Reports For:	Well Casing	Migrated Sort #:	12
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Blank Liner 1062-1081	Casing Status:	Not Reported
Diameter:	Not Reported	Casing Type:	Not Reported
Casing Material:	Not Reported	Gauge:	Not Reported
Schedule:	Not Reported		

Details Reports For:	Well Casing	Migrated Sort #:	13
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Screen 1081-1088 .025		

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

Details Reports For:	Well Casing	Migrated Sort #:	14
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	18 N Blank Liner & BPV 1088-1108		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

**D12**  
West  
1/4 - 1/2 Mile  
Higher

**TX WELLS    TXPLU5000048807**

Database:	Submitted Drillers Reports Database (Plugged)		
Plugging Rpt #:	104700	Well Type:	Withdrawal of Water
Borehole Depth (ft):	395	Well Report #:	367409

Details Reports For:	Plug Data	Submitted Date:	2015-09-17
Owner Name:	HC MUD 536	Well #:	Not Reported
# Wells Plugged:	Not Reported	Elevation:	Not Reported
Original Company Name:	Not Reported	Original Driller:	STEVE MCGINNIS
Original License #:	56045	Original Well Use:	Withdrawal of Water
Original Drill Date:	2014-06-25		
Plug Method:	Tremmie pipe cement from bottom to top		
Plug Date:	2015-05-11	Variance #:	Not Reported
Company Name:	WEISINGER INCORPORATED	Plugging Name:	STEVEN MCGINNIS
Driller License:	56045	Apprentice Reg #:	Not Reported
Comments:	No Data	Comments:	Not Reported

Details Reports For:	Plug Bore Hole	Diameter:	6.75
Top Depth:	Not Reported	Bottom Depth:	400

Details Reports For:	Plug Casing	Top Depth:	4
Bottom Depth:	370	Diameter:	4

Details Reports For:	Plug Range	Top Depth:	0
Bottom Depth:	400	Plug Seal:	22 PORTLAND
Amount:	Not Reported	Unit:	Not Reported

**D13**  
West  
1/4 - 1/2 Mile  
Higher

**TX WELLS    TXGH50000011031**

Database:	Water Well Database	Well #:	12528
Permittee:	Harris Co. M.U.D. 536	Year Drilled:	2014
Diameter:	14	Total Depth:	1300
Depth to 1st Screen:	660	Active:	FALSE
Usage:	P		

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID  
Direction  
Distance  
Elevation

Database      EDR ID Number

**14**  
**NNE**  
**1/2 - 1 Mile**  
**Higher**

**TX WELLS      TXMON5000210404**

Database:	Submitted Drillers Reports Database (Monitoring)	Well Type:	New Well
Well Rpt #:	213450	Borehole Depth (ft):	312
Proposed Use:	Domestic	Plugging Rpt #:	Not Reported
Injurious Water Quality:	no		
Submitted Date:	2010-04-20	Owner Name:	Cuong Tran
Well #:	Not Reported	# Wells Drilled:	Not Reported
Elevation:	Not Reported	Type of Work:	New Well
Work Type Desc:	Not Reported	Original Well Rpt Track #:	Not Reported
Proposed Use:	Domestic	Proposed Use Desc:	Not Reported
TCEQ Approved Plans:	Not Reported	PWS #:	Not Reported
Drill Start Date:	2010-03-15	Drill End Date:	2010-03-16
Seal Method:	Other - Halliburton (Fully Pressure Cemented)		
Seal Method Desc:	Halliburton (Fully Pressure Cemented)		
Dist to Septic/Other Contam:	Not Reported	Distance to Septic Tank:	Not Reported
Dist to Property Line:	Not Reported	Distance Verify Meth:	Not Reported
Approved by Variance:	Not Reported	Sealed by Driller:	No
Sealed by Name:	Geophysical Drilling Inc.	Surface Completion:	Pitless Adapter Used
Surf Complete Desc:	Not Reported	Completed by Driller:	Not Reported
Pump Type:	Submersible	Pump Type Desc:	Not Reported
Pump Depth:	200.00	Chemical Analysis:	No
Injurious Water:	No	Company Name:	Geophysical Drilling Inc,
Driller Name:	Gregory D Hill	Comments:	Not Reported
Plugged within 48 hrs:	No	Plugging Rpt Tracking #:	Not Reported
Driller License #:	2888	Apprentice Reg #:	Not Reported
Details Reports For:	Well Bore Hole	Diameter:	4.75
Top Depth:	300	Bottom Depth:	310
Details Reports For:	Well Bore Hole	Diameter:	7
Top Depth:	0	Bottom Depth:	300
Details Reports For:	Well Drilling Method	Drill Method:	Mud (Hydraulic) Rotary
Details Reports For:	Well Completion	Borehole Completion:	Other - Two-String
Details Reports For:	Well Seal Range	Top Depth:	120
Bottom Depth:	300	Annular Seal:	17 cement
Amount:	Not Reported	Unit:	Not Reported
Details Reports For:	Well Seal Range	Top Depth:	0
Bottom Depth:	120	Annular Seal:	10 Gell
Amount:	Not Reported	Unit:	Not Reported
Details Reports For:	Well Levels	Measurement:	140
Measurement Date:	Not Reported	Artesian Flow:	Not Reported
Measurement Method:	Unknown		

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Details Reports For: Packers:	Well Packers Formation Packer - 18ft	Migrated Sort #: Depth:	1 Not Reported
Details Reports For: Packers:	Well Packers B.P. Seal - 296ft	Migrated Sort #: Depth:	2 Not Reported
Details Reports For: Yield: Hours:	Well Test 80 12	Test Type: Drawdown:	Jetted 10
Details Reports For: Top Depth: Water Type:	Well Strata Not Reported Good	Migrated Strata Depth: Bottom Depth:	20' Not Reported
Details Reports For: Top Depth: Lithology:	Well Lithology Not Reported 0-20: Topsoil, Red & white clay	Migrated Sort #: Bottom Depth:	1 Not Reported
Details Reports For: Top Depth: Lithology:	Well Lithology Not Reported 20-40: Red clay, rock, sand	Migrated Sort #: Bottom Depth:	2 Not Reported
Details Reports For: Top Depth: Lithology:	Well Lithology Not Reported 40-60: Red clay & sand	Migrated Sort #: Bottom Depth:	3 Not Reported
Details Reports For: Top Depth: Lithology:	Well Lithology Not Reported 60-140: Sand & gravel with rock	Migrated Sort #: Bottom Depth:	4 Not Reported
Details Reports For: Top Depth: Lithology:	Well Lithology Not Reported 140-312: Sand with rock	Migrated Sort #: Bottom Depth:	5 Not Reported
Details Reports For: Top Depth: Migrated Casing Info: Diameter: Casing Material: Schedule:	Well Casing Not Reported 4 * new * PVC Well Casing * 0-300 * sch40 Not Reported Not Reported Not Reported	Migrated Sort #: Bottom Depth: Casing Status: Casing Type: Gauge:	1 Not Reported Not Reported Not Reported Not Reported
Details Reports For: Top Depth: Migrated Casing Info: Diameter: Casing Material: Schedule:	Well Casing Not Reported 2.5 * new * PVC Blank Pipe * 296-301 * sch80 Not Reported Not Reported Not Reported	Migrated Sort #: Bottom Depth: Casing Status: Casing Type: Gauge:	2 Not Reported Not Reported Not Reported Not Reported
Details Reports For: Top Depth: Migrated Casing Info:	Well Casing Not Reported 2.5 * new * S/S Rodbase Screen * 301-311 * 8ga	Migrated Sort #: Bottom Depth:	3 Not Reported

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

Details Reports For:	Well Casing	Migrated Sort #:	4
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	2.5 * new * Sawtooth Nipple * 311-312 * sch40		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

**D15  
West  
1/2 - 1 Mile  
Higher**

**TX WELLS      TXGH50000010878**

Database:	Water Well Database	Well #:	12974
Permittee:	Harris Co. M.U.D. 536	Year Drilled:	0
Diameter:	4	Total Depth:	500
Depth to 1st Screen:	450	Active:	FALSE
Usage:	I		

**E16  
NW  
1/2 - 1 Mile  
Higher**

**TX WELLS      TXEQ60000011872**

Database:	Public Water Supply Sources Databases	Water Source:	G1013337A
PWS ID:	1013337	Elevation:	0
Locating Agency:	TCEQ		

**E17  
NW  
1/2 - 1 Mile  
Higher**

**TX WELLS      TXMON5000104659**

Database:	Submitted Drillers Reports Database (Monitoring)		
Well Rpt #:	106333	Well Type:	New Well
Proposed Use:	Public Supply	Borehole Depth (ft):	468
Injurious Water Quality:	no	Plugging Rpt #:	Not Reported

Submitted Date:	2007-03-13	Owner Name:	El Bueno Pastor Bautista Iglesia
Well #:	n/a	# Wells Drilled:	Not Reported
Elevation:	Not Reported	Type of Work:	New Well
Work Type Desc:	Not Reported	Original Well Rpt Track #:	Not Reported
Proposed Use:	Public Supply	Proposed Use Desc:	Not Reported
TCEQ Approved Plans:	Yes	PWS #:	Not Reported
Drill Start Date:	2005-03-09	Drill End Date:	2005-04-18
Seal Method:	Positive Displacement	Seal Method Desc:	Not Reported
Dist to Septic/Other Contam:	n/a	Distance to Septic Tank:	Not Reported
Dist to Property Line:	120	Distance Verify Meth:	Tape
Approved by Variance:	n/a	Sealed by Driller:	Yes
Sealed by Name:	Not Reported	Surface Completion:	Alternative Procedure Used
Surf Complete Desc:	Not Reported	Completed by Driller:	Not Reported

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Pump Type:	Submersible	Pump Type Desc:	Not Reported
Pump Depth:	252.00	Chemical Analysis:	Yes
Injurious Water:	No	Company Name:	Kenco Water Well Service
Driller Name:	Roland Kenneth Robinson		
Comments:	this report mailed to tdlr 05/09/2005.		
Plugged within 48 hrs:	No	Plugging Rpt Tracking #:	Not Reported
Driller License #:	2214	Apprentice Reg #:	Not Reported
Details Reports For:	Well Bore Hole	Diameter:	8
Top Depth:	0	Bottom Depth:	470
Details Reports For:	Well Drilling Method	Drill Method:	Mud (Hydraulic) Rotary
Details Reports For:	Well Completion	Borehole Completion:	Other - Cemented Top to Bottom
Details Reports For:	Well Seal Range	Top Depth:	0
Bottom Depth:	450	Annular Seal:	79 Portland
Amount:	Not Reported	Unit:	Not Reported
Details Reports For:	Well Levels	Measurement:	198
Measurement Date:	2005-04-18	Artesian Flow:	Not Reported
Measurement Method:	Unknown		
Details Reports For:	Well Packers	Migrated Sort #:	1
Packers:	K-Packers RxR (3) 426' & 427'		
Depth:	Not Reported		
Details Reports For:	Well Test	Test Type:	Jetted
Yield:	16	Drawdown:	10
Hours:	36		
Details Reports For:	Well Strata	Migrated Strata Depth:	Not Reported
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Water Type:	Good		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	0	Bottom Depth:	75
Lithology:	Orange Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	75	Bottom Depth:	120
Lithology:	Gravel		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	120	Bottom Depth:	120
Lithology:	Rock		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	120	Bottom Depth:	140
Lithology:	Gravel		

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	140	Bottom Depth:	150
Lithology:	Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	150	Bottom Depth:	200
Lithology:	Rock & Gravel		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	200	Bottom Depth:	250
Lithology:	Rock & Sand Stone		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	250	Bottom Depth:	250
Lithology:	Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	250	Bottom Depth:	260
Lithology:	Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	260	Bottom Depth:	260
Lithology:	Rock		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	260	Bottom Depth:	270
Lithology:	Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	270	Bottom Depth:	290
Lithology:	Sand & Rock		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	270	Bottom Depth:	270
Lithology:	Rock		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	290	Bottom Depth:	300
Lithology:	Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	300	Bottom Depth:	350
Lithology:	Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	350	Bottom Depth:	360
Lithology:	Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	360	Bottom Depth:	390

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Lithology:	Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	390	Bottom Depth:	390
Lithology:	Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	390	Bottom Depth:	390
Lithology:	Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	390	Bottom Depth:	420
Lithology:	Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	420	Bottom Depth:	470
Lithology:	Sand		
Details Reports For:	Well Casing	Migrated Sort #:	1
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	4" N PVC 0 - 468 Sch. 40	Diameter:	Not Reported
Casing Status:	Not Reported	Casing Material:	Not Reported
Casing Type:	Not Reported	Schedule:	Not Reported
Gauge:	Not Reported		
Details Reports For:	Well Casing	Migrated Sort #:	2
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	2 1/2" N Steel Screen 448 - 468	Casing Status:	Not Reported
Diameter:	Not Reported	Casing Type:	Not Reported
Casing Material:	Not Reported	Gauge:	Not Reported
Schedule:	Not Reported		
Details Reports For:	Well Casing	Migrated Sort #:	3
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	2 1/2" N Galvanized Liner 427 - 448	Casing Status:	Not Reported
Diameter:	Not Reported	Casing Type:	Not Reported
Casing Material:	Not Reported	Gauge:	Not Reported
Schedule:	Not Reported		

**E18  
NW  
1/2 - 1 Mile  
Higher**

**TX WELLS TXGH5000008960**

Database:	Water Well Database	Well #:	9961
Permittee:	El Buen Pastor Baptist Church	Year Drilled:	0
Diameter:	4	Total Depth:	480
Depth to 1st Screen:	460	Active:	TRUE
Usage:	L		



# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID  
Direction  
Distance  
Elevation

Database      EDR ID Number

**19**  
**SW**  
**1/2 - 1 Mile**  
**Higher**

**TX WELLS      TXPLU5000022704**

Database:	Submitted Drillers Reports Database (Plugged)		
Plugging Rpt #:	102101	Well Type:	Withdrawal of Water
Borehole Depth (ft):	257	Well Report #:	Not Reported

Details Reports For:	Plug Data	Submitted Date:	2015-05-11
Owner Name:	Hassell Construction	Well #:	Not Reported
# Wells Plugged:	Not Reported	Elevation:	Not Reported
Original Company Name:	Not Reported	Original Driller:	Not Reported
Original License #:	Not Reported	Original Well Use:	Withdrawal of Water
Original Drill Date:	Not Reported		
Plug Method:	Tremmie pipe cement from bottom to top		
Plug Date:	2015-04-27	Variance #:	Not Reported
Company Name:	Hildebrandt's Water Wells	Plugging Name:	Steve Hildebrandt
Driller License:	4573	Apprentice Reg #:	Not Reported
Comments:	No Data	Comments:	Not Reported

Details Reports For:	Plug Bore Hole	Diameter:	4
Top Depth:	Not Reported	Bottom Depth:	260

Details Reports For:	Plug Casing	Top Depth:	4
Bottom Depth:	260	Diameter:	4

Details Reports For:	Plug Range	Top Depth:	4
Bottom Depth:	260	Plug Seal:	12
Amount:	Not Reported	Unit:	Not Reported

**20**  
**SSW**  
**1/2 - 1 Mile**  
**Lower**

**TX WELLS      TXMON5000043885**

Database:	Submitted Drillers Reports Database (Monitoring)		
Well Rpt #:	44937	Well Type:	New Well
Proposed Use:	Domestic	Borehole Depth (ft):	255
Injurious Water Quality:	no	Plugging Rpt #:	Not Reported

Submitted Date:	2004-09-15	Owner Name:	JOSE & SONIA MIRANDA
Well #:	Not Reported	# Wells Drilled:	Not Reported
Elevation:	Not Reported	Type of Work:	New Well
Work Type Desc:	Not Reported	Original Well Rpt Track #:	Not Reported
Proposed Use:	Domestic	Proposed Use Desc:	Not Reported
TCEQ Approved Plans:	Not Reported	PWS #:	Not Reported
Drill Start Date:	2004-09-01	Drill End Date:	2004-09-02
Seal Method:	Positive Displacement	Seal Method Desc:	Not Reported
Dist to Septic/Other Contam:	100	Distance to Septic Tank:	Not Reported
Dist to Property Line:	100	Distance Verify Meth:	OWNER
Approved by Variance:	Not Reported	Sealed by Driller:	No
Sealed by Name:	SDI	Surface Completion:	Surface Sleeve Installed

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Surf Complete Desc:	Not Reported	Completed by Driller:	Not Reported
Pump Type:	Submersible	Pump Type Desc:	Not Reported
Pump Depth:	200.00	Chemical Analysis:	No
Injurious Water:	No	Company Name:	SCOTT DRILLING INC.
Driller Name:	Scott G Robinson	Comments:	Not Reported
Plugged within 48 hrs:	No	Plugging Rpt Tracking #:	Not Reported
Driller License #:	4839	Apprentice Reg #:	Not Reported
Details Reports For:	Well Bore Hole	Diameter:	6.75
Top Depth:	0	Bottom Depth:	260
Details Reports For:	Well Drilling Method	Drill Method:	Mud (Hydraulic) Rotary
Details Reports For:	Well Completion	Borehole Completion:	Other - 2 STRING
Details Reports For:	Well Seal Range	Top Depth:	0
Bottom Depth:	10	Annular Seal:	10
Amount:	Not Reported	Unit:	Not Reported
Details Reports For:	Well Seal Range	Top Depth:	0
Bottom Depth:	240	Annular Seal:	14
Amount:	Not Reported	Unit:	Not Reported
Details Reports For:	Well Levels	Measurement:	150
Measurement Date:	2004-09-02	Artesian Flow:	Not Reported
Measurement Method:	Unknown		
Details Reports For:	Well Packers	Migrated Sort #:	1
Packers:	K - PACKER 235	Depth:	Not Reported
Details Reports For:	Well Test	Test Type:	Jetted
Yield:	35	Drawdown:	Not Reported
Hours:	Not Reported		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	0	Bottom Depth:	30
Lithology:	CLAY		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	30	Bottom Depth:	35
Lithology:	SAND		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	35	Bottom Depth:	55
Lithology:	CLAY		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	55	Bottom Depth:	260
Lithology:	SAND		

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Details Reports For:	Well Casing	Migrated Sort #:	1
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	4 N PVC CASING 000/240	Diameter:	Not Reported
Casing Status:	Not Reported	Casing Material:	Not Reported
Casing Type:	Not Reported	Schedule:	Not Reported
Gauge:	Not Reported		

Details Reports For:	Well Casing	Migrated Sort #:	2
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	2.5 N PVC LINER 235/240	Diameter:	Not Reported
Casing Status:	Not Reported	Casing Material:	Not Reported
Casing Type:	Not Reported	Schedule:	Not Reported
Gauge:	Not Reported		

Details Reports For:	Well Casing	Migrated Sort #:	3
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	2.5 N PVC SCREEN 240/255 .08	Casing Status:	Not Reported
Diameter:	Not Reported	Casing Type:	Not Reported
Casing Material:	Not Reported	Gauge:	Not Reported
Schedule:	Not Reported		

**F21**  
**SE**  
**1/2 - 1 Mile**  
**Lower**

**TX WELLS TXGH5000005793**

Database:	Water Well Database	Well #:	6865
Permittee:	Morton Trust	Year Drilled:	0
Diameter:	20	Total Depth:	0
Depth to 1st Screen:	0	Active:	FALSE
Usage:	O		

**G22**  
**NE**  
**1/2 - 1 Mile**  
**Lower**

**TX WELLS TXWDB7000106015**

Database:	Groundwater Database	Well #:	6510606
Primary Water Use:	Unused	Elevation:	143
Well Depth:	500	Observation Type:	Historical Observation Well
Water Quality Review:	N	Aquifer:	112CHCT - Chicot Aquifer
Well Type:	Withdrawal of Water		

**G23**  
**NE**  
**1/2 - 1 Mile**  
**Lower**

**TX WELLS TXMON5000109151**

Database:	Submitted Drillers Reports Database (Monitoring)	Well Type:	New Well
Well Rpt #:	110896	Borehole Depth (ft):	35
Proposed Use:	Monitor	Plugging Rpt #:	Not Reported
Injurious Water Quality:	Not Reported		

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Submitted Date:	2007-05-03	Owner Name:	Trend Development
Well #:	MW-1	# Wells Drilled:	Not Reported
Elevation:	Not Reported	Type of Work:	New Well
Work Type Desc:	Not Reported	Original Well Rpt Track #:	Not Reported
Proposed Use:	Monitor	Proposed Use Desc:	Not Reported
TCEQ Approved Plans:	Not Reported	PWS #:	Not Reported
Drill Start Date:	2007-03-08	Drill End Date:	2007-03-08
Seal Method:	Other - grout pump	Seal Method Desc:	grout pump
Dist to Septic/Other Contam:	Not Reported	Distance to Septic Tank:	Not Reported
Dist to Property Line:	Not Reported	Distance Verify Meth:	Not Reported
Approved by Variance:	Not Reported	Sealed by Driller:	No
Sealed by Name:	MEDI	Surface Completion:	Surface Slab Installed
Surf Complete Desc:	Not Reported	Completed by Driller:	Not Reported
Pump Type:	Not Reported	Pump Type Desc:	Not Reported
Pump Depth:	Not Reported	Chemical Analysis:	Not Reported
Injurious Water:	Not Reported	Company Name:	Mathers Environmental Drilling Inc.
Driller Name:	Shannon Mathers	Comments:	Not Reported
Plugged within 48 hrs:	No	Plugging Rpt Tracking #:	Not Reported
Driller License #:	54933	Apprentice Reg #:	Not Reported
Details Reports For:	Well Bore Hole	Diameter:	8
Top Depth:	0	Bottom Depth:	35
Details Reports For:	Well Drilling Method	Drill Method:	Hollow Stem Auger
Details Reports For:	Well Completion	Borehole Completion:	Other - 20/40 sand
Details Reports For:	Well Seal Range	Top Depth:	23
Bottom Depth:	35	Annular Seal:	7,sand
Amount:	Not Reported	Unit:	Not Reported
Details Reports For:	Well Seal Range	Top Depth:	0
Bottom Depth:	21	Annular Seal:	3,cement
Amount:	Not Reported	Unit:	Not Reported
Details Reports For:	Well Seal Range	Top Depth:	21
Bottom Depth:	23	Annular Seal:	1,bentonite
Amount:	Not Reported	Unit:	Not Reported
Details Reports For:	Well Packers	Migrated Sort #:	1
Packers:	bentonite chips 23' - 21'	Depth:	Not Reported
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	0	Bottom Depth:	6
Lithology:	brown clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	6	Bottom Depth:	8
Lithology:	tan silty clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	8	Bottom Depth:	12

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Lithology:	orange clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	12	Bottom Depth:	18
Lithology:	tan silty clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	18	Bottom Depth:	20
Lithology:	caliche		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	20	Bottom Depth:	32
Lithology:	tan silty clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	32	Bottom Depth:	35
Lithology:	clayey silt		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	35	Bottom Depth:	35
Lithology:	sandstone		
Details Reports For:	Well Casing	Migrated Sort #:	1
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	2 new sch. 40 pvc screen 35 - 25 0.010 slot	Casing Status:	Not Reported
Diameter:	Not Reported	Casing Type:	Not Reported
Casing Material:	Not Reported	Gauge:	Not Reported
Schedule:	Not Reported		
Details Reports For:	Well Casing	Migrated Sort #:	2
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	2 new sch. 40 pvc riser 25 - 0	Casing Status:	Not Reported
Diameter:	Not Reported	Casing Type:	Not Reported
Casing Material:	Not Reported	Gauge:	Not Reported
Schedule:	Not Reported		

**F24  
SE  
1/2 - 1 Mile  
Lower**

**TX WELLS TXMON5000158259**

Database:	Submitted Drillers Reports Database (Monitoring)		
Well Rpt #:	160794	Well Type:	New Well
Proposed Use:	Domestic	Borehole Depth (ft):	300
Injurious Water Quality:	no	Plugging Rpt #:	Not Reported
Submitted Date:	2008-12-01	Owner Name:	James Morton
Well #:	Not Reported	# Wells Drilled:	Not Reported
Elevation:	Not Reported	Type of Work:	New Well
Work Type Desc:	Not Reported	Original Well Rpt Track #:	Not Reported
Proposed Use:	Domestic	Proposed Use Desc:	Not Reported
TCEQ Approved Plans:	Not Reported	PWS #:	Not Reported

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Drill Start Date:	2005-08-31	Drill End Date:	2005-09-12
Seal Method:	Other - Halliburton (Fully Pressure Cemented)		
Seal Method Desc:	Halliburton (Fully Pressure Cemented)		
Dist to Septic/Other Contam:	200	Distance to Septic Tank:	Not Reported
Dist to Property Line:	Not Reported	Distance Verify Meth:	Measured
Approved by Variance:	Not Reported	Sealed by Driller:	No
Sealed by Name:	Geophysical Drilling Inc.	Surface Completion:	Pitless Adapter Used
Surf Complete Desc:	Not Reported	Completed by Driller:	Not Reported
Pump Type:	Submersible	Pump Type Desc:	Not Reported
Pump Depth:	220.00	Chemical Analysis:	No
Injurious Water:	No	Company Name:	Geophysical Drilling, Inc.
Driller Name:	Gregory D Hill	Comments:	\$mew
Plugged within 48 hrs:	No	Plugging Rpt Tracking #:	Not Reported
Driller License #:	2888	Apprentice Reg #:	Not Reported

Details Reports For:	Well Bore Hole	Diameter:	6.75
Top Depth:	0	Bottom Depth:	290

Details Reports For:	Well Bore Hole	Diameter:	4.75
Top Depth:	290	Bottom Depth:	300

Details Reports For:	Well Drilling Method	Drill Method:	Mud (Hydraulic) Rotary
----------------------	----------------------	---------------	------------------------

Details Reports For:	Well Completion	Borehole Completion:	Other - Two String
----------------------	-----------------	----------------------	--------------------

Details Reports For:	Well Seal Range	Top Depth:	0
Bottom Depth:	290	Annular Seal:	13 Cement
Amount:	Not Reported	Unit:	Not Reported

Details Reports For:	Well Seal Range	Top Depth:	1
Bottom Depth:	20	Annular Seal:	4 Cement
Amount:	Not Reported	Unit:	Not Reported

Details Reports For:	Well Levels	Measurement:	133
Measurement Date:	2005-09-01	Artesian Flow:	Not Reported
Measurement Method:	Unknown		

Details Reports For:	Well Packers	Migrated Sort #:	1
Packers:	Formation Packer 20'	Depth:	Not Reported

Details Reports For:	Well Packers	Migrated Sort #:	2
Packers:	BP Seal 282'	Depth:	Not Reported

Details Reports For:	Well Test	Test Type:	Jetted
Yield:	65	Drawdown:	Not Reported
Hours:	Not Reported		

Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	0	Bottom Depth:	20
Lithology:	Topsoil, Sand		

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	20	Bottom Depth:	40
Lithology:	Sand & Rock		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	40	Bottom Depth:	60
Lithology:	Red Clay & Fine Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	60	Bottom Depth:	80
Lithology:	Sand with Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	80	Bottom Depth:	160
Lithology:	Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	160	Bottom Depth:	170
Lithology:	Red Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	170	Bottom Depth:	240
Lithology:	Sand & Rock		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	240	Bottom Depth:	240
Lithology:	Red Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	240	Bottom Depth:	260
Lithology:	Sand & Rock with Red Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	260	Bottom Depth:	280
Lithology:	Sand with Sandstone		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	280	Bottom Depth:	300
Lithology:	Sand ..... (Rock @ Bottom)		
Details Reports For:	Well Casing	Migrated Sort #:	1
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	4 New PVC Well Casing +2 - 288 Sch40		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported
Details Reports For:	Well Casing	Migrated Sort #:	2
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	2 1/2 New PVC Blank Pipe 282 - 289 Sch80		
Diameter:	Not Reported	Casing Status:	Not Reported

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

Details Reports For:	Well Casing	Migrated Sort #:	3
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	2 1/2 New SS Rod Base Screen 289 - 299 8 ga.		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

Details Reports For:	Well Casing	Migrated Sort #:	4
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	2 1/2 New Sawtooth Nipple 299 - 300 Sch40		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

**H25  
East  
1/2 - 1 Mile  
Lower**

**TX WELLS      TXGH50000011474**

Database:	Water Well Database	Well #:	12729
Permittee:	Grand Parkway Industrial, LP	Year Drilled:	201
Diameter:	8	Total Depth:	450
Depth to 1st Screen:	390	Active:	FALSE
Usage:	D		

**H26  
East  
1/2 - 1 Mile  
Lower**

**TX WELLS      TXMON5000386478**

Database:	Submitted Drillers Reports Database (Monitoring)		
Well Rpt #:	392069	Well Type:	New Well
Proposed Use:	Public Supply	Borehole Depth (ft):	350
Injurious Water Quality:	no	Plugging Rpt #:	Not Reported
Submitted Date:	2015-04-08	Owner Name:	Grand Parkway Industrial LP
Well #:	Not Reported	# Wells Drilled:	Not Reported
Elevation:	Not Reported	Type of Work:	New Well
Work Type Desc:	Not Reported	Original Well Rpt Track #:	Not Reported
Proposed Use:	Public Supply	Proposed Use Desc:	Not Reported
TCEQ Approved Plans:	Yes	PWS #:	Not Reported
Drill Start Date:	2014-10-27	Drill End Date:	2014-11-20
Seal Method:	Positive Displacement	Seal Method Desc:	Not Reported
Dist to Septic/Other Contam:	>150	Distance to Septic Tank:	Not Reported
Dist to Property Line:	Not Reported	Distance Verify Meth:	Estimated
Approved by Variance:	Not Reported	Sealed by Driller:	Yes
Sealed by Name:	Not Reported	Surface Completion:	Surface Slab Installed
Surf Complete Desc:	Not Reported	Completed by Driller:	Not Reported
Pump Type:	Submersible	Pump Type Desc:	Not Reported
Pump Depth:	Not Reported	Chemical Analysis:	No
Injurious Water:	No	Company Name:	Bussell & Sons LLC
Driller Name:	Robert Quincy Pipes	Comments:	^lead



## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Plugged within 48 hrs:	No	Plugging Rpt Tracking #:	Not Reported
Driller License #:	4196	Apprentice Reg #:	Not Reported
Details Reports For:	Well Bore Hole	Diameter:	12.25
Top Depth:	0	Bottom Depth:	280
Details Reports For:	Well Bore Hole	Diameter:	7.875
Top Depth:	280	Bottom Depth:	350
Details Reports For:	Well Drilling Method	Drill Method:	Mud (Hydraulic) Rotary
Details Reports For:	Well Completion	Borehole Completion:	Straight Wall
Details Reports For:	Well Seal Range	Top Depth:	0
Bottom Depth:	280	Annular Seal:	100
Amount:	Not Reported	Unit:	Not Reported
Details Reports For:	Well Levels	Measurement:	149
Measurement Date:	2014-11-20	Artesian Flow:	Not Reported
Measurement Method:	Unknown		
Details Reports For:	Well Packers	Migrated Sort #:	1
Packers:	K-Packers @ 274' and 275'	Depth:	Not Reported
Details Reports For:	Well Packers	Migrated Sort #:	1
Packers:	K-Packers @ 274' and 275'	Depth:	Not Reported
Details Reports For:	Well Test	Test Type:	Jetted
Yield:	800	Drawdown:	200
Hours:	Not Reported		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	0	Bottom Depth:	12
Lithology:	clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	12	Bottom Depth:	17
Lithology:	red clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	17	Bottom Depth:	29
Lithology:	sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	29	Bottom Depth:	31
Lithology:	clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Top Depth:	31	Bottom Depth:	40
Lithology:	sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	40	Bottom Depth:	52
Lithology:	clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	52	Bottom Depth:	58
Lithology:	sand and clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	72	Bottom Depth:	110
Lithology:	rock gravel		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	110	Bottom Depth:	130
Lithology:	sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	130	Bottom Depth:	160
Lithology:	sand w/gravel		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	160	Bottom Depth:	170
Lithology:	clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	170	Bottom Depth:	280
Lithology:	gravel and sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	280	Bottom Depth:	310
Lithology:	sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	310	Bottom Depth:	320
Lithology:	clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	320	Bottom Depth:	350
Lithology:	sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	350	Bottom Depth:	350
Lithology:	clay		
Details Reports For:	Well Casing	Migrated Sort #:	1
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	8" New Black Steel Casing 0'-280'		

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

Details Reports For:	Well Casing	Migrated Sort #:	2
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	5" New Black Steel Liner 275'-280'		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

Details Reports For:	Well Casing	Migrated Sort #:	3
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	5" New SS Pipe Base Screen 280'-306' .016		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

Details Reports For:	Well Casing	Migrated Sort #:	4
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	5" New Black Liner 306'-324'		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

Details Reports For:	Well Casing	Migrated Sort #:	5
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	5' New SS Pipe Base Screen 324'-340' .016		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

**27**  
**West**  
**1/2 - 1 Mile**  
**Higher**

**TX WELLS TXGH50000012661**

Database:	Water Well Database	Well #:	13799
Permittee:	West Harris County Regional Water Authority		
Year Drilled:	0	Diameter:	6
Total Depth:	450	Depth to 1st Screen:	350
Active:	FALSE	Usage:	L

**F28**  
**SE**  
**1/2 - 1 Mile**  
**Lower**

**TX WELLS TXWDB7000106016**

Database:	Groundwater Database	Well #:	6510607
Primary Water Use:	Unused	Elevation:	139
Well Depth:	188	Observation Type:	Miscellaneous Measurements
Water Quality Review:	N	Aquifer:	112CHCT - Chicot Aquifer
Well Type:	Withdrawal of Water		

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID  
Direction  
Distance  
Elevation

Database      EDR ID Number

**29**  
**SE**  
**1/2 - 1 Mile**  
**Lower**

**TX WELLS      TXWDB7000106014**

Database:	Groundwater Database	Well #:	6510605
Primary Water Use:	Unused	Elevation:	139
Well Depth:	140	Observation Type:	Miscellaneous Measurements
Water Quality Review:	N	Aquifer:	112CHCT - Chicot Aquifer
Well Type:	Withdrawal of Water		

**30**  
**WSW**  
**1/2 - 1 Mile**  
**Higher**

**TX WELLS      TXGH50000012273**

Database:	Water Well Database	Well #:	13800
Permittee:	West Harris County Regional Water Authority		
Year Drilled:	0	Diameter:	6
Total Depth:	450	Depth to 1st Screen:	350
Active:	FALSE	Usage:	L

**31**  
**NW**  
**1/2 - 1 Mile**  
**Higher**

**TX WELLS      TXWDB7000106002**

Database:	Groundwater Database	Well #:	6510514
Primary Water Use:	Domestic	Elevation:	148
Well Depth:	284	Observation Type:	Miscellaneous Measurements
Water Quality Review:	N	Aquifer:	112CHCT - Chicot Aquifer
Well Type:	Withdrawal of Water		

**32**  
**ESE**  
**1/2 - 1 Mile**  
**Lower**

**TX WELLS      TXMON5000026077**

Database:	Submitted Drillers Reports Database (Monitoring)		
Well Rpt #:	26969	Well Type:	New Well
Proposed Use:	Domestic	Borehole Depth (ft):	310
Injurious Water Quality:	no	Plugging Rpt #:	Not Reported
Submitted Date:	2003-10-20	Owner Name:	Esper and Maria Motta
Well #:	Not Reported	# Wells Drilled:	Not Reported
Elevation:	Not Reported	Type of Work:	New Well
Work Type Desc:	Not Reported	Original Well Rpt Track #:	Not Reported
Proposed Use:	Domestic	Proposed Use Desc:	Not Reported
TCEQ Approved Plans:	Not Reported	PWS #:	Not Reported
Drill Start Date:	2003-08-13	Drill End Date:	2003-08-15
Seal Method:	Other - Halliburton Fully Pressured		
Seal Method Desc:	Halliburton Fully Pressured		
Dist to Septic/Other Contam:	Not Reported	Distance to Septic Tank:	Not Reported

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Dist to Property Line:	Not Reported	Distance Verify Meth:	None Installed
Approved by Variance:	Not Reported	Sealed by Driller:	Yes
Sealed by Name:	Not Reported	Surface Completion:	Pitless Adapter Used
Surf Complete Desc:	Not Reported	Completed by Driller:	Not Reported
Pump Type:	Submersible	Pump Type Desc:	Not Reported
Pump Depth:	180.00	Chemical Analysis:	No
Injurious Water:	No	Company Name:	Geophysical Drilling, Inc.
Driller Name:	Gregory D Hill	Comments:	logged by dt\$
Plugged within 48 hrs:	No	Plugging Rpt Tracking #:	Not Reported
Driller License #:	2888	Apprentice Reg #:	Not Reported
Details Reports For:	Well Bore Hole	Diameter:	4.75
Top Depth:	300	Bottom Depth:	310
Details Reports For:	Well Bore Hole	Diameter:	6.75
Top Depth:	0	Bottom Depth:	300
Details Reports For:	Well Drilling Method	Drill Method:	Mud (Hydraulic) Rotary
Details Reports For:	Well Completion	Borehole Completion:	Other - Two String
Details Reports For:	Well Seal Range	Top Depth:	0
Bottom Depth:	300	Annular Seal:	13 Cement
Amount:	Not Reported	Unit:	Not Reported
Details Reports For:	Well Seal Range	Top Depth:	1
Bottom Depth:	20	Annular Seal:	4 Cement
Amount:	Not Reported	Unit:	Not Reported
Details Reports For:	Well Levels	Measurement:	126
Measurement Date:	2003-08-15	Artesian Flow:	Not Reported
Measurement Method:	Unknown		
Details Reports For:	Well Packers	Migrated Sort #:	1
Packers:	Rubber Formation Supreme 20		
Depth:	Not Reported		
Details Reports For:	Well Packers	Migrated Sort #:	2
Packers:	BP Seal 4"x2.5" 293	Depth:	Not Reported
Details Reports For:	Well Test	Test Type:	Jetted
Yield:	90	Drawdown:	Not Reported
Hours:	Not Reported		
Details Reports For:	Well Strata	Migrated Strata Depth:	10
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Water Type:	Good		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	0	Bottom Depth:	40

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Lithology:	Top Soil and Red Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	40	Bottom Depth:	60
Lithology:	Red and White Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	60	Bottom Depth:	100
Lithology:	Red Clay, Sand and Gravel		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	100	Bottom Depth:	140
Lithology:	Sand and Gravel, Red Clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	140	Bottom Depth:	220
Lithology:	Sand and Gravel		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	220	Bottom Depth:	240
Lithology:	Clay, Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	240	Bottom Depth:	260
Lithology:	Sand and Rock Shale		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	260	Bottom Depth:	280
Lithology:	Rock and Shale		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	280	Bottom Depth:	300
Lithology:	Rock, Shale and Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	300	Bottom Depth:	310
Lithology:	Sand		
Details Reports For:	Well Casing	Migrated Sort #:	1
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	4 N PVC Well Csg. +2/298 Sch. 40		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported
Details Reports For:	Well Casing	Migrated Sort #:	2
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	2.5 N PVC Blank Pipe 293/299 Sch. 80		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Details Reports For:	Well Casing	Migrated Sort #:	3
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	2.5 N SS Steel Rod B 299-309 8 ga.		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

Details Reports For:	Well Casing	Migrated Sort #:	4
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	2.5 N Saw Tooth Nipple 309/310		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

**I33**  
**SE**  
**1/2 - 1 Mile**  
**Lower**

**TX WELLS TXGH50000001382**

Database:	Water Well Database	Well #:	2325
Permittee:	FRANZ, KENNETH MARTIN	Year Drilled:	1951
Diameter:	18	Total Depth:	500
Depth to 1st Screen:	150	Active:	FALSE
Usage:	A		

**J34**  
**SW**  
**1/2 - 1 Mile**  
**Higher**

**TX WELLS TXMON5000220829**

Database:	Submitted Drillers Reports Database (Monitoring)		
Well Rpt #:	223980	Well Type:	New Well
Proposed Use:	Domestic	Borehole Depth (ft):	300
Injurious Water Quality:	no	Plugging Rpt #:	Not Reported

Submitted Date:	2010-07-20	Owner Name:	Phillip Jureczki
Well #:	Not Reported	# Wells Drilled:	Not Reported
Elevation:	Not Reported	Type of Work:	New Well
Work Type Desc:	Not Reported	Original Well Rpt Track #:	Not Reported
Proposed Use:	Domestic	Proposed Use Desc:	Not Reported
TCEQ Approved Plans:	Not Reported	PWS #:	Not Reported
Drill Start Date:	2010-06-18	Drill End Date:	2010-06-21
Seal Method:	Positive Displacement	Seal Method Desc:	Not Reported
Dist to Septic/Other Contam:	62	Distance to Septic Tank:	Not Reported
Dist to Property Line:	50	Distance Verify Meth:	owner
Approved by Variance:	Not Reported	Sealed by Driller:	No
Sealed by Name:	SDI	Surface Completion:	Surface Slab Installed
Surf Complete Desc:	Not Reported	Completed by Driller:	Not Reported
Pump Type:	Submersible	Pump Type Desc:	Not Reported
Pump Depth:	120.00	Chemical Analysis:	No
Injurious Water:	No	Company Name:	Scott Drilling, Inc.
Driller Name:	Scott G Robinson	Comments:	Not Reported
Plugged within 48 hrs:	No	Plugging Rpt Tracking #:	Not Reported
Driller License #:	4839	Apprentice Reg #:	Not Reported

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Details Reports For: Top Depth:	Well Bore Hole 0	Diameter: Bottom Depth:	6.75 300
Details Reports For:	Well Drilling Method	Drill Method:	Mud (Hydraulic) Rotary
Details Reports For:	Well Completion	Borehole Completion:	Other - 2 string
Details Reports For: Bottom Depth: Amount:	Well Seal Range 10 Not Reported	Top Depth: Annular Seal: Unit:	0 10 Not Reported
Details Reports For: Bottom Depth: Amount:	Well Seal Range 280 Not Reported	Top Depth: Annular Seal: Unit:	0 24 Not Reported
Details Reports For: Measurement Date: Measurement Method:	Well Levels 2010-07-06 Unknown	Measurement: Artesian Flow:	60 Not Reported
Details Reports For: Packers:	Well Packers KP-270	Migrated Sort #: Depth:	1 Not Reported
Details Reports For: Yield: Hours:	Well Test 50 Not Reported	Test Type: Drawdown:	Jetted Not Reported
Details Reports For: Top Depth: Lithology:	Well Lithology 0 clay	Migrated Sort #: Bottom Depth:	0 75
Details Reports For: Top Depth: Lithology:	Well Lithology 75 sand	Migrated Sort #: Bottom Depth:	0 85
Details Reports For: Top Depth: Lithology:	Well Lithology 85 clay	Migrated Sort #: Bottom Depth:	0 200
Details Reports For: Top Depth: Lithology:	Well Lithology 200 sand	Migrated Sort #: Bottom Depth:	0 200
Details Reports For: Top Depth: Lithology:	Well Lithology 200 clay	Migrated Sort #: Bottom Depth:	0 280
Details Reports For: Top Depth: Lithology:	Well Lithology 280 sand	Migrated Sort #: Bottom Depth:	0 300



## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Details Reports For:	Well Casing	Migrated Sort #:	1
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	4 N PVC to Casing 0-280	Diameter:	Not Reported
Casing Status:	Not Reported	Casing Material:	Not Reported
Casing Type:	Not Reported	Schedule:	Not Reported
Gauge:	Not Reported		

Details Reports For:	Well Casing	Migrated Sort #:	2
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	2.5 N " " Liner 270-280	Diameter:	Not Reported
Casing Status:	Not Reported	Casing Material:	Not Reported
Casing Type:	Not Reported	Schedule:	Not Reported
Gauge:	Not Reported		

Details Reports For:	Well Casing	Migrated Sort #:	3
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	2.5 N " " Screen 280-300 .06	Casing Status:	Not Reported
Diameter:	Not Reported	Casing Type:	Not Reported
Casing Material:	Not Reported	Gauge:	Not Reported
Schedule:	Not Reported		

**35**  
**South**  
**1/2 - 1 Mile**  
**Lower**

**TX WELLS TXEQ60000011939**

Database:	Public Water Supply Sources Databases	Water Source:	G1013427A
PWS ID:	1013427	Elevation:	0
Locating Agency:	TCEQ		

**36**  
**West**  
**1/2 - 1 Mile**  
**Higher**

**TX WELLS TXWDB7000106003**

Database:	Groundwater Database	Well #:	6510515
Primary Water Use:	Irrigation	Elevation:	150
Well Depth:	550	Observation Type:	Miscellaneous Measurements
Water Quality Review:	N	Aquifer:	112CHCT - Chicot Aquifer
Well Type:	Withdrawal of Water		

**37**  
**NE**  
**1/2 - 1 Mile**  
**Lower**

**TX WELLS TXPLU5000009913**

Database:	Submitted Drillers Reports Database (Plugged)	Well Type:	Withdrawal of Water
Plugging Rpt #:	95524	Well Report #:	Not Reported
Borehole Depth (ft):	67		

Details Reports For:	Plug Data	Submitted Date:	2014-07-14
Owner Name:	Allen Boone Humpries Robinson	# Wells Plugged:	Not Reported
Well #:	1		

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Elevation:	Not Reported	Original Company Name:	Not Reported
Original Driller:	N/A	Original License #:	N/A
Original Well Use:	Withdrawal of Water	Original Drill Date:	Not Reported
Plug Method:	Pour in 3/8 bentonite chips when standing water in well is less than 100 feet depth, cement top 2 feet		
Plug Date:	2014-07-14	Variance #:	Not Reported
Company Name:	G.W.Davis Water Well Co LLC	Driller License:	4729
Pluggger Name:	Gary Davis	Comments:	No Data
Apprentice Reg #:	Not Reported		
Comments:	Not Reported		

Details Reports For:	Plug Bore Hole	Diameter:	4
Top Depth:	Not Reported	Bottom Depth:	67

Details Reports For:	Plug Casing	Top Depth:	0
Bottom Depth:	67	Diameter:	4

Details Reports For:	Plug Range	Top Depth:	0
Bottom Depth:	67	Plug Seal:	6
Amount:	Not Reported	Unit:	Not Reported

**J38  
SW  
1/2 - 1 Mile  
Higher**

**TX WELLS      TXGH50000003173**

Database:	Water Well Database	Well #:	4140
Permittee:	West Harris County Regional Water Authority		
Year Drilled:	1985	Diameter:	6
Total Depth:	360	Depth to 1st Screen:	340
Active:	TRUE	Usage:	L

**K39  
SW  
1/2 - 1 Mile  
Higher**

**FED USGS      USGS40001167195**

Organization ID:	USGS-TX	Organization Name:	USGS Texas Water Science Center
Monitor Location:	LJ-65-10-517	Type:	Well
Description:	Not Reported	HUC:	12040104
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Coastal lowlands aquifer system		
Formation Type:	Chicot Aquifer	Aquifer Type:	Confined single aquifer
Construction Date:	19850408	Well Depth:	350
Well Depth Units:	ft	Well Hole Depth:	350
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1985-04-10
Feet below surface:	133	Feet to sea level:	Not Reported
Note:	Not Reported		

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID  
 Direction  
 Distance  
 Elevation

Database      EDR ID Number

**K40**  
**SW**  
 1/2 - 1 Mile  
 Higher

**TX WELLS      TXWDB7000106005**

Database:	Groundwater Database	Well #:	6510517
Primary Water Use:	Recreation	Elevation:	146
Well Depth:	350	Observation Type:	None
Water Quality Review:	N	Aquifer:	112CHCT - Chicot Aquifer
Well Type:	Withdrawal of Water		

**I41**  
**ESE**  
 1/2 - 1 Mile  
 Lower

**TX WELLS      TXPLU5000160055**

Database:	Submitted Drillers Reports Database (Plugged)	Well Type:	Irrigation
Plugging Rpt #:	163444	Well Report #:	Not Reported
Borehole Depth (ft):	590		

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID  
Direction  
Distance

Database      EDR ID Number

**1**

**West**

**1/4 - 1/2 Mile**

**OIL\_GAS**

**TXOG90001092919**

Surface ID:            177746  
Bottom ID:            177746  
Current Wells #:      1  
Radioactive:          Not Reported

Well Number:          Not Reported  
API #:                42201  
Well Type:            Dry Hole  
Side Track:            Not Reported

**2**

**SE**

**1/2 - 1 Mile**

**OIL\_GAS**

**TXOG90001092926**

Surface ID:            177634  
Bottom ID:            177634  
Current Wells #:      1  
Radioactive:          Not Reported

Well Number:          Not Reported  
API #:                42201  
Well Type:            Dry Hole  
Side Track:            Not Reported

**3**

**NW**

**1/2 - 1 Mile**

**OIL\_GAS**

**TXOG90001092851**

Surface ID:            177745  
Bottom ID:            177745  
Current Wells #:      1  
Radioactive:          Not Reported

Well Number:          Not Reported  
API #:                42201  
Well Type:            Dry Hole  
Side Track:            Not Reported

**4**

**NE**

**1/2 - 1 Mile**

**OIL\_GAS**

**TXOG90001092857**

Surface ID:            177630  
Bottom ID:            177630  
Current Wells #:      1  
Radioactive:          Not Reported

Well Number:          31434  
API #:                4220131434  
Well Type:            Plugged Gas Well  
Side Track:            Not Reported

**5**

**ENE**

**1/2 - 1 Mile**

**OIL\_GAS**

**TXOG90001092858**

Surface ID:            177631  
Bottom ID:            177631  
Current Wells #:      1  
Radioactive:          Not Reported

Well Number:          Not Reported  
API #:                42201  
Well Type:            Dry Hole  
Side Track:            Not Reported

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

## AREA RADON INFORMATION

State Database: TX Radon

### Radon Test Results

County	Mean	Total Sites	%>4 pCi/L	%>20 pCi/L	Min pCi/L	Max pCi/L
HARRIS	<.5	131	.0	.0	<.5	3.8

Federal EPA Radon Zone for HARRIS County: 3

- Note: Zone 1 indoor average level > 4 pCi/L.  
 : Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.  
 : Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 77493

Number of sites tested: 2

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.200 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

## TOPOGRAPHIC INFORMATION

### USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

### Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

## HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

### State Wetlands Data: Wetland Inventory

Source: Texas General Land Office

Telephone: 512-463-0745

## HYDROGEOLOGIC INFORMATION

### AQUIFLOW<sup>R</sup> Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

## GEOLOGIC INFORMATION

### Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

### STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

### SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

## LOCAL / REGIONAL WATER AGENCY RECORDS

### FEDERAL WATER WELLS

#### PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

#### PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

#### USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

### STATE RECORDS

#### Public Water Supply Sources Databases

Source: Texas Commission on Environmental Quality

Telephone: 512-239-6199

Locations of public drinking water sources maintained by the TCEQ.

#### Groundwater Database

Source: Texas Water Development Board

Telephone: 512-936-0837

#### Well Report Database

Source: Department of Licensing and Regulation

Telephone: 512-936-0833

#### Water Well Database

Source: Harris-Galveston Coastal Subsidence District

Telephone: 281-486-1105

#### Brackish Resources Aquifer Characterization System Database

Source: Texas Water Development Board

WDB's Brackish Resources Aquifer Characterization System (BRACS) was designed to map and characterize the brackish aquifers of Texas in greater detail than previous studies. The information is contained in the BRACS Database and project data are summarized in a project report with companion geographic information system data files.

#### Submitted Driller's Reports Database

Source: Texas Water Development Board

Telephone: 512-936-0833

The Submitted Driller's Report Database is populated from the online Texas Well Report Submission and Retrieval System which is a cooperative Texas Department of Licensing and Regulation (TDLR) and Texas Water Development Board (TWDB) application that registered water-well drillers use to submit their required reports.

## OTHER STATE DATABASE INFORMATION

#### Texas Oil and Gas Wells

Source: Texas Railroad Commission

Telephone: 512-463-6882

Oil and gas well locations.

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

## RADON

### State Database: TX Radon

Source: Department of Health  
Telephone: 512-834-6688  
Rinal Report of the Texas Indoor Radon Survey

### Area Radon Information

Source: USGS  
Telephone: 703-356-4020  
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

### EPA Radon Zones

Source: EPA  
Telephone: 703-356-4020  
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

## OTHER

Airport Landing Facilities: Private and public use landing facilities  
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater  
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

### **STREET AND ADDRESS INFORMATION**

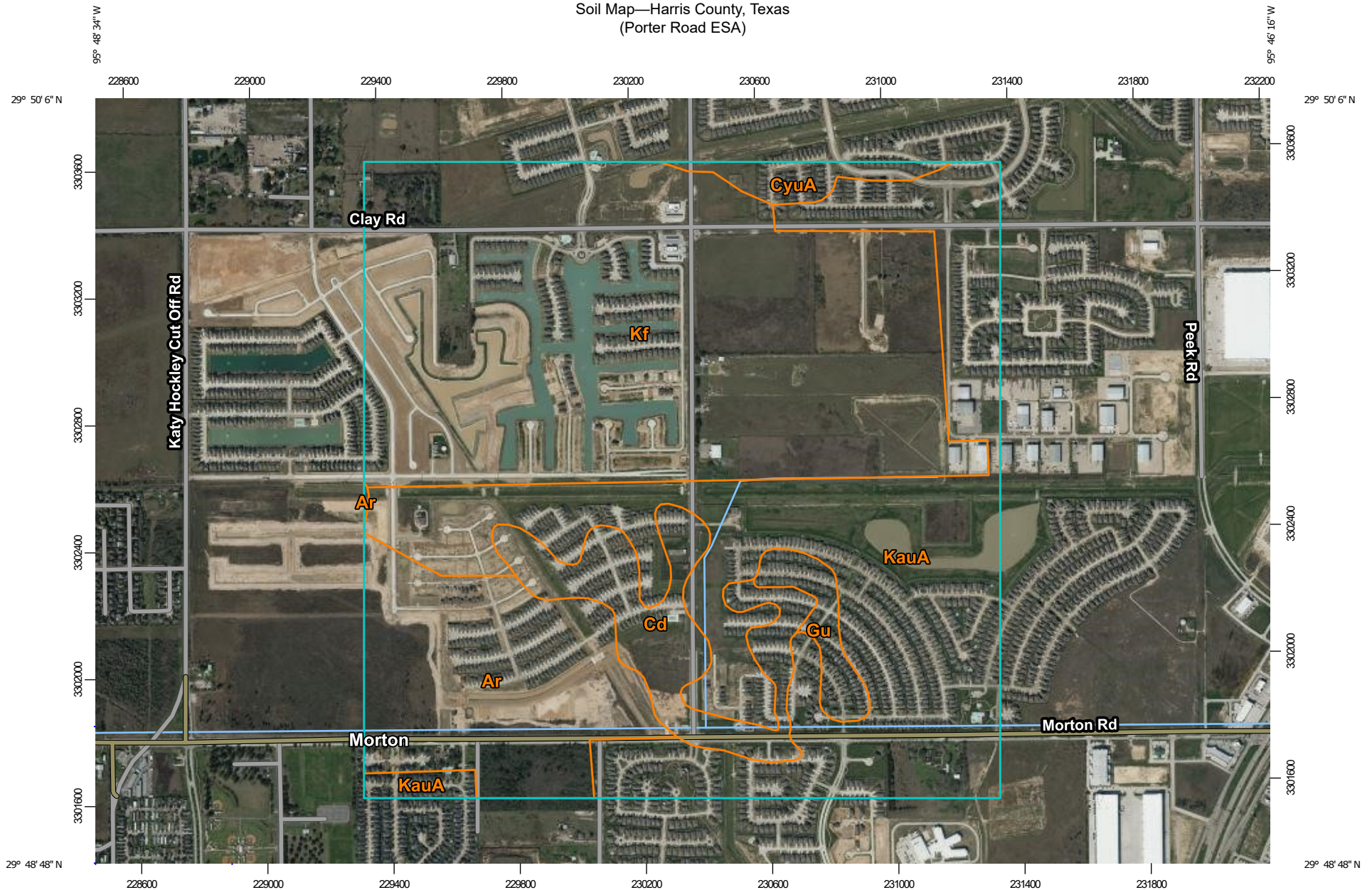
© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.



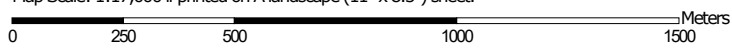


**Appendix B**  
**Site Physical Setting Information**

Soil Map—Harris County, Texas  
(Porter Road ESA)



Map Scale: 1:17,000 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge ticks: UTM Zone 15N WGS84




## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Harris County, Texas

Survey Area Data: Version 22, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 1, 2020—Feb 27, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ar	Cyfair-Katy complex, 0 to 1 percent slopes	133.6	13.3%
Cd	Clodine fine sandy loam, 0 to 1 percent slopes	69.0	6.9%
CyuA	Cyfair-Urban land complex, 0 to 1 percent slopes	15.6	1.6%
Gu	Gessner occasionally ponded-Urban land complex, 0 to 1 percent slopes	17.5	1.7%
KauA	Katy-Urban land complex, 0 to 1 percent slopes	339.3	33.8%
Kf	Katy fine sandy loam, 0 to 1 percent slopes	427.5	42.6%
<b>Totals for Area of Interest</b>		<b>1,002.5</b>	<b>100.0%</b>

## Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named, soils that are similar to the named components, and some minor components that differ in use and management from the major soils.

Most of the soils similar to the major components have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Some minor components, however, have properties and behavior characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

## Harris County, Texas

### Ar—Cyfair-Katy complex, 0 to 1 percent slopes

#### Map Unit Setting

*National map unit symbol:* nm3

*Elevation:* 140 to 250 feet

*Mean annual precipitation:* 43 to 48 inches

*Mean annual air temperature:* 67 to 69 degrees F

*Frost-free period:* 271 to 300 days

*Farmland classification:* Prime farmland if drained

### **Map Unit Composition**

*Cyfair and similar soils:* 40 percent

*Katy and similar soils:* 35 percent

*Minor components:* 25 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Cyfair**

#### **Setting**

*Landform:* Flats

*Landform position (three-dimensional):* Talf

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Loamy fluviomarine deposits derived from igneous, metamorphic and sedimentary rock

#### **Typical profile**

*A1 - 0 to 8 inches:* fine sandy loam

*A2 - 8 to 17 inches:* fine sandy loam

*Bt1 - 17 to 55 inches:* clay loam

*Bt2 - 55 to 80 inches:* clay loam

#### **Properties and qualities**

*Slope:* 0 to 1 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Somewhat poorly drained

*Runoff class:* High

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)

*Depth to water table:* About 12 to 24 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline (0.1 to 1.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 6.0

*Available water supply, 0 to 60 inches:* High (about 11.4 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* 3s

*Land capability classification (nonirrigated):* 3s

*Hydrologic Soil Group:* C/D

*Ecological site:* R150AY741TX - Northern Loamy Prairie

*Hydric soil rating:* No

### **Description of Katy**

#### **Setting**

*Landform:* Flats

*Landform position (three-dimensional):* Rise

*Down-slope shape:* Linear

*Across-slope shape:* Convex

*Parent material:* Loamy fluviomarine deposits derived from igneous, metamorphic and sedimentary rock

**Typical profile**

*A - 0 to 8 inches:* fine sandy loam

*E - 8 to 17 inches:* fine sandy loam

*Bt1 - 17 to 37 inches:* clay loam

*Bt2 - 37 to 80 inches:* clay loam

**Properties and qualities**

*Slope:* 0 to 1 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Moderately well drained

*Runoff class:* Low

*Capacity of the most limiting layer to transmit water*

*(Ksat):* Moderately high (0.20 to 0.57 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 2.0

*Available water supply, 0 to 60 inches:* High (about 9.5 inches)

**Interpretive groups**

*Land capability classification (irrigated):* 2e

*Land capability classification (nonirrigated):* 2e

*Hydrologic Soil Group:* C

*Ecological site:* R150AY741TX - Northern Loamy Prairie

*Hydric soil rating:* No

**Minor Components**

**Gessner**

*Percent of map unit:* 15 percent

*Landform:* Depressions

*Landform position (three-dimensional):* Dip

*Down-slope shape:* Concave

*Across-slope shape:* Concave

*Ecological site:* R150AY537TX - Lowland

*Hydric soil rating:* Yes

**Garwood**

*Percent of map unit:* 5 percent

*Landform:* Flats

*Landform position (three-dimensional):* Rise

*Down-slope shape:* Linear

*Across-slope shape:* Convex

*Ecological site:* R150AY535TX - Southern Loamy Prairie

*Hydric soil rating:* No

**Clodine**

*Percent of map unit:* 5 percent

*Landform:* Flats



*Landform position (three-dimensional):* Rise  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Ecological site:* R150AY537TX - Lowland  
*Hydric soil rating:* Yes

## Data Source Information

Soil Survey Area: Harris County, Texas  
Survey Area Data: Version 22, Jun 11, 2020

## Harris County, Texas

### Cd—Clodine fine sandy loam, 0 to 1 percent slopes

#### Map Unit Setting

*National map unit symbol:* nrwb  
*Elevation:* 100 to 250 feet  
*Mean annual precipitation:* 43 to 49 inches  
*Mean annual air temperature:* 68 to 70 degrees F  
*Frost-free period:* 270 to 300 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Clodine and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Clodine

##### Setting

*Landform:* Flats  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Concave  
*Parent material:* Loamy fluviomarine deposits derived from igneous, metamorphic and sedimentary rock

##### Typical profile

*A - 0 to 9 inches:* fine sandy loam  
*Bt1 - 9 to 23 inches:* loam  
*Bt2 - 23 to 57 inches:* loam  
*Bt3 - 57 to 80 inches:* loam

##### Properties and qualities

*Slope:* 0 to 1 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Somewhat poorly drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.14 to 1.42 in/hr)  
*Depth to water table:* About 0 to 30 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.1 to 2.3 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 12.0  
*Available water supply, 0 to 60 inches:* High (about 10.0 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 5w

*Land capability classification (nonirrigated):* 5w  
*Hydrologic Soil Group:* C/D  
*Ecological site:* R150AY537TX - Lowland  
*Hydric soil rating:* Yes

### **Minor Components**

#### **Katy**

*Percent of map unit:* 10 percent  
*Landform:* Flats  
*Landform position (three-dimensional):* Rise  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex  
*Ecological site:* R150AY741TX - Northern Loamy Prairie  
*Hydric soil rating:* No

#### **Gessner**

*Percent of map unit:* 5 percent  
*Landform:* Depressions  
*Landform position (three-dimensional):* Dip  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Ecological site:* R150AY537TX - Lowland  
*Hydric soil rating:* Yes

## **Data Source Information**

Soil Survey Area: Harris County, Texas  
Survey Area Data: Version 22, Jun 11, 2020

## Harris County, Texas

### CyuA—Cyfair-Urban land complex, 0 to 1 percent slopes

#### Map Unit Setting

*National map unit symbol:* 2x3yx

*Elevation:* 140 to 250 feet

*Mean annual precipitation:* 43 to 48 inches

*Mean annual air temperature:* 67 to 69 degrees F

*Frost-free period:* 271 to 300 days

*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Cyfair and similar soils:* 55 percent

*Urban land:* 30 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Cyfair

##### Setting

*Landform:* Flats

*Landform position (three-dimensional):* Talf

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Loamy fluviomarine deposits derived from igneous, metamorphic and sedimentary rock

##### Typical profile

*A - 0 to 9 inches:* fine sandy loam

*Ab - 9 to 34 inches:* fine sandy loam

*Btg1 - 34 to 53 inches:* sandy clay loam

*Btg2 - 53 to 80 inches:* clay

##### Properties and qualities

*Slope:* 0 to 1 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Somewhat poorly drained

*Runoff class:* High

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)

*Depth to water table:* About 12 to 24 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline (0.1 to 1.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 6.0

*Available water supply, 0 to 60 inches:* Very high (about 12.3 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 3s

*Land capability classification (nonirrigated): 3s*  
*Hydrologic Soil Group: C/D*  
*Ecological site: R150AY741TX - Northern Loamy Prairie*  
*Hydric soil rating: No*

### **Description of Urban Land**

#### **Typical profile**

*M - 0 to 40 inches: variable*

### **Minor Components**

#### **Katy**

*Percent of map unit: 10 percent*  
*Landform: Flats*  
*Landform position (three-dimensional): Rise*  
*Down-slope shape: Linear*  
*Across-slope shape: Convex*  
*Ecological site: R150AY741TX - Northern Loamy Prairie*  
*Hydric soil rating: No*

#### **Clodine**

*Percent of map unit: 2 percent*  
*Landform: Flats*  
*Landform position (three-dimensional): Rise*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Ecological site: R150AY537TX - Lowland*  
*Hydric soil rating: Yes*

#### **Garwood**

*Percent of map unit: 2 percent*  
*Landform: Flats*  
*Landform position (three-dimensional): Rise*  
*Down-slope shape: Linear*  
*Across-slope shape: Convex*  
*Ecological site: R150AY535TX - Southern Loamy Prairie*  
*Hydric soil rating: No*

#### **Gessner**

*Percent of map unit: 1 percent*  
*Landform: Depressions*  
*Landform position (three-dimensional): Dip*  
*Down-slope shape: Concave*  
*Across-slope shape: Concave*  
*Ecological site: R150AY537TX - Lowland*  
*Hydric soil rating: Yes*

## **Data Source Information**

Soil Survey Area: Harris County, Texas  
Survey Area Data: Version 22, Jun 11, 2020

## Harris County, Texas

### Gu—Gessner occasionally ponded-Urban land complex, 0 to 1 percent slopes

#### Map Unit Setting

*National map unit symbol:* db92  
*Elevation:* 0 to 4,000 feet  
*Mean annual precipitation:* 8 to 60 inches  
*Mean annual air temperature:* 54 to 73 degrees F  
*Frost-free period:* 180 to 310 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Gessner and similar soils:* 55 percent  
*Urban land:* 35 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Gessner

##### Setting

*Landform:* Depressions  
*Landform position (three-dimensional):* Dip  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Parent material:* Loamy fluviomarine deposits derived from igneous, metamorphic and sedimentary rock

##### Typical profile

*H1 - 0 to 16 inches:* loam  
*H2 - 16 to 80 inches:* loam

##### Properties and qualities

*Slope:* 0 to 1 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Poorly drained  
*Runoff class:* Negligible  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.57 to 1.98 in/hr)  
*Depth to water table:* About 0 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* Frequent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water supply, 0 to 60 inches:* High (about 10.0 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 4w  
*Land capability classification (nonirrigated):* 4w  
*Hydrologic Soil Group:* B/D

*Ecological site:* R150AY537TX - Lowland  
*Hydric soil rating:* Yes

### **Description of Urban Land**

#### **Typical profile**

*H1 - 0 to 40 inches:* variable

#### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 8s

*Hydrologic Soil Group:* D

*Hydric soil rating:* No

### **Minor Components**

#### **Unnamed**

*Percent of map unit:* 10 percent

*Hydric soil rating:* No

## **Data Source Information**

Soil Survey Area: Harris County, Texas

Survey Area Data: Version 22, Jun 11, 2020

## Harris County, Texas

### KauA—Katy-Urban land complex, 0 to 1 percent slopes

#### Map Unit Setting

*National map unit symbol:* 2vv5g

*Elevation:* 100 to 250 feet

*Mean annual precipitation:* 43 to 49 inches

*Mean annual air temperature:* 68 to 70 degrees F

*Frost-free period:* 270 to 300 days

*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Katy and similar soils:* 55 percent

*Urban land:* 30 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Katy

##### Setting

*Landform:* Flats

*Landform position (three-dimensional):* Rise

*Down-slope shape:* Linear

*Across-slope shape:* Convex

*Parent material:* Loamy fluviomarine deposits derived from igneous, metamorphic and sedimentary rock

##### Typical profile

*A - 0 to 12 inches:* fine sandy loam

*E - 12 to 25 inches:* fine sandy loam

*Bt1 - 25 to 28 inches:* loam

*Bt2 - 28 to 80 inches:* clay loam

##### Properties and qualities

*Slope:* 0 to 1 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Moderately well drained

*Runoff class:* Low

*Capacity of the most limiting layer to transmit water*

*(Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 2.0

*Available water supply, 0 to 60 inches:* High (about 9.7 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 2e



*Land capability classification (nonirrigated): 2e*  
*Hydrologic Soil Group: C*  
*Ecological site: R150AY741TX - Northern Loamy Prairie*  
*Hydric soil rating: No*

## **Description of Urban Land**

### **Typical profile**

*M - 0 to 40 inches: variable*

## **Minor Components**

### **Cyfair**

*Percent of map unit: 10 percent*  
*Landform: Flats*  
*Landform position (three-dimensional): Talf*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Ecological site: R150AY741TX - Northern Loamy Prairie*  
*Hydric soil rating: No*

### **Clodine**

*Percent of map unit: 3 percent*  
*Landform: Flats*  
*Landform position (three-dimensional): Rise*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Ecological site: R150AY537TX - Lowland*  
*Hydric soil rating: Yes*

### **Garwood**

*Percent of map unit: 1 percent*  
*Landform: Flats*  
*Landform position (three-dimensional): Rise*  
*Down-slope shape: Linear*  
*Across-slope shape: Convex*  
*Ecological site: R150AY535TX - Southern Loamy Prairie*  
*Hydric soil rating: No*

### **Gessner**

*Percent of map unit: 1 percent*  
*Landform: Depressions*  
*Landform position (three-dimensional): Dip*  
*Down-slope shape: Concave*  
*Across-slope shape: Concave*  
*Ecological site: R150AY537TX - Lowland*  
*Hydric soil rating: Yes*

## **Data Source Information**

Soil Survey Area: Harris County, Texas  
Survey Area Data: Version 22, Jun 11, 2020

## Harris County, Texas

### Kf—Katy fine sandy loam, 0 to 1 percent slopes

#### Map Unit Setting

*National map unit symbol:* nrmw

*Elevation:* 100 to 230 feet

*Mean annual precipitation:* 43 to 49 inches

*Mean annual air temperature:* 68 to 70 degrees F

*Frost-free period:* 270 to 300 days

*Farmland classification:* All areas are prime farmland

#### Map Unit Composition

*Katy and similar soils:* 99 percent

*Minor components:* 1 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Katy

##### Setting

*Landform:* Flats

*Landform position (three-dimensional):* Rise

*Down-slope shape:* Linear

*Across-slope shape:* Convex

*Parent material:* Loamy fluviomarine deposits derived from igneous, metamorphic and sedimentary rock

##### Typical profile

*A - 0 to 6 inches:* fine sandy loam

*E - 6 to 19 inches:* fine sandy loam

*Bt1 - 19 to 29 inches:* clay loam

*Bt2 - 29 to 80 inches:* clay loam

##### Properties and qualities

*Slope:* 0 to 1 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Moderately well drained

*Runoff class:* Low

*Capacity of the most limiting layer to transmit water*

*(Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 2.0

*Available water supply, 0 to 60 inches:* High (about 9.5 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 2w

*Land capability classification (nonirrigated):* 2w

*Hydrologic Soil Group:* C  
*Ecological site:* R150AY741TX - Northern Loamy Prairie  
*Hydric soil rating:* No

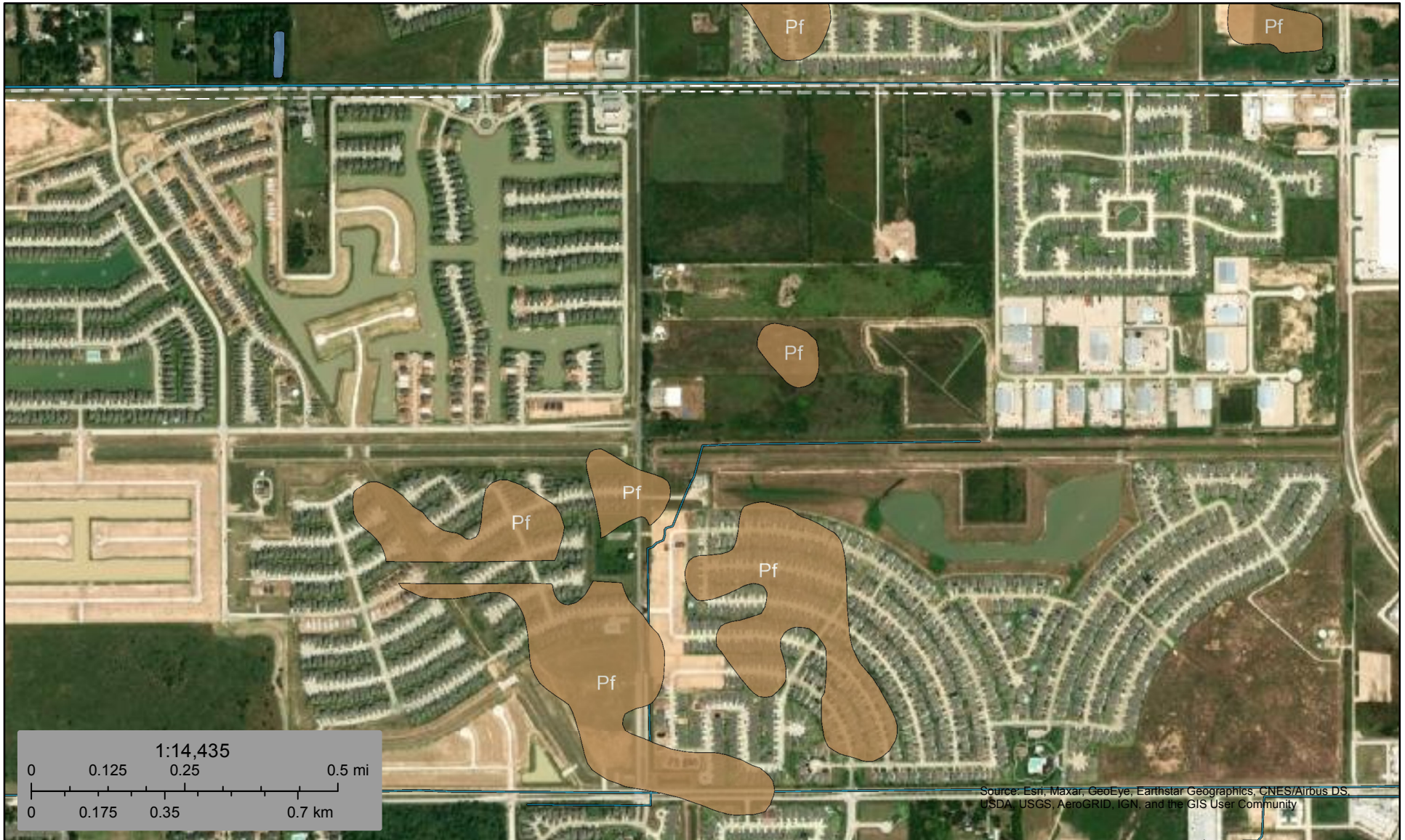
### **Minor Components**

#### **Gessner**

*Percent of map unit:* 1 percent  
*Landform:* Depressions  
*Landform position (three-dimensional):* Dip  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Ecological site:* R150AY537TX - Lowland  
*Hydric soil rating:* Yes

## **Data Source Information**

Soil Survey Area: Harris County, Texas  
Survey Area Data: Version 22, Jun 11, 2020



August 12, 2021

**Wetlands**

- Estuarine and Marine Deepwater
- Freshwater Emergent Wetland
- Lake
- Estuarine and Marine Wetland
- Freshwater Forested/Shrub Wetland
- Other
- Freshwater Pond
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

## Classification code: Pf

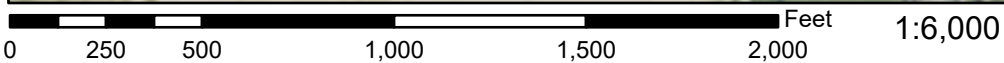
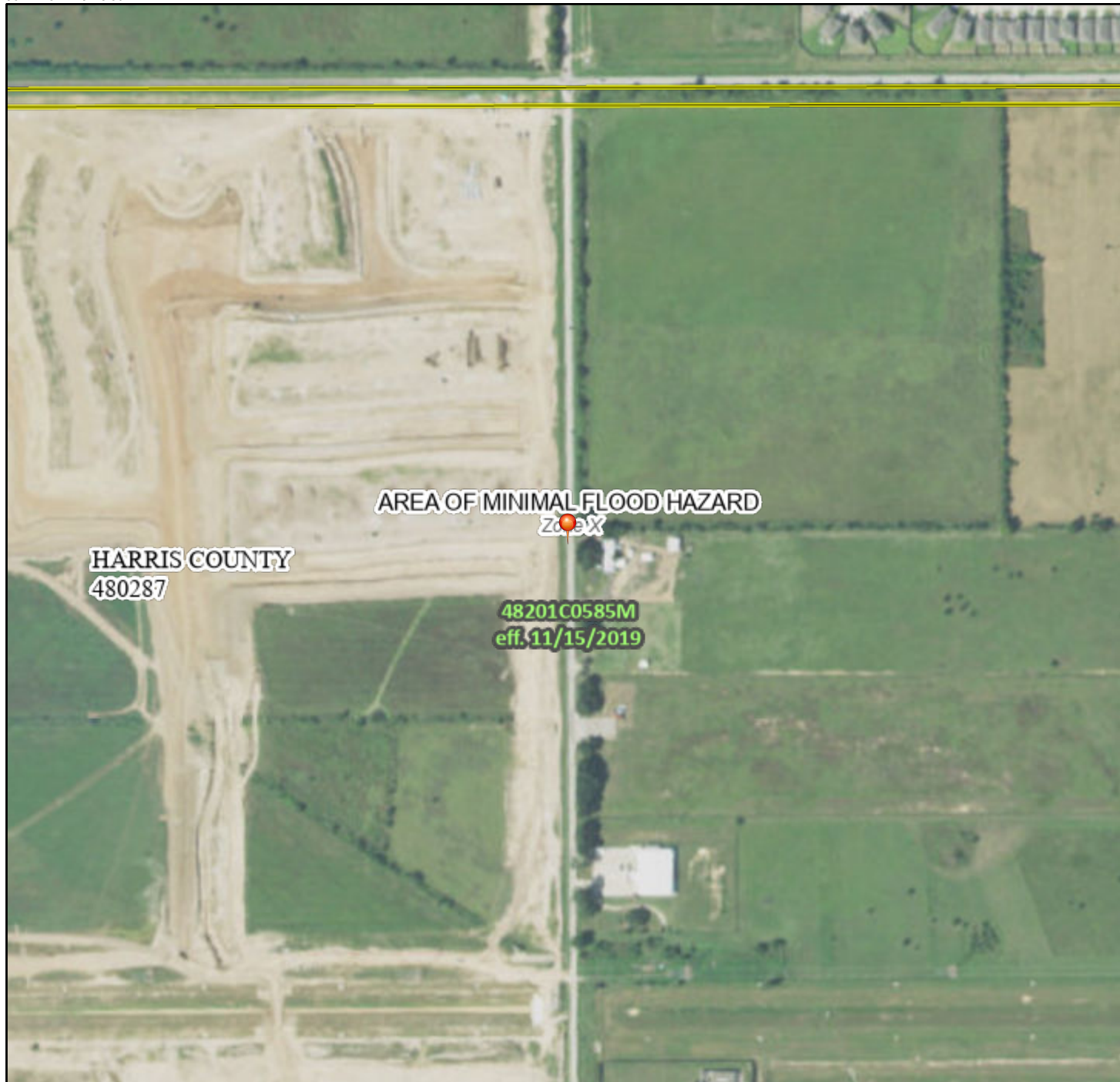
System **Palustrine (P)** : The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 ppt. It also includes wetlands lacking such vegetation, but with all of the following four characteristics: (1) area less than 8 ha (20 acres); (2) active wave-formed or bedrock shoreline features lacking; (3) water depth in the deepest part of basin less than 2.5 m (8.2 ft) at low water; and (4) salinity due to ocean-derived salts less than 0.5 ppt.

Special Modifier **Farmed (f)** : Farmed wetlands occur where the soil surface has been mechanically or physically altered for production of crops, but where hydrophytes would become reestablished if the farming were discontinued. Farmed wetlands should be classified as Palustrine-Farmed. Cultivated cranberry bogs may be classified Palustrine-Farmed or Palustrine Scrub-Shrub Wetland-Farmed.

# National Flood Hazard Layer FIRMMette



95°47'43"W 29°49'56"N



Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

## Legend (Northern Segment)

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard <i>Zone D</i>
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
MAP PANELS		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

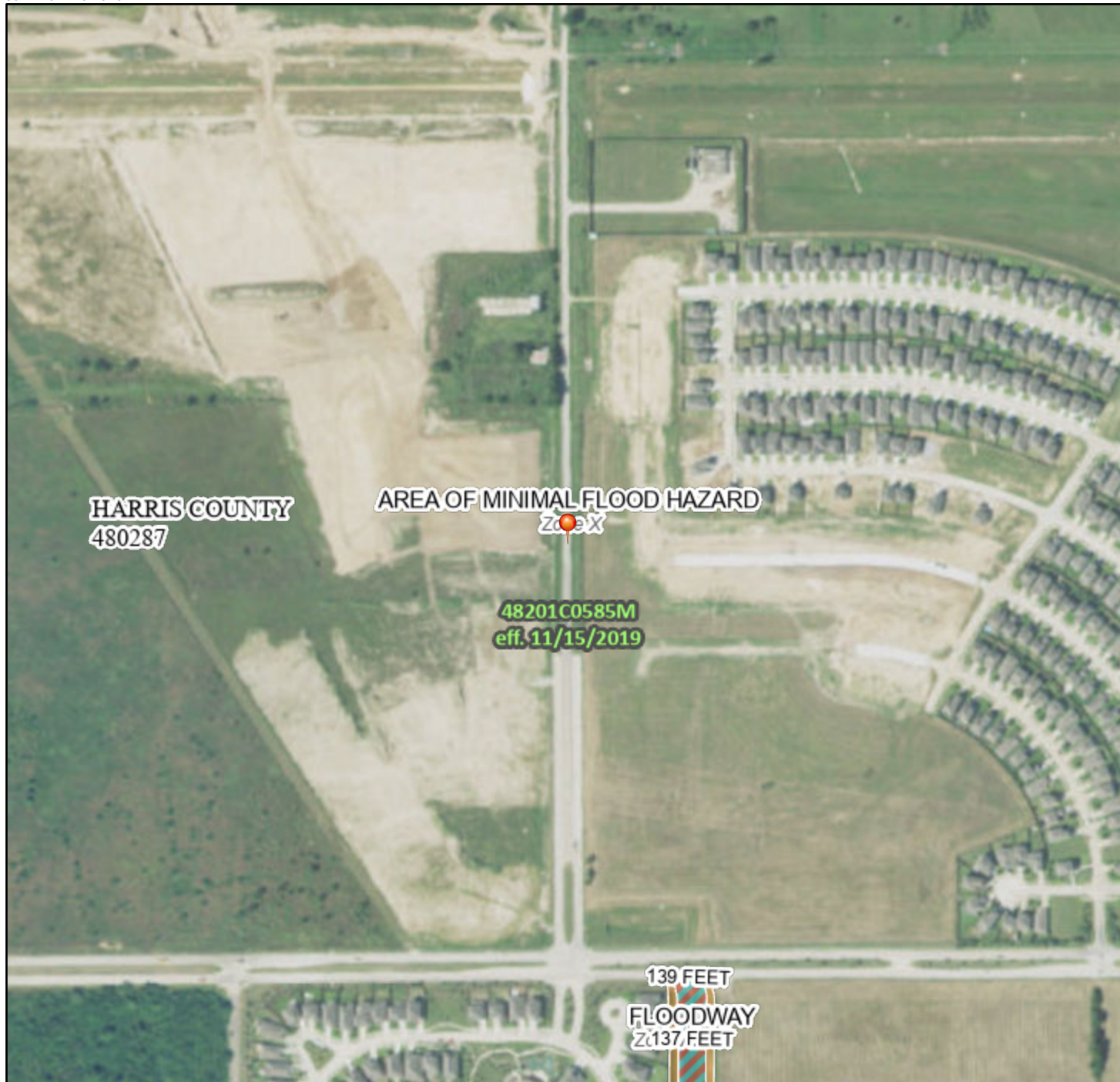
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **8/12/2021 at 12:23 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

# National Flood Hazard Layer FIRMette



95°47'43"W 29°49'29"N



## Legend (Southern Segment)

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard <i>Zone D</i>
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance
		17.5 Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
MAP PANELS		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

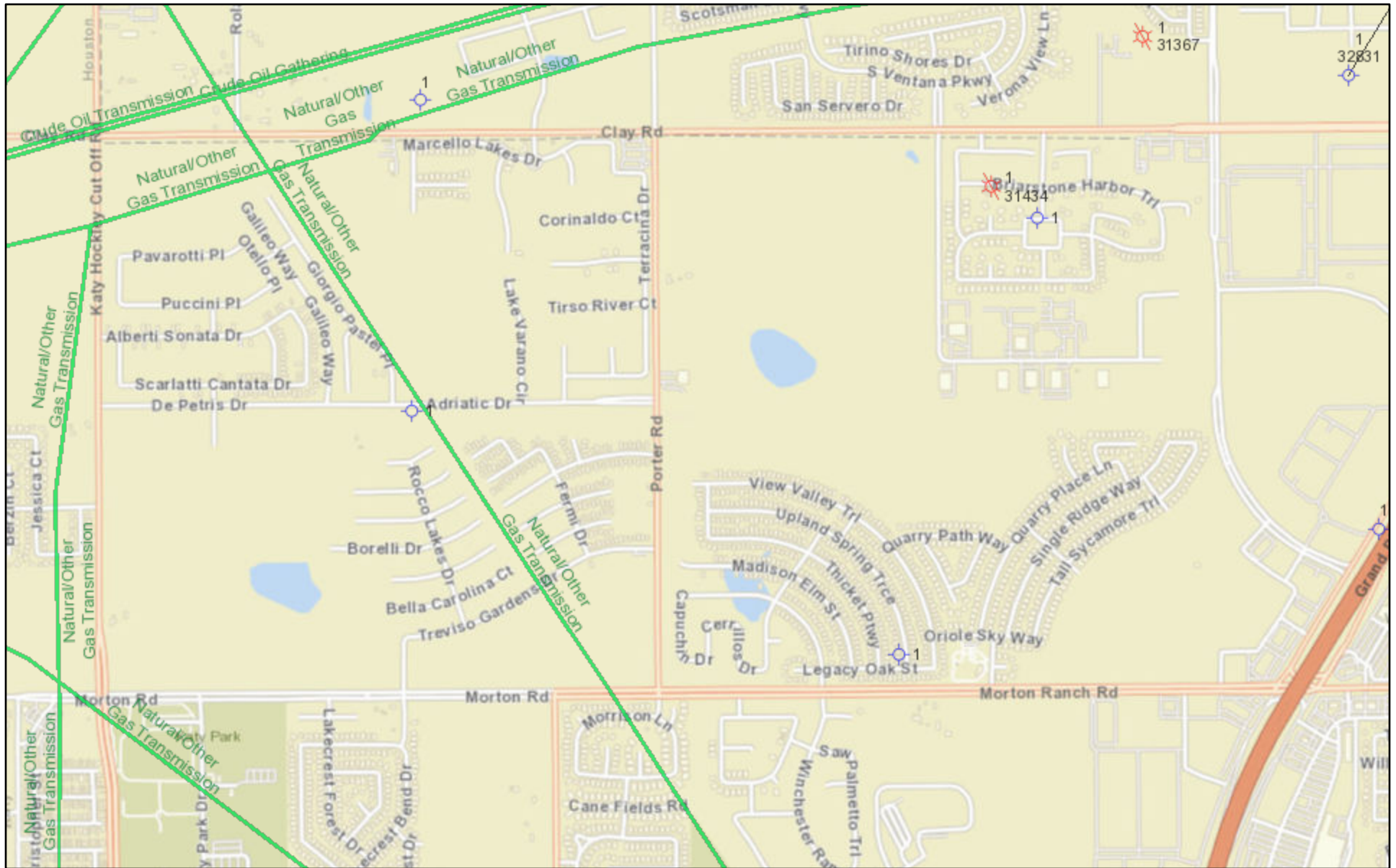
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **8/12/2021 at 12:24 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

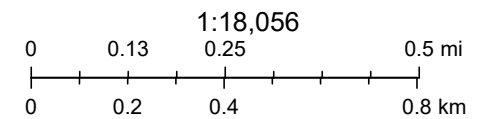
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

0 250 500 1,000 1,500 2,000 Feet 1:6,000

95°47'5"W 29°48'58"N



August 17, 2021



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand),



The graphic consists of a large, light gray shape on the left side of the page, resembling a stylized letter 'C' or a bracket. It has rounded corners and a vertical stem. A smaller, dark purple shape is positioned to the right of the gray shape, overlapping its right edge. This purple shape is also rounded and has a similar 'C' or bracket-like form, pointing towards the text.

**Appendix C**  
**EDR Aerial Photograph Decade**  
**Package**



**Porter Road**

Porter Road

Katy, TX 77493

Inquiry Number: 6598817.8

August 03, 2021

## The EDR Aerial Photo Decade Package



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

# EDR Aerial Photo Decade Package

08/03/21

**Site Name:**

Porter Road  
Porter Road  
Katy, TX 77493  
EDR Inquiry # 6598817.8

**Client Name:**

RPS JDC Inc.  
RPS, 20405 Tomball Parkway, Building 7  
HOUSTON, TX 77070  
Contact: Mark Katterjohn



Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

**Search Results:**

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
2016	1"=750'	Flight Year: 2016	USDA/NAIP
2012	1"=750'	Flight Year: 2012	USDA/NAIP
2006	1"=750'	Flight Year: 2006	USDA/NAIP
1995	1"=750'	Acquisition Date: January 14, 1995	USGS/DOQQ
1989	1"=750'	Flight Date: October 11, 1989	TXDOT
1983	1"=750'	Flight Date: February 28, 1983	NHAP
1978	1"=500'	Flight Date: January 01, 1978	TXDOT
1972	1"=750'	Flight Date: January 16, 1972	USDA
1964	1"=750'	Flight Date: October 15, 1964	USDA
1953	1"=500'	Flight Date: January 01, 1953	USGS
1944	1"=750'	Flight Date: March 31, 1944	ASCS
1938	1"=750'	Flight Date: September 21, 1938	USDA

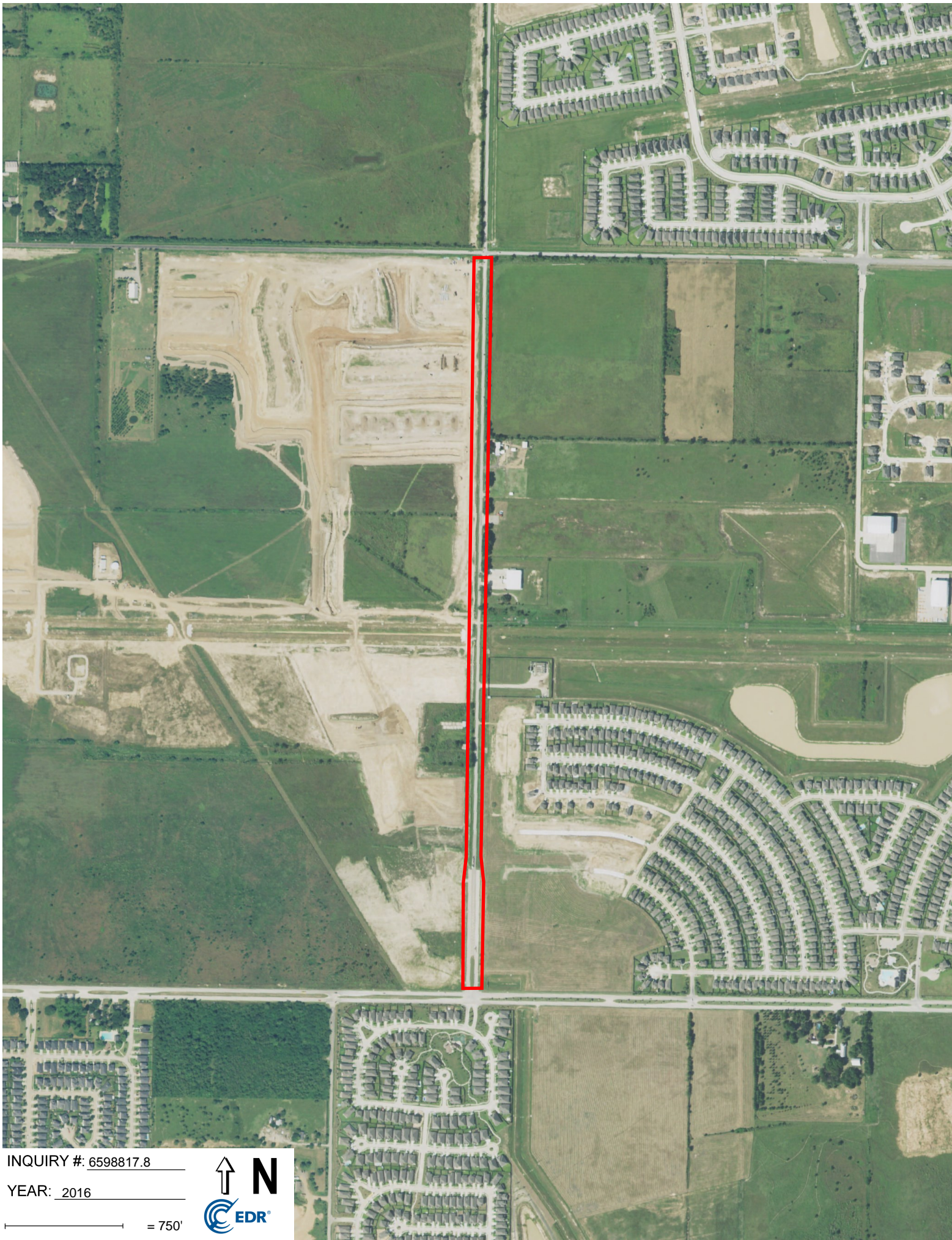
**When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.**

**Disclaimer - Copyright and Trademark Notice**

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2021 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.



INQUIRY #: 6598817.8

YEAR: 2016

— = 750'





INQUIRY #: 6598817.8

YEAR: 2012

— = 750'





INQUIRY #: 6598817.8

YEAR: 2006

— = 750'





INQUIRY #: 6598817.8

YEAR: 1995

— = 750'





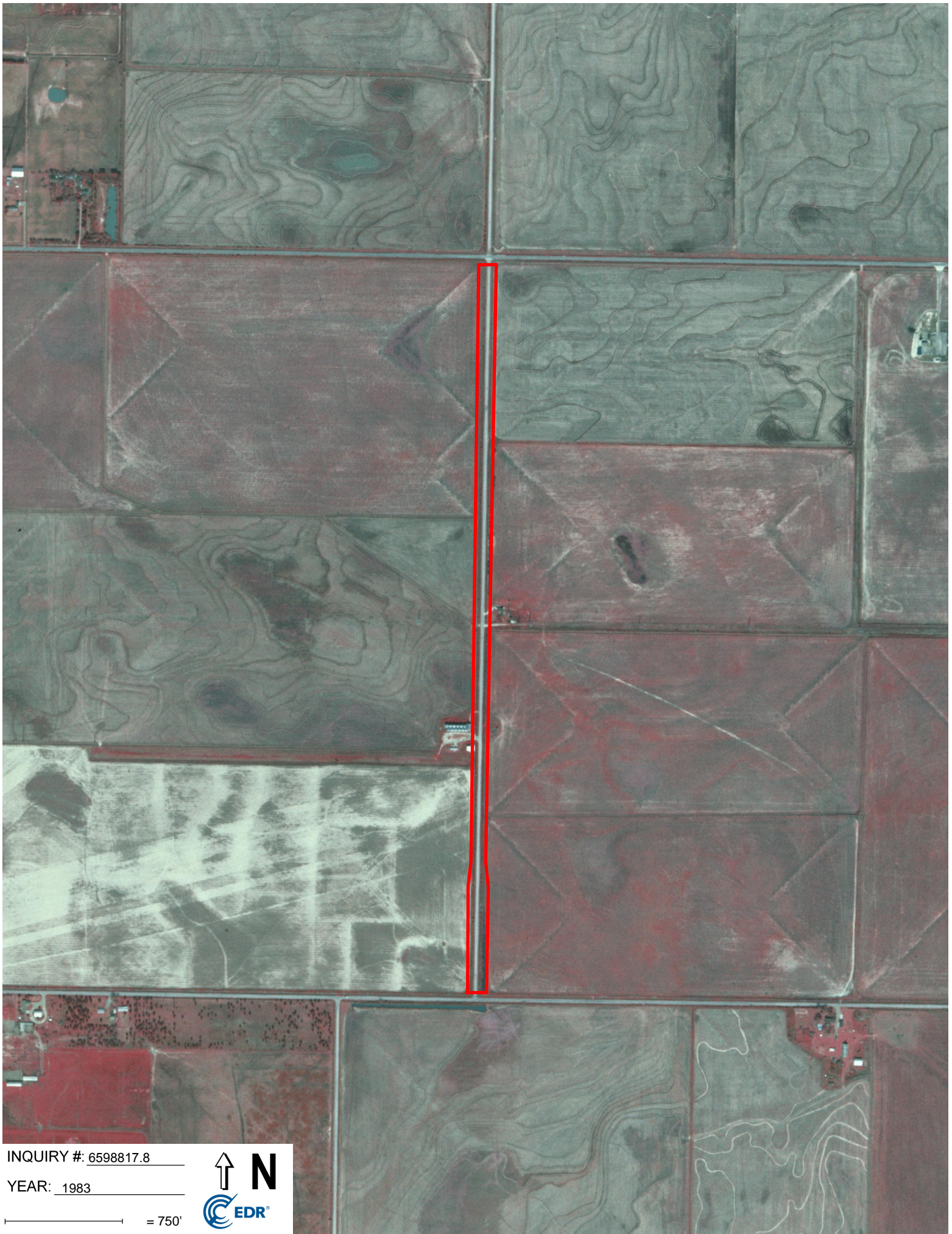
INQUIRY #: 6598817.8

YEAR: 1989

— = 750'





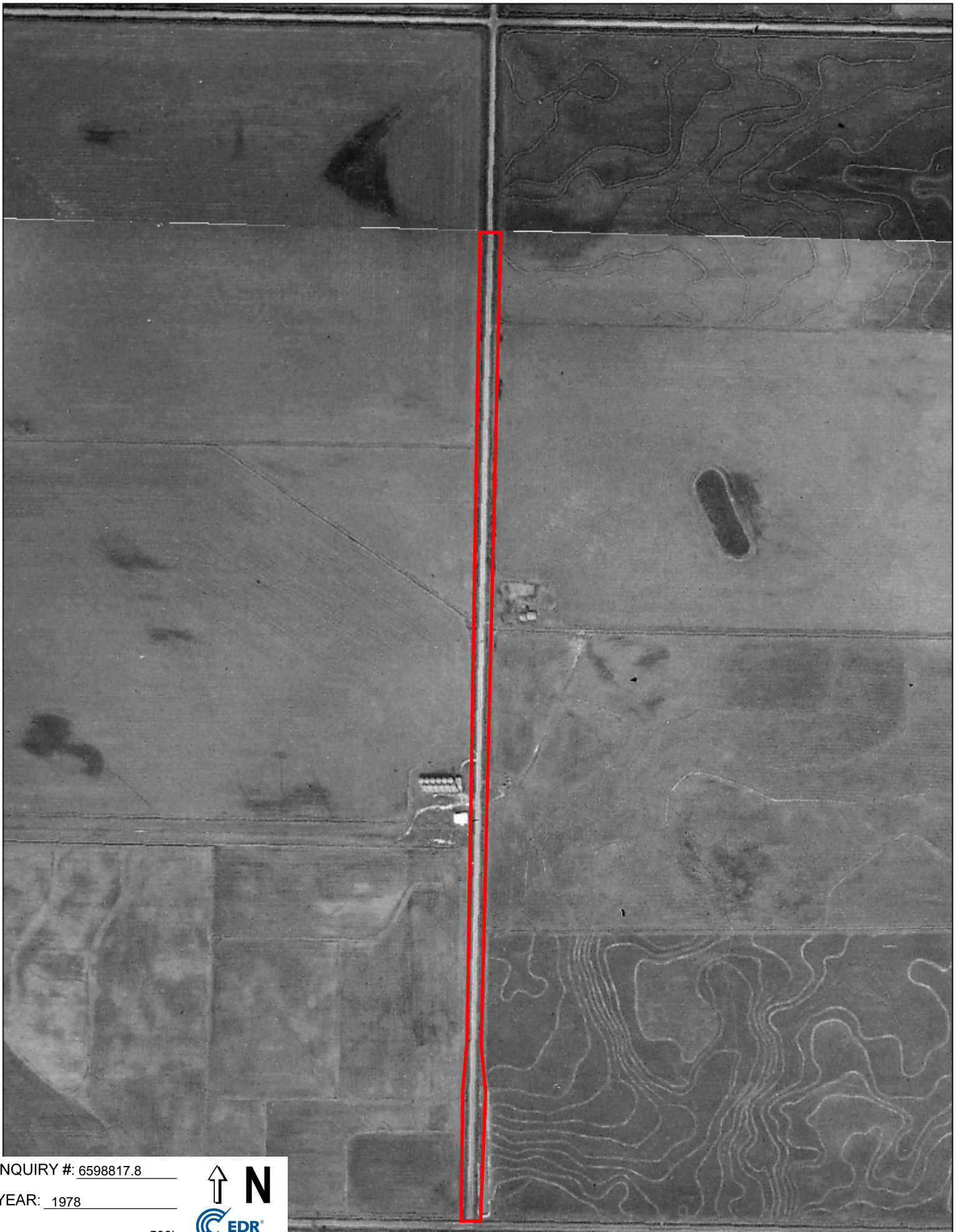


INQUIRY #: 6598817.8

YEAR: 1983

— = 750'



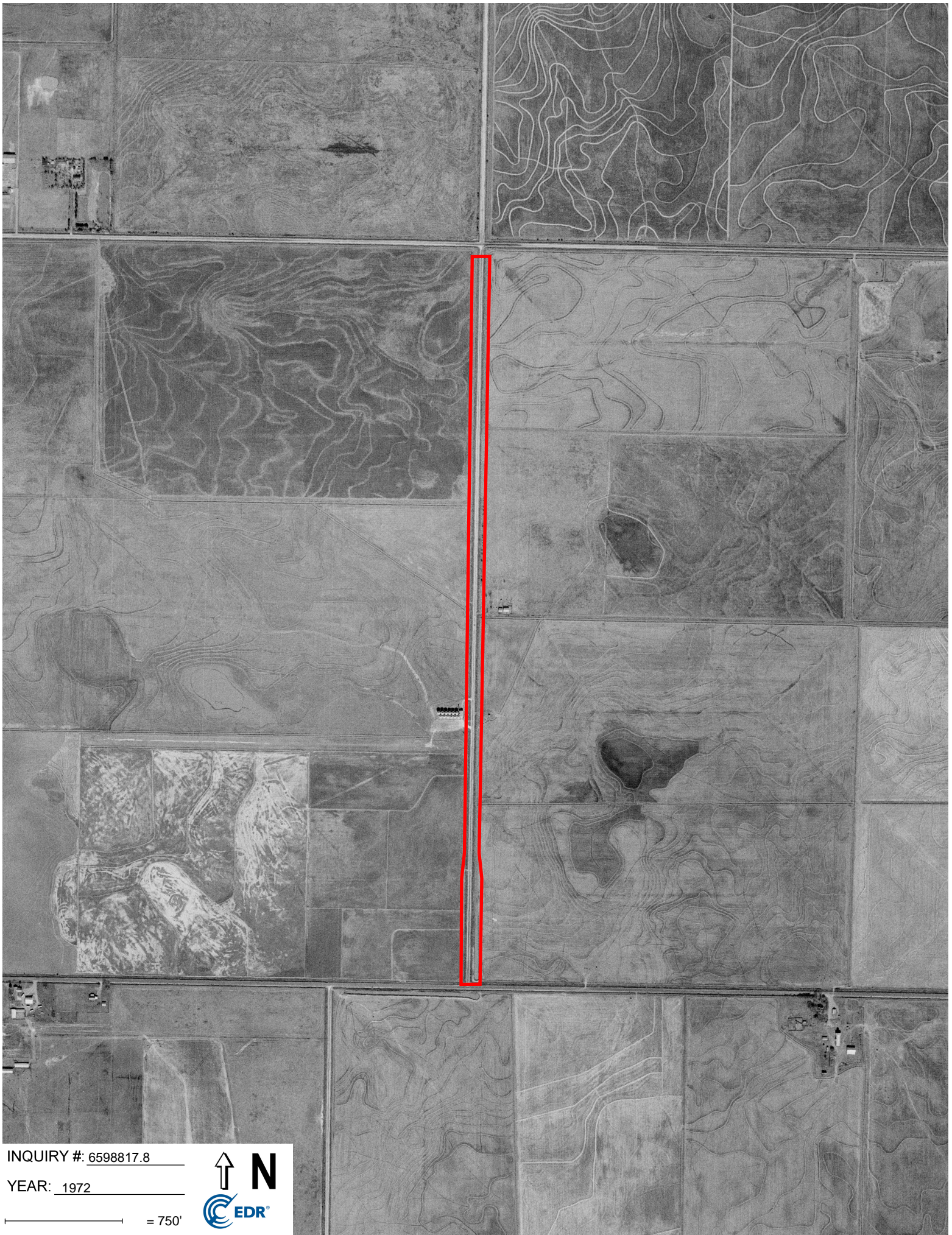


INQUIRY #: 6598817.8

YEAR: 1978

— = 500'





INQUIRY #: 6598817.8

YEAR: 1972

— = 750'



64

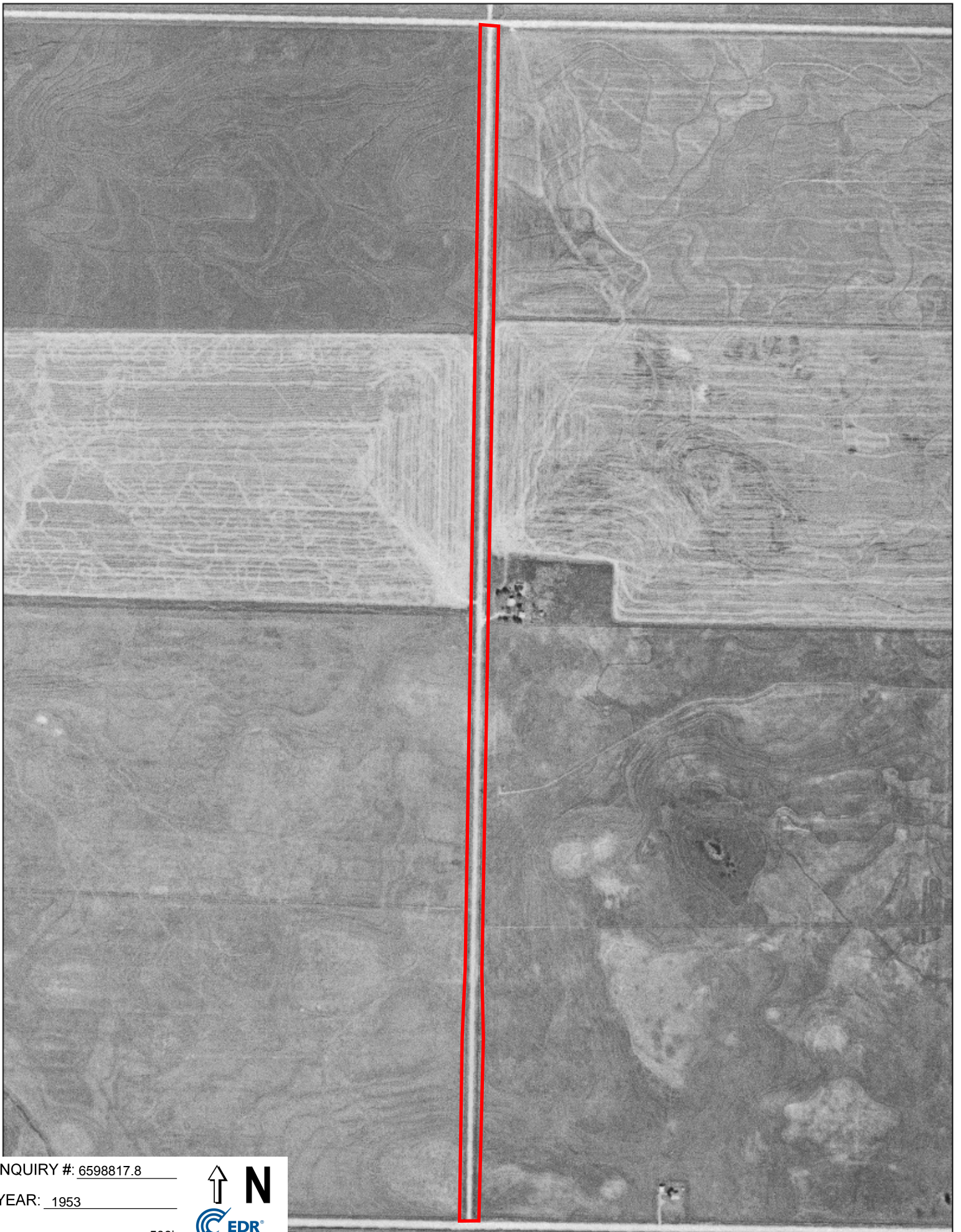


INQUIRY #: 6598817.8

YEAR: 1964

— = 750'





INQUIRY #: 6598817.8

YEAR: 1953

— = 500'





INQUIRY #: 6598817.8

YEAR: 1944

 = 750'






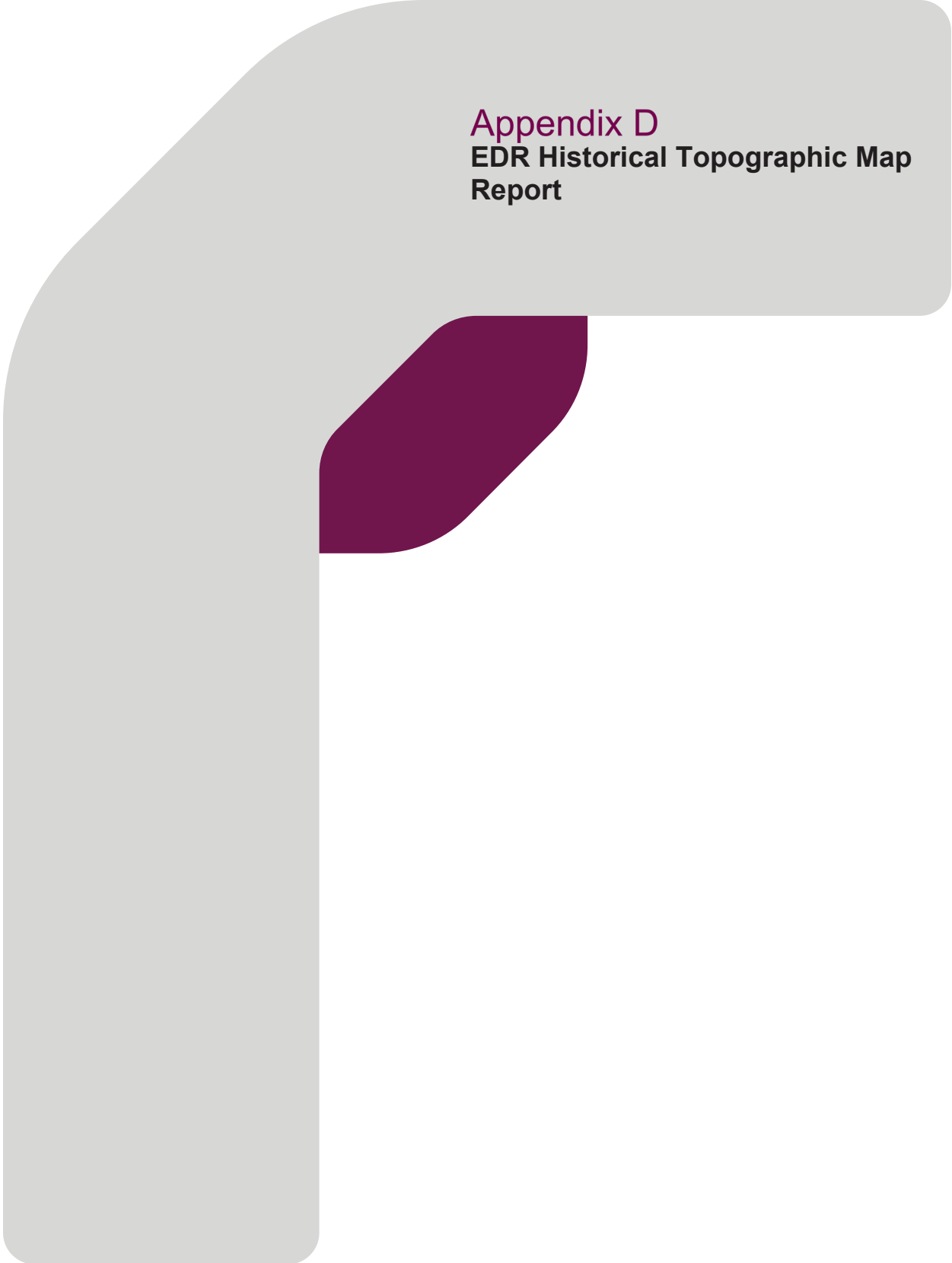
INQUIRY #: 6598817.8

YEAR: 1938

↑ N


 CEDR®

— = 750'

The graphic consists of a large, light gray shape on the left side, resembling a stylized letter 'L' or a bracket. The top-right corner of this shape is rounded. To the right of this shape, the text 'Appendix D' is written in a dark purple font. Below it, the words 'EDR Historical Topographic Map Report' are written in a black, sans-serif font. A smaller, dark purple shape is positioned between the main gray shape and the text, appearing as a decorative element or a shadow.

**Appendix D**  
**EDR Historical Topographic Map  
Report**





Porter Road  
Porter Road  
Katy, TX 77493

Inquiry Number: 6598817.4

July 29, 2021

# EDR Historical Topo Map Report

with QuadMatch™



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

# EDR Historical Topo Map Report

07/29/21

**Site Name:**

Porter Road  
Porter Road  
Katy, TX 77493  
EDR Inquiry # 6598817.4

**Client Name:**

RPS JDC Inc.  
RPS, 20405 Tomball Parkway, Building 2  
HOUSTON, TX 77070  
Contact: Mark Katterjohn



EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by RPS JDC Inc. were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDR's Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

**Search Results:****Coordinates:**

<b>P.O.#</b>	214259	<b>Latitude:</b>	29.824034 29° 49' 27" North
<b>Project:</b>	Porter Road ESA	<b>Longitude:</b>	-95.790088 -95° 47' 24" West
		<b>UTM Zone:</b>	Zone 15 North
		<b>UTM X Meters:</b>	230374.75
		<b>UTM Y Meters:</b>	3302553.75
		<b>Elevation:</b>	145.00' above sea level

**Maps Provided:**

2013  
1980  
1971  
1955  
1915

**Disclaimer - Copyright and Trademark Notice**

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

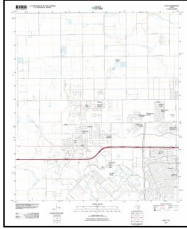
Copyright 2021 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

## **Topo Sheet Key**

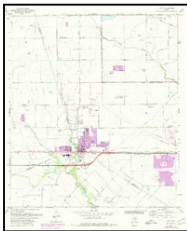
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

### **2013 Source Sheets**



Katy  
2013  
7.5-minute, 24000

### **1980 Source Sheets**



Katy  
1980  
7.5-minute, 24000  
Aerial Photo Revised 1977

### **1971 Source Sheets**



Katy  
1971  
7.5-minute, 24000  
Aerial Photo Revised 1970

### **1955 Source Sheets**



Brookshire  
1955  
15-minute, 62500  
Aerial Photo Revised 1953

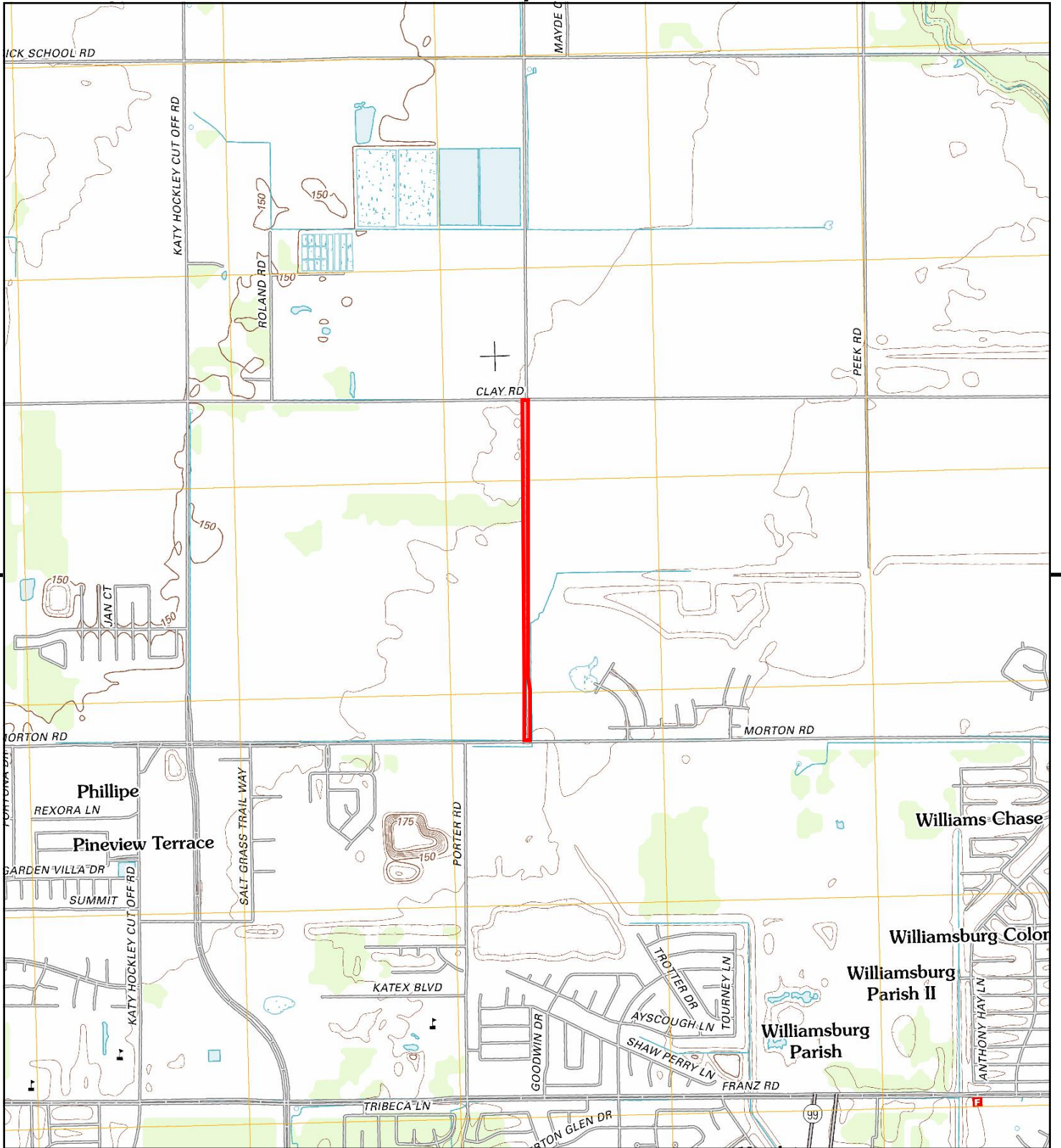
## ***Topo Sheet Key***

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

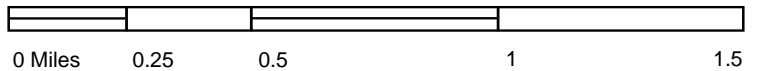
### **1915 Source Sheets**



Katy  
1915  
7.5-minute, 24000



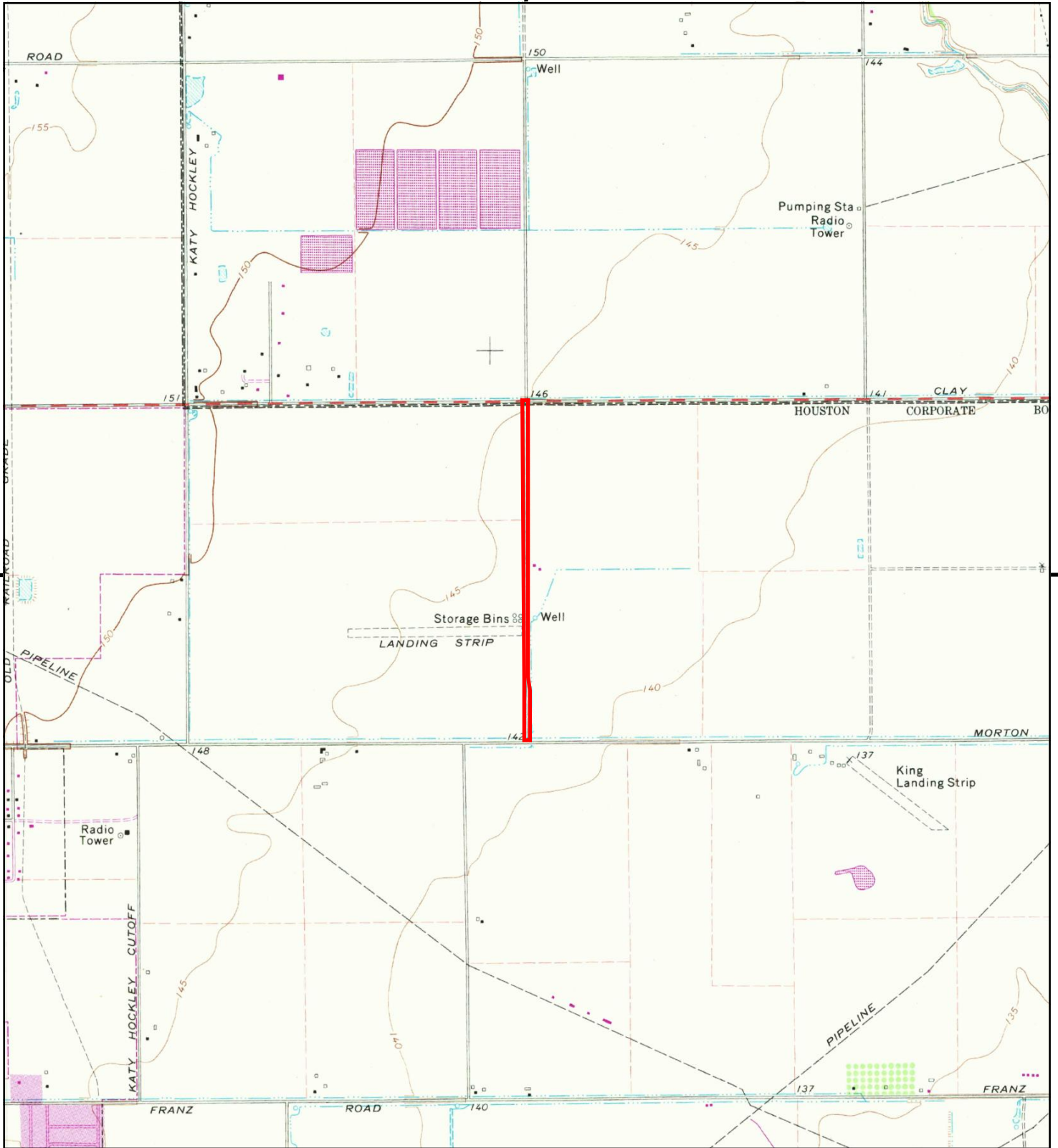
This report includes information from the following map sheet(s).



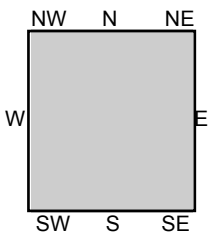
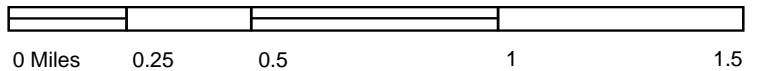
TP, Katy, 2013, 7.5-minute

SITE NAME: Porter Road  
 ADDRESS: Porter Road  
 Katy, TX 77493  
 CLIENT: RPS JDC Inc.





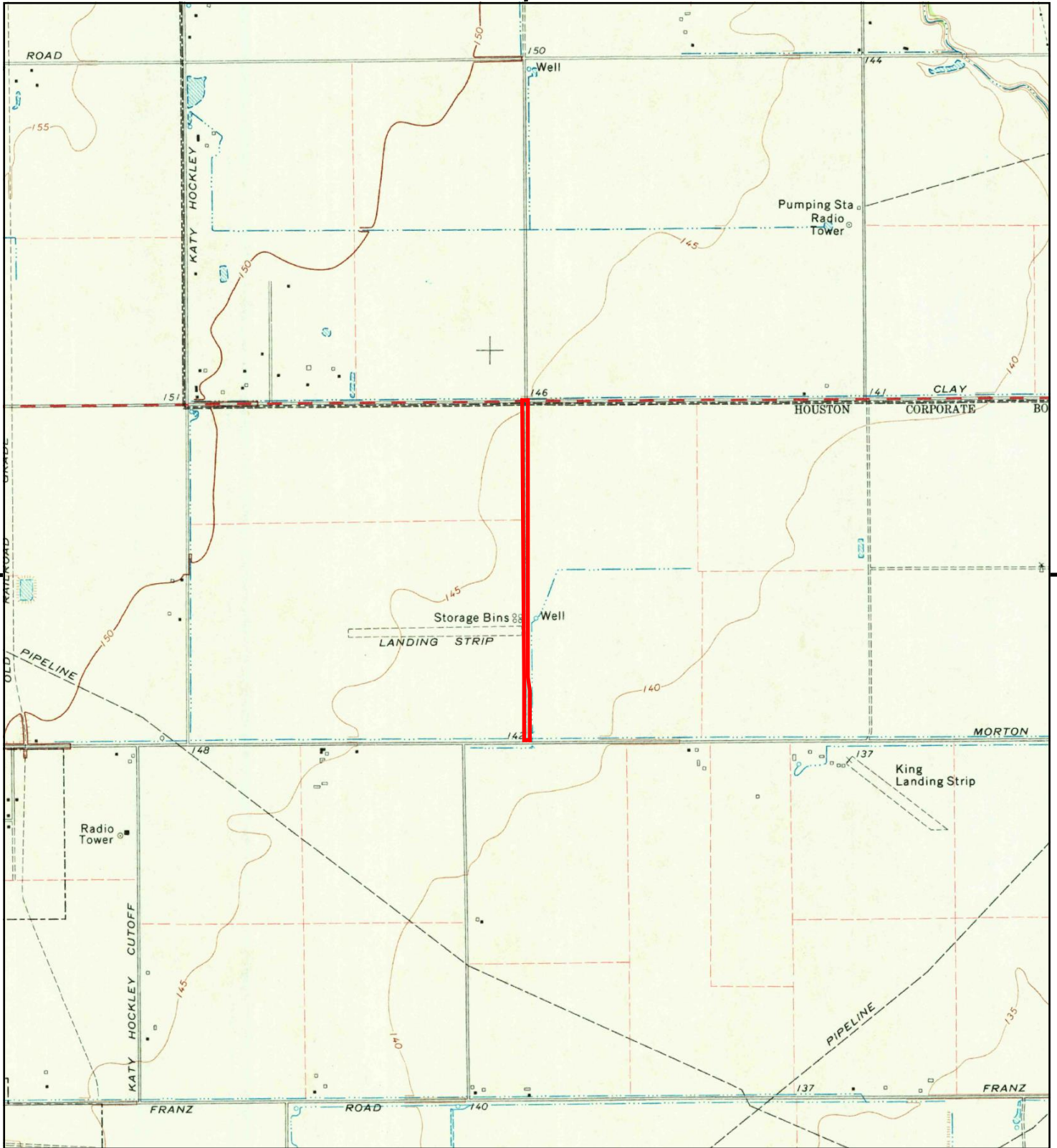
This report includes information from the following map sheet(s).



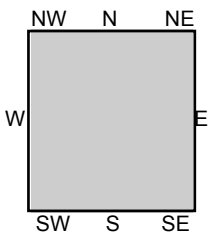
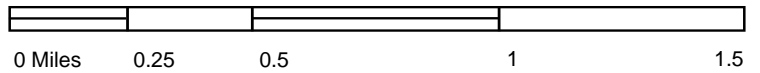
TP, Katy, 1980, 7.5-minute

SITE NAME: Porter Road  
ADDRESS: Porter Road  
Katy, TX 77493  
CLIENT: RPS JDC Inc.





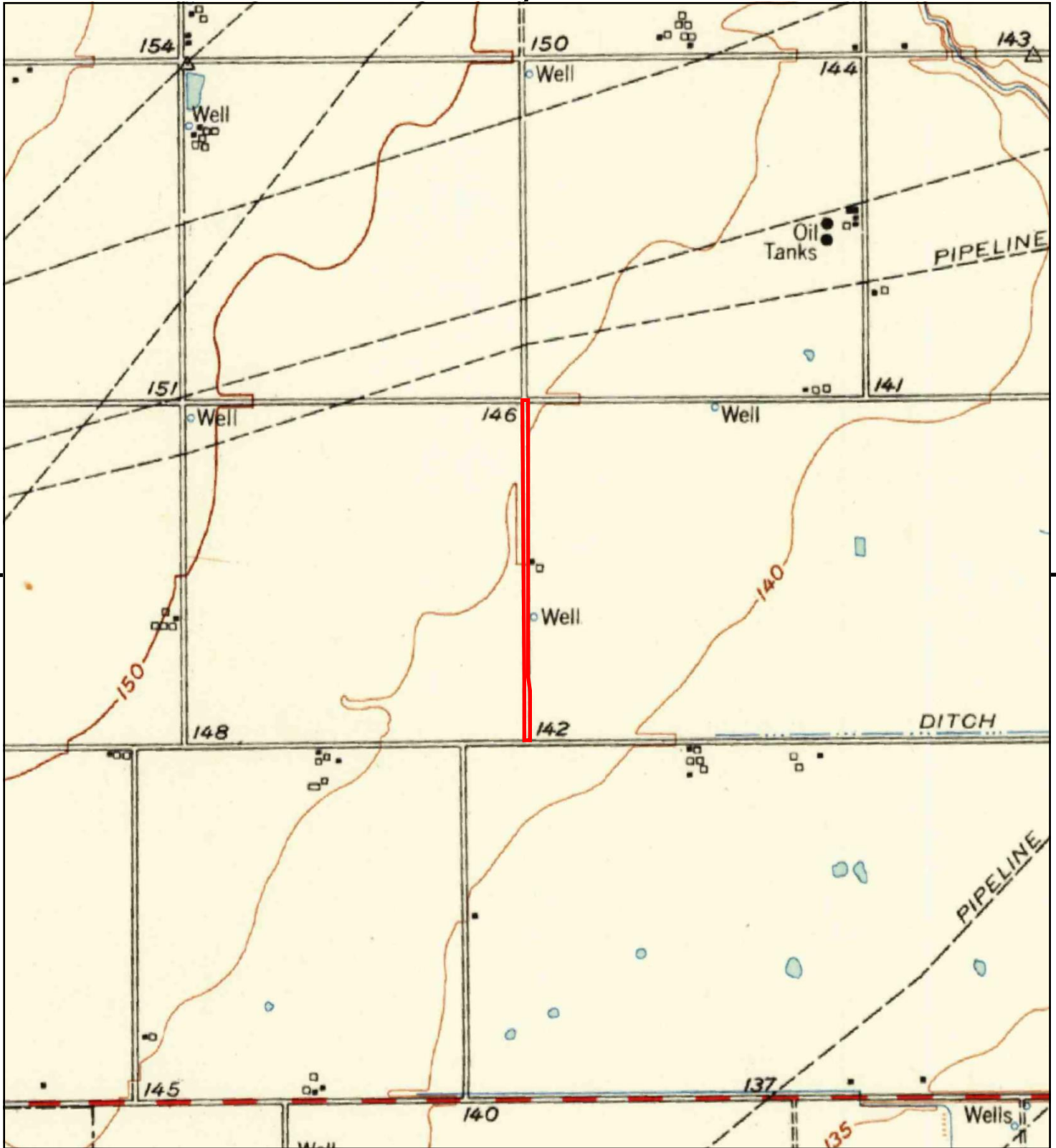
This report includes information from the following map sheet(s).



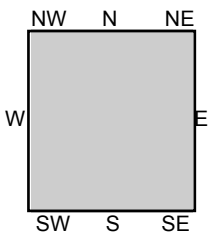
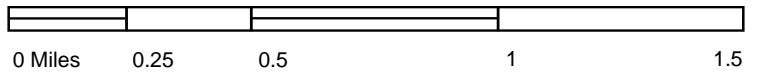
TP, Katy, 1971, 7.5-minute

SITE NAME: Porter Road  
 ADDRESS: Porter Road  
 Katy, TX 77493  
 CLIENT: RPS JDC Inc.





This report includes information from the following map sheet(s).

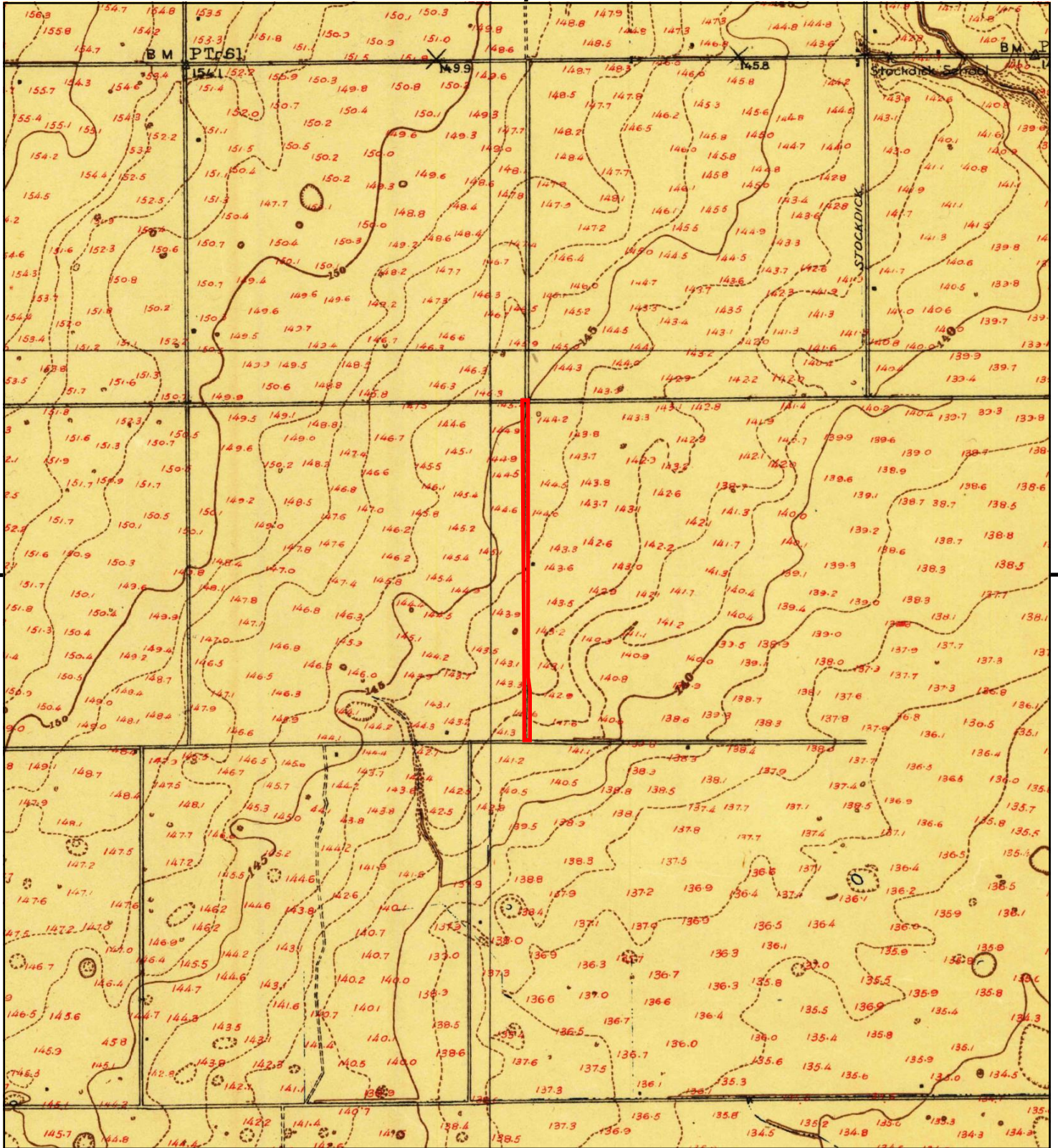


TP, Brookshire, 1955, 15-minute

SITE NAME: Porter Road  
ADDRESS: Porter Road  
Katy, TX 77493  
CLIENT: RPS JDC Inc.







This report includes information from the following map sheet(s).



TP, Katy, 1915, 7.5-minute

SITE NAME: Porter Road  
 ADDRESS: Porter Road  
 Katy, TX 77493  
 CLIENT: RPS JDC Inc.



The graphic features a large, light gray shape on the left side, resembling a stylized letter 'L' or a bracket. The top-right corner of this shape is rounded. A smaller, dark purple shape is positioned to the right of the main gray shape, overlapping its right edge. This purple shape is also rounded and has a similar 'L' or bracket-like form. The text is located in the upper right portion of the gray area.

**Appendix E**  
**EDR City Directory Image Report**

**Porter Road**

Porter Road  
Katy, TX 77493

Inquiry Number: 6598817.5  
August 06, 2021

# The EDR-City Directory Image Report

## TABLE OF CONTENTS

### SECTION

Executive Summary

Findings

City Directory Images

*Thank you for your business.*

Please contact EDR at 1-800-352-0050  
with any questions or comments.

### **Disclaimer - Copyright and Trademark Notice**

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2020 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc. or its affiliates is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

## EXECUTIVE SUMMARY

### DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

### RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

EDR is licensed to reproduce certain City Directory works by the copyright holders of those works. The purchaser of this EDR City Directory Report may include it in report(s) delivered to a customer. Reproduction of City Directories without permission of the publisher or licensed vendor may be a violation of copyright.



### RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

<u>Year</u>	<u>Target Street</u>	<u>Cross Street</u>	<u>Source</u>
2017	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
2014	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
2010	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
2005	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
2000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
1995	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
1992	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
1987	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Cole Criss-Cross Directory
1983	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Cole Criss-Cross Directory
1978	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Cole Criss-Cross Directory
1973	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Cole Criss-Cross Directory
1967	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Cole Criss-Cross Directory
1962	<input type="checkbox"/>	<input type="checkbox"/>	Cole Criss-Cross Directory
1959	<input type="checkbox"/>	<input type="checkbox"/>	Cole Criss-Cross Directory

## EXECUTIVE SUMMARY

Year      Target Street      Cross Street      Source

## FINDINGS

### TARGET PROPERTY STREET

Porter Road  
Katy, TX 77493

<u>Year</u>	<u>CD Image</u>	<u>Source</u>
-------------	-----------------	---------------

### PORTER RD

2017	pg A2	EDR Digital Archive	
2014	pg A4	EDR Digital Archive	
2010	pg A6	EDR Digital Archive	
2005	pg A8	EDR Digital Archive	
2000	pg A10	EDR Digital Archive	
1995	pg A12	EDR Digital Archive	
1992	pg A14	EDR Digital Archive	
1987	pg A16	Cole Criss-Cross Directory	
1983	pg A18	Cole Criss-Cross Directory	
1978	pg A20	Cole Criss-Cross Directory	
1973	pg A22	Cole Criss-Cross Directory	
1967	pg A24	Cole Criss-Cross Directory	
1962	-	Cole Criss-Cross Directory	Target and Adjoining not listed in Source
1959	-	Cole Criss-Cross Directory	Target and Adjoining not listed in Source

## FINDINGS

### CROSS STREETS

<u>Year</u>	<u>CD Image</u>	<u>Source</u>
-------------	-----------------	---------------

### CLAY RD

2017	pg. A1	EDR Digital Archive	
2014	pg. A3	EDR Digital Archive	
2010	pg. A5	EDR Digital Archive	
2005	pg. A7	EDR Digital Archive	
2000	pg. A9	EDR Digital Archive	
1995	pg. A11	EDR Digital Archive	
1992	pg. A13	EDR Digital Archive	
1987	pg. A15	Cole Criss-Cross Directory	
1983	pg. A17	Cole Criss-Cross Directory	
1978	pg. A19	Cole Criss-Cross Directory	
1973	pg. A21	Cole Criss-Cross Directory	
1967	pg. A23	Cole Criss-Cross Directory	
1962	-	Cole Criss-Cross Directory	Target and Adjoining not listed in Source
1959	-	Cole Criss-Cross Directory	Target and Adjoining not listed in Source



## **City Directory Images**

**CLAY RD 2017**

23625 BARRETO, EDUARDO R  
24600 SMITH, RUSSELL D  
24622 WILLIAMS, CONLEY  
24650 PATEK, FLORENCE H  
24710 GRAY, JAMES C  
24750 SEBASTIANELLI, FRANK M  
25610 OPTIMIZED PROCESS DESIGNS INC  
25740 KRESTA, LARRY J  
26115 LUEDECKE, KENNETH B  
26126 BALLARD, BRIAN D  
26131 HICKS, HAL S  
26143 RAVENBERG, JOHN D  
26151 SCHRIEFER, RONNIE A  
26171 GUZMAN, SANTOS D  
26340 WINDERS, DANIEL P  
26350 MASSON, LUIS G  
26435 SISCO, KEVIN M  
26504 CHOUKAIR, TAIAL S  
26510 CHOUKEIR, OMAR  
26520 THE RAIN SOURCE  
26524 EL, NAGGAR A  
26550 HIGGINS, RICHARD S  
26551 HARWOOD, ROBERT C  
26633 INGHAM, RHONDA C  
26707 AMERICAN TOWER  
YODER ENTERPISES INC  
26720 VALDES, JUAN L  
26835 DRAPER, LARITA A  
27111 BILLINGS, MERVIN R  
27155 BROWNSON, GEARLD R  
27405 WEST, GARY W  
27505 BECKENDORFF, DORA L  
28615 LINDSAY, TONY J  
28707 ESCOBAR, CARLOS J  
28725 LOPEZ, JAVIER  
28785 GEIMAN, DEAN



-

**PORTER RD 2017**

2211 BOTTER, JAMES W  
2215 BROWN, ROBERT W  
2217 HENDERSON, JOHN R  
HENDERSON, RICHARD D  
2221 RIGHTMIRE, KIRK P  
2525 EN AVANT BALLET STUDIO  
2725 KOUKA, SAM J

**CLAY RD 2014**

23625 HENNING, RESIDUARY  
24525 IGLESIA BAUTISTA EL BUEN PASTOR  
OLIVAREZ, ANA  
24600 SMITH, RUSSELL D  
24630 SOSA, ANA  
24650 PATEK, FLORENCE H  
24710 GRAY, JAMES C  
24750 OCCUPANT UNKNOWN,  
25610 OPTIMIZED PROCESS DESIGNS  
25710 MICHAEL, RONNIE M  
25740 KRESTA, LARRY J  
26115 LUEDECKE, KENNETH B  
26126 BAKER, DBRUCE B  
26131 HICKS, HAL S  
26143 RAVENBERG, JOHN D  
26151 SCHRIEFER, RONNIE A  
26171 GUZMAN, SANTOS D  
26340 WINDERS, DANIEL P  
26350 MASSON, LUIS G  
26435 SISCO, KEVIN M  
26504 CHOUKAIR, TAIAL S  
26510 CHOUKEIR, OMAR  
26520 RAIN SOURCE THE  
26524 EL, NAGGAR A  
26550 HIGGINS, RICHARD S  
26551 HARWOOD, ROBERT C  
26633 INGHAM, RHONDA C  
26707 BOWEN SMITH CORP  
26720 VALDES, JUAN L  
26835 DRAPER, LARITA A  
27111 BILLINGS, MERVIN R  
27155 BROWNSON, GEARLD R  
27405 WEST, GARY W  
27505 BECKENDORFF, DORA L  
27555 BEAUDIN, ALAN R  
27605 GUTIERREZ, LEONOR  
28615 LINDSAY, TONY J  
28625 LOVE, MARK E  
28629 FAJARDO, RAFAEL H  
28717 OCCUPANT UNKNOWN,  
28725 LOPEZ, JAVIER  
28785 GEINAN, SUPRINA

**PORTER RD 2014**

2211 BOTTER, JAMES W  
2217 HENDERSON, JACK R  
2221 CALLENDER, VICKI T  
2225 FAITH WEST ACADEMY  
FAITH WEST CHURCH  
2241 SHANES WESTSIDE AUTO  
2525 EN AVANT BALLET STUDIO  
2725 KOUKA, SAM J  
2755 MERCY CUSTOM SLAUGHTER  
2803 OCCUPANT UNKNOWN,  
3506 CHRISTS MERCY  
OCCUPANT UNKNOWN,

**CLAY RD 2010**

23625 HENNING, DONAL J  
24525 IGLESIA BAUTISTA EL BUEN  
OCCUPANT UNKNOWN,  
24622 SMITH, RUSSELL D  
24630 HUGGS, JOSEPH W  
24650 PATEK, GARY J  
24710 GRAY, JAMES C  
24750 BRIGHT, JODY  
25610 OPTIMIZED PROCESS DESIGNS INC  
25710 MICHAEL, RONNIE M  
25740 KRESTA, LARRY J  
25810 PAVER CONNECTION  
TROPISCAPES  
26115 LUEDECKE, KENNETH B  
26126 BAKER, DAVID B  
26131 SANDERS, GARY W  
26143 RAVENBERG, JOHN D  
26151 SCHRIEFER, RONNIE A  
26171 GUZMAN, TEODORO  
26340 WINDERS, DANIEL P  
26350 MASSON, LUIS G  
26435 HERNANDEZ, JOSE E  
26504 HOUJAIRY, SARA  
26510 CHOWKEIR, KHALED S  
26524 OCCUPANT UNKNOWN,  
26550 FRIEDMAN, WILLIAM J  
26551 HARWOOD, ROBERT C  
26633 INGHAM, RHONDA C  
26707 BOWENSMITH CORP  
26720 VALDES, JUAN L  
26835 DRAPER, LARITA P  
27111 BILLINGS, DENISE E  
27155 BROWNSON, GEARLD R  
27405 WEST, JENNIFER M  
27505 BECKENDORFF, DORA  
27555 BEAUDIN, NELSON J  
28615 LINDSAY, TONY J  
28625 OCCUPANT UNKNOWN,  
28629 FAJARDO, RAFAEL H  
28717 OCCUPANT UNKNOWN,  
28725 LOPEZ, JAVIER

**PORTER RD 2010**

2211 MACDONALD, MARY  
2215 OCCUPANT UNKNOWN,  
2217 HENDERSON, JACK R  
2221 CALLENDER, VICKI T  
2223 BOTTER, JEREMY J  
2225 FAITH WEST ACADEMY  
FAITH WEST CHURCH  
2241 WESTSIDE AUTO  
2525 LIVINGWAY CHURCH  
2725 KOUKA, SAM J  
2755 MERCY CUSTOM SLAUGHTER  
2803 OCCUPANT UNKNOWN,  
3315 MORTON, RICE D

## CLAY RD 2005

23625 HENNING, STEVEN M  
24600 FRAZIER, MARJORIE L  
24622 SMITH, RUSSELL D  
24630 HUGGS, JOSEPH W  
24650 PATEK, GARY J  
24710 OCCUPANT UNKNOWN,  
24750 GROSS, MARTHA M  
25610 OCCUPANT UNKNOWN,  
OPTIMIZED PROCESS DESIGNS INC  
OTIMIZED PROCESS DESIGNS INC  
25710 ALTRUISM CINEMA INC  
MICHAEL, RONNIE  
25720 ROTORWAVE INC  
25740 KRESTA, LARRY J  
25810 PAVER CONNECTION  
TROPISCAPES  
26115 LUEDECKE, KENNETH  
26126 BAKER CONSTRUCTION CO  
BAKER, DAVID B  
26131 OLIVER, ROGER G  
26143 RAVENBERG, JOHN D  
26151 SCHRIEFER, RONNIE A  
26310 OPTIMIZED PROCESS DESIGNS WAREHO  
26340 WINDERS, DANIEL P  
26350 MASSON, LUIS G  
26435 MARSH, JOHNNY M  
26504 OCCUPANT UNKNOWN,  
26510 OCCUPANT UNKNOWN,  
26522 OCCUPANT UNKNOWN,  
26524 OCCUPANT UNKNOWN,  
26530 KATYLAND PLANT FORMS  
OCCUPANT UNKNOWN,  
26550 FRIEDMAN, WILLIAM J  
26551 HARWOOD, ROBERT C  
26633 INGHAM, JAMES R  
26835 DRAPER, RICHARD L  
27111 BILLINGS, DENISE D  
27155 BROWNGOURD FARMS  
BROWNSON, GEARLD R  
27405 WEST, BONNIE B  
27505 BECKENDORFF, DORA  
27555 BEAUDIN, NELSON  
28615 LINDSAY, TONY J  
28625 PRECISION RECOVERY SYSTEMS INC  
28629 FAJIARDO, MARIBETH  
28707 OCCUPANT UNKNOWN,  
28717 HARRISON, GEORGE  
28725 LOPEZ, JAVIER



**PORTER RD 2005**

2211 BOTTER, JAMES W  
2213 KATY VOLLEYBALL ACADEMY  
2215 GRAVES, LOUISE L  
2219 FAITH WEST ACADEMY  
2221 CALLENDER, MICHAEL O  
2225 FAITH WEST CHURCH  
GRACE CLASSICAL ACADEMY  
KIMS KITCHEN  
2241 WESTSIDE AUTO  
2703 OCCUPANT UNKNOWN,  
2725 KOUKA, SAM J  
2755 MERCY CUSTOM SLAUGHTER  
2803 ELKOUKA, HESHAM  
3315 MORTON, RICE D

**CLAY RD 2000**

23625 HENNING, STEVE  
24622 SMITH, RUSSELL D  
24630 HUFF, K  
HUGGS, JOSEPH W  
24710 GRAY, JAMES L  
24750 BRIGHT, J J  
25710 MICHAEL, RONNIE  
ROTORWAVE INCORPORATED  
25740 KRESTA, LARRY  
25810 OCCUPANT UNKNOWN,  
PAVER CONNECTION  
26126 BAKER, D B  
26131 OCCUPANT UNKNOWN,  
26143 RAVENBERG, JOHN  
26151 FENWICK, GREGORY M  
26306 OPTIMIZED PROCESS DESIGNS INCORPORATED  
26310 OPTIMIZED PROCESS DESIGNS INCORPORATED  
OPTIMIZED PROCESS DESIGNS SHOP  
OPTIMIZED PROCESS DESIGNS WAREHOUSE  
26340 WINDERS, DANIEL R  
26350 MASSON, LUIS  
26430 WINDERS, DAN  
26435 MARSH, J  
26510 CHOWKEIR, KHALED  
26520 OCCUPANT UNKNOWN,  
RAIN SOURCE THE  
26522 OCCUPANT UNKNOWN,  
26530 KATYLAND PLANT FARMS  
OCCUPANT UNKNOWN,  
26551 HARWOOD, R C  
26633 INGHAM, JAMES  
26835 DRAPER, R L  
TINEY, DAVID  
27111 BILLINGS, DENISE  
27155 BROWNSON, G R

**PORTER RD 2000**

2211 BOTTER, JIMMY  
2213 OCCUPANT UNKNOWN,  
2215 GRAVES, LOUISE  
2219 FAITH WEST ACADEMY  
2220 OCCUPANT UNKNOWN,  
2221 CALLENDER, MICHAEL O  
2241 WESTSIDE AUTO  
2625 RADWAN, IBRAHIM  
2803 ELKOKA, GAMAL

**CLAY RD 1995**

24622 SMITH, RUSSELL D  
24630 HUFF, K  
HUGGS, JOSEPH W  
24750 GROSS, MARTHA M  
26310 OPTIMIZED PROCESS DESIGNS INC  
OPTMZD PROCS DESN  
26530 KATYLAND PLANT FARMS  
SHERRILL, FRANCIS G  
26551 REGAN, LISA  
26835 PINNEY, DAVID W

**PORTER RD 1995**

2225 FAITH WEST ACADEMY  
2241 WESTSIDE TIRE & AUTO  
3315 MORTON RICE DRYER

**CLAY RD 1992**

24622 SMITH, RUSSELL D  
24630 HUFF, K  
HUGGS, JOSEPH W  
26306 OPTMZD PRCS DSGNS  
26310 OPTMZD PROCS DESN  
26551 REYNOLDS, JOE D  
26835 DRAPER, R L

**PORTER RD 1992**

2225	FAITH WEST ACADEMY
	FAITH WEST CHURCH
2241	WESTSIDE AUTO
3315	MORTON RICE DRYER

CLAY RD 1987

**CLAY RD**

		• • • • • • • • • •	<b>77449</b>
<b>19410A</b>	★Texas Food Sprmkt	.85	<b>859-4929</b>
<b>19510</b>	★Kinder-Care Lrng		▣ <b>550-1610</b>
<b>24600</b>	Loyd D Frazier	.66	<b>371-3663</b>
<b>24622</b>	R D Smith		▣ <b>371-0350</b>
<b>24750</b>	M M Gross	.82	<b>371-3913</b>
<b>26111</b>	Kelly A Banks	.84	<b>371-2176</b>
	H W Scarboro	.84	<b>371-2177</b>
<b>26306</b>	★Optmzd Prcs Dsgns	.84	<b>371-7500</b>
<b>26310</b>	★Optmzd Procs Desn	.84	<b>371-2499</b>

		●	<b>HWY CONTRACT 1</b>	• •	<b>77449</b>
<b>26551</b>	Joe Dale Reynolds	.79			<b>371-7629</b>

		●	• • • • • • • • • •	<b>77449</b>
<b>26835</b>	R L Draper	.69		<b>371-3427</b>
<b>NO #</b>	C D Middleton	.80		<b>371-9351</b>
<b>NO #</b>	Brax Rasberry	.77		<b>371-3319</b>
	<b>13 RESIDENCE</b>	<b>8</b>		<b>BUSINESS</b>



PORTER RD 1987

● PORTER RD 77449

2200- 3599 TZ 45202 \$B..G 3

● KEY MAP LOC 445E

2219 ★Evergreen Bapt Ch . . . 84 391 - 1800

● HWY CONTRACT 1 . . . 77449

3510 James E Callenius . . . 83 391 - 6405

1 RESIDENCE 1 BUSINESS

## CLAY RD 1983

**CLAY RD**

				77449
	21400-24899	TZ 45202		SB..G 3
	26000-26999	TZ 45201		SB..G 2
	184120			
2463	Mrs Katherine Huff	. . . . .70	371-2552	
	Joseph Wayne Huggs	. . .70	371-2552	
19209	Thomas J Harrison	. . . . .-	578-0687	
21405	K Kramer	. . . . .	492-6095	
24600	Loyd D Frazier	. . . . .66	371-3663	
24750	M M Gross	. . . . .82	371-3913	
	<b>HWY CONTRACT 1</b>	. . . . .	<b>77449</b>	
26551	Joe Dale Reynolds	. . . . .79	371-7629	
	. . . . .		<b>77449</b>	
26835	R L Draper	. . . . .69	371-3427	
No #	Denise Middleton	. . . . .80	371-9351	
No #	Brax Rasberry	. . . . .77	371-3319	
No #	Edes Touchet	. . . . .	371-9782	
No #	Richard Touchet	. . . . .78	371-2043	
	12 Residence			

PORTER RD 1983

PORTER RD

77449

2200- 3599 TZ 45202

\$B..G 3

187330

2219★ Immni Bapt Temple . . . . .

391-8126

3510 James E Callenius . . . . .

391-6405

No # Daniel Israel . . . . .

.81 574-4670

2 Residence

1 Business

77449

CLAY RD 1978

<b>CLAY RD</b>		<b>77450</b>
<b>24600-27499 TZ</b>	<b>452</b>	<b>SC..017</b>
<b>132090</b>		
24600	Loyd D Frazier . . . . .	371-3663
24750	John W Gross . . . . .6	371-7661
26835	R L Draper . . . . .9	371-3427
No #	Mrs Katherine Huff . . . . .0	371-2552
No #	Joseph Wayne Huggs . . . . .0	371-2552
No #	Brax Rasberry . . . . .7	371-3319
No #	Richard Touchet . . . . .□	371-2043
7 Residence		

**PORTER RD 1978**

**PORTER RD**

**77450**

**133370**

2502 Reed William Smith . . . . .

371-3261

1 Residence

CLAY RD 1973

CLAY RD

77450

.....			
24600	LOYD D	FRAZIER	6 8527728
NO #	JOE	BRIGHT	8 8524380
NO #	CALVIN J	GUILLORY	2 8524109
NO #	MRS KATHERINE	HUFF	0 8524174
NO #	JOSEPH W	HUGGS	0 8524174
NO #	A V	MEADOWS	7 8527619
NO #	C M	METCALF	2 8524921
	7	RESIDENCE	

AS AUTHORIZED IN WRITING BY THE PUBLISHER



-

PORTER RD 1973

PORTER RD

77450



2502 REED W SMITH

8524436

1 RESIDENCE

CLAY RD 1967

RESIDENCE

CLAY RD

77450

24600 LOYD D FRAZIER

6 UL27728

NO # A V MEADOWS

UL27619

NO # RLROY RICHARD

UL27468

3 RESIDENCE



✓

-

PORTER RD 1967

PORTER RD

77450

2502 REED W SMITH  
1 RESIDENCE

UL24436

The graphic features a large, light gray shape on the left side, resembling a stylized letter 'L' or a corner of a page. The top-right corner of this shape is rounded. A smaller, dark maroon shape is positioned in the middle-right area, overlapping the gray shape. This maroon shape is also rounded and has a diagonal orientation. The text 'Appendix F' is written in a dark maroon color, and 'Site Photographs' is written in a black color, both centered within the gray area.

**Appendix F**  
**Site Photographs**



Photograph 1: Drainage containment area at Porter Road and Morton Ranch Road (looking south)



Photograph 2: Standing water in drainage containment Area (looking east)



Photograph 3: Transition from four-lane to two-lane road (looking south)



Photograph 4: Grated drainage inlets along curbed roadway



Photograph 5: High voltage traffic signal box cover (near intersection of Porter and Morton Ranch Roads)



Photograph 6: Grated drainage inlets at subdivision entry roads and gas station entry



Photograph 7: Creosote telephone poles with pole mounted transformers



Photograph 8: High voltage power lines running along Harris County drainage canal between northern and southern segments.



Photograph 9: Popo Jack's Ranch with grazing cattle (3508 and 3510 Porter Road)



Photograph 10: Harris County Emergency Services District No. 48's future Fire Station No. 6 and Fire Training Facility (3507 Porter Road) with stacked shipping containers



Photograph 11: Iglesia Fuente De Dios (3506 Porter Road) (left) and high voltage power lines north of Harris County drainage ditch



Photograph 12: Harris County MUD No. 536 Lift Station #1 (3311½ Porter Road)





Photograph 13: Harris County MUD No. 432 Wastewater Treatment Plant (3414½ Porter Road)



Photograph 14: Meter boxes near Water Treatment Plant



Photograph 15: Meter box near Porter and Morton Ranch Roads intersection



1 Rock debris blocking entry into vacant lot on west side of southern segment



Photograph 17: Damaged creosote telephone pole alongside of Porter Road near Treviso Gardens Rd



Photograph 18: Convenient store at Clay Road intersection



Photograph 19: Above-ground gas line cage, utilities, and residential stone fencing with landscaping



Photograph 20: Wooden fence along residential subdivision with landscaping and utility boxes



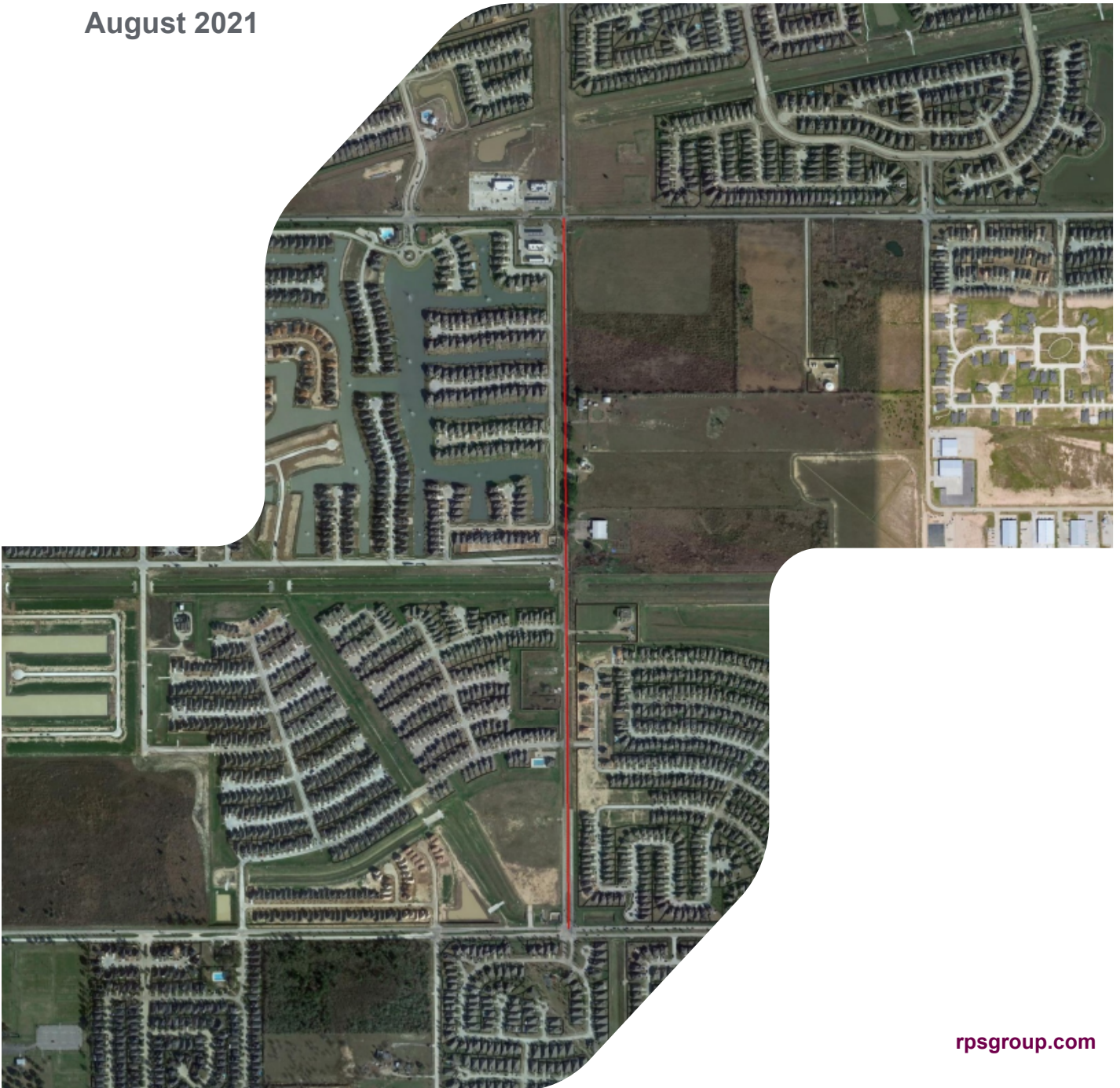
Photograph 21: Small stormwater diversion (on left); short distance has two drainage ditches (near Civitan and Treviso Gardens Road) adjacent to the water treatment plant



Photograph 22: Commercial property under construction (3315 Porter Road)

# THREATENED & ENDANGERED SPECIES PORTER ROAD, SEGMENT 3 (UPIN 21103N302030003) HARRIS COUNTY, TEXAS

August 2021



## **1. INTRODUCTION**

Harris County is proposing to widen Porter Road from approximately 270 feet north of Morton Ranch Road to approximately 545 feet south of Clay Road (see **Exhibit A**). Porter Road would be widened from two to four lanes. Approximately two acres of additional right-of-way (ROW) would be required.

## **2. THREATENED & ENDANGERED SPECIES HABITAT SURVEY**

Field reconnaissance and a search of both the Texas Parks and Wildlife Department (TPWD) and U.S. Fish and Wildlife Service's (USFWS) databases was conducted to determine the potential occurrence of state and federally listed threatened and endangered species and their habitat. A list of the TPWD's threatened and endangered species for Harris County can be found in **Appendix A**. A USFWS Information for Planning on Consultation (IPaC) resource list for proposed project site can be found in **Appendix B**.

According to the IPaC resource list, no critical habitat for federally listed threatened or endangered species exist at the project site. Field visits were performed by qualified biologists in August 2021. It was determined that the project contained no habitat for and would have no effect on any federally threatened and endangered species. It was also determined that the project contained no habitat for and would have no impact on any state threatened and endangered species.

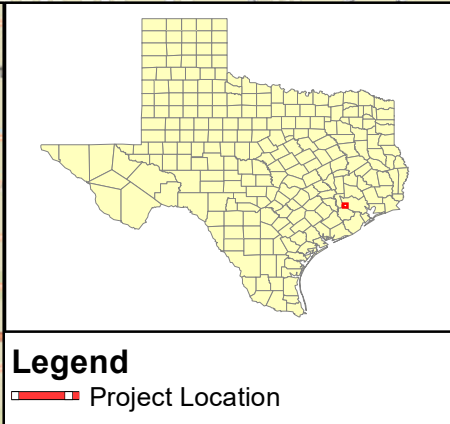
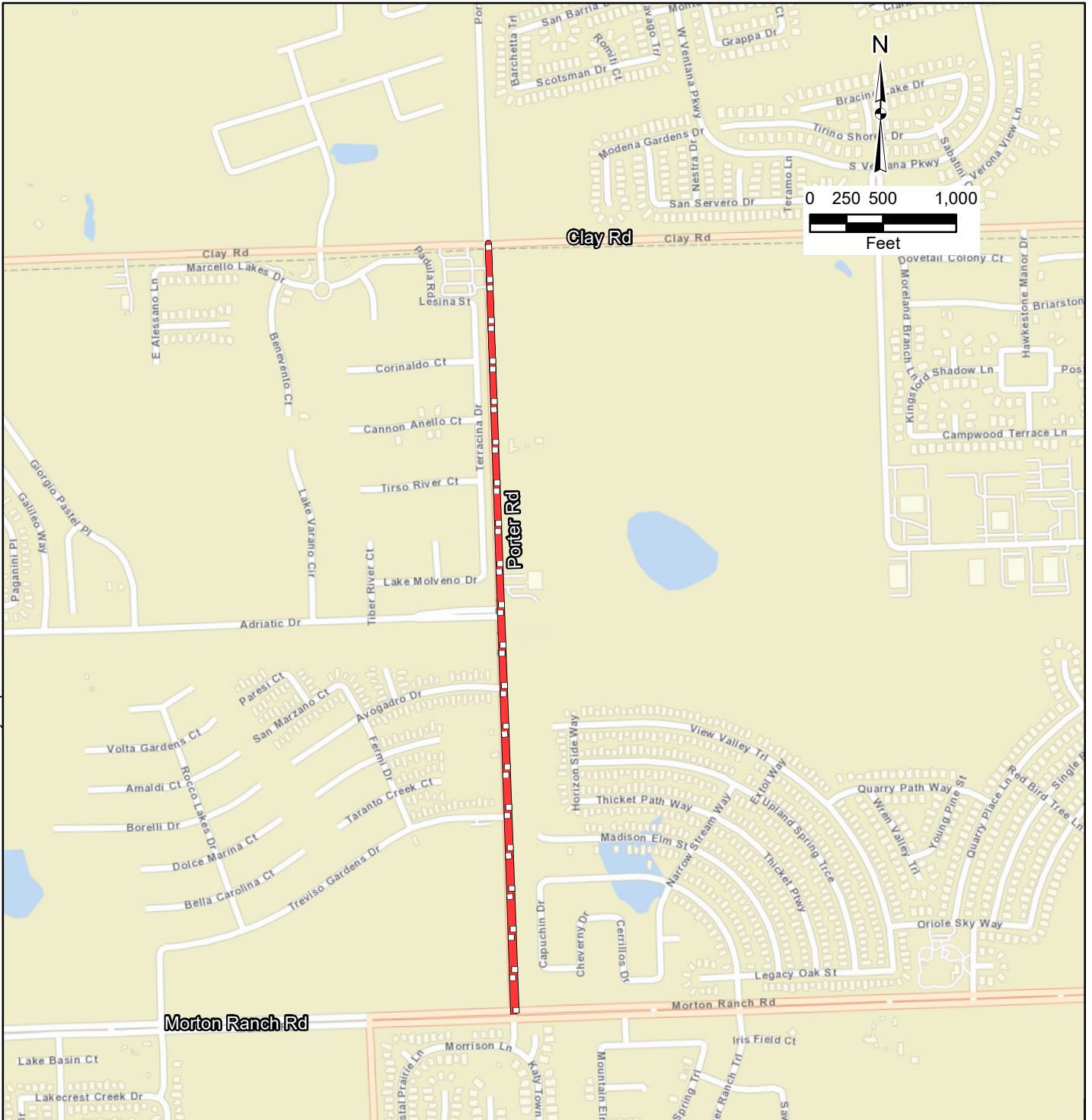
## **3. CONCLUSIONS**


The proposed project would have no take and no effect on any federally listed species, habitat, or designated critical habitat. The proposed project would have no impact on any state listed species.

**EXHIBIT**



J:\1008033 Porter Road, Seg 3, Environmental Svcs\06.00 Work Products\Environmental\GIS\1A- Porter Rd Vicinity Map.mxd



 Texas PE Firm Reg. #F-929 1160 Dairy Ashford, Suite 500, Houston, Texas 77079 T+1 281 589 7257 E usinfrastructure@rpsgroup.com	
<h2>Vicinity Map</h2>	
<h3>Porter Road</h3>	
RPS PROJ. NO.: 008033 SCALE: 1" = 1,000 feet DATE: July 2021	<b>FIGURE</b> 1

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

The graphic consists of a large, light gray shape with rounded corners on the left side, resembling a stylized 'L' or a bracket. A smaller, dark purple shape is nested within the upper right portion of the gray shape, also with rounded corners. The text is positioned within the gray area.

**Appendix A**  
**TPWD Species List for**  
**Harris County**

Last Update: 6/22/2021

## HARRIS COUNTY

### AMPHIBIANS

**Houston toad** *Anaxyrus houstonensis*

Terrestrial and aquatic: Primary terrestrial habitat is forests with deep sandy soils. Juveniles and adults are presumed to move through areas of less suitable soils using riparian corridors. Aquatic habitats can include any water body from a tire rut to a large lake.

Federal Status: LE                      State Status: E                      SGCN: Y  
Endemic: Y                              Global Rank: G1                      State Rank: S1

**southern crawfish frog** *Lithobates areolatus areolatus*

Terrestrial and aquatic: The terrestrial habitat is primarily grassland and can vary from pasture to intact prairie; it can also include small prairies in the middle of large forested areas. Aquatic habitat is any body of water but preferred habitat is ephemeral wetlands.

Federal Status:                      State Status:                      SGCN: Y  
Endemic: N                              Global Rank: G4T4                      State Rank: S3

**spotted dusky salamander** *Desmognathus conanti*

This species occurs in association with aquatic habitats in forested areas. Small, clear, spring fed streams with sandy substrate bordered with ferns and moss as well as murky, stagnant water bodies in cypress swamps, baygalls, and flood plains in bottomland forests support populations of this species.

Federal Status:                      State Status:                      SGCN: Y  
Endemic: N                              Global Rank: G5                      State Rank: S1

**Strecker's chorus frog** *Pseudacris streckeri*

Terrestrial and aquatic: Wooded floodplains and flats, prairies, cultivated fields and marshes. Likes sandy substrates.

Federal Status:                      State Status:                      SGCN: Y  
Endemic: N                              Global Rank: G5                      State Rank: S3

**Woodhouse's toad** *Anaxyrus woodhousii*

Terrestrial and aquatic: A wide variety of terrestrial habitats are used by this species, including forests, grasslands, and barrier island sand dunes. Aquatic habitats are equally varied.

Federal Status:                      State Status:                      SGCN: Y  
Endemic: N                              Global Rank: G5                      State Rank: SU

### BIRDS

**bald eagle** *Haliaeetus leucocephalus*

Found primarily near rivers and large lakes; nests in tall trees or on cliffs near water; communally roosts, especially in winter; hunts live prey, scavenges, and pirates food from other birds

Federal Status:                      State Status:                      SGCN: Y  
Endemic: N                              Global Rank: G5                      State Rank: S3B,S3N

#### DISCLAIMER

*The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.*

## HARRIS COUNTY

### BIRDS

**black rail** *Laterallus jamaicensis*

Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of *Salicornia*

Federal Status: LT                      State Status: T                      SGCN: Y  
Endemic: N                              Global Rank: G3                      State Rank: S2

**Franklin's gull** *Leucophaeus pipixcan*

This species is only a spring and fall migrant throughout Texas. It does not breed in or near Texas. Winter records are unusual consisting of one or a few individuals at a given site (especially along the Gulf coastline). During migration, these gulls fly during daylight hours but often come down to wetlands, lake shore, or islands to roost for the night.

Federal Status:                      State Status:                      SGCN: Y  
Endemic: N                              Global Rank: G5                      State Rank: S2N

**mountain plover** *Charadrius montanus*

Breeding: nests on high plains or shortgrass prairie, on ground in shallow depression; nonbreeding: shortgrass plains and bare, dirt (plowed) fields; primarily insectivorous

Federal Status:                      State Status:                      SGCN: Y  
Endemic: N                              Global Rank: G3                      State Rank: S2

**piping plover** *Charadrius melodus*

Beaches, sandflats, and dunes along Gulf Coast beaches and adjacent offshore islands. Also spoil islands in the Intracoastal Waterway. Based on the November 30, 1992 Section 6 Job No. 9.1, Piping Plover and Snowy Plover Winter Habitat Status Survey, algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e. north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.

Federal Status: LT                      State Status: T                      SGCN: Y  
Endemic: N                              Global Rank: G3                      State Rank: S2N

**red-cockaded woodpecker** *Picoides borealis*

Cavity nests in older pine (60+ years); forages in younger pine (30+ years); prefers longleaf, shortleaf, and loblolly

Federal Status: LE                      State Status: E                      SGCN: Y  
Endemic: N                              Global Rank: G3                      State Rank: S2B

**reddish egret** *Egretta rufescens*

Resident of the Texas Gulf Coast; brackish marshes and shallow salt ponds and tidal flats; nests on ground or in trees or bushes, on dry coastal islands in brushy thickets of yucca and prickly pear

Federal Status:                      State Status: T                      SGCN: Y  
Endemic: N                              Global Rank: G4                      State Rank: S2B

#### DISCLAIMER

*The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.*

## HARRIS COUNTY

### BIRDS

#### **rufa red knot**

*Calidris canutus rufa*

Red knots migrate long distances in flocks northward through the contiguous United States mainly April-June, southward July-October. A small plump-bodied, short-necked shorebird that in breeding plumage, typically held from May through August, is a distinctive and unique pottery orange color. Its bill is dark, straight and, relative to other shorebirds, short-to-medium in length. After molting in late summer, this species is in a drab gray-and-white non-breeding plumage, typically held from September through April. In the non-breeding plumage, the knot might be confused with the omnipresent Sanderling. During this plumage, look for the knot's prominent pale eyebrow and whitish flanks with dark barring. The Red Knot prefers the shoreline of coast and bays and also uses mudflats during rare inland encounters. Primary prey items include coquina clam (*Donax* spp.) on beaches and dwarf surf clam (*Mulinia lateralis*) in bays, at least in the Laguna Madre. Wintering Range includes-Aransas, Brazoria, Calhoun, Cameron, Chambers, Galveston, Jefferson, Kennedy, Kleberg, Matagorda, Nueces, San Patricio, and Willacy. Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and Tidal flat/shore.

Federal Status: LT

State Status: T

SGCN: Y

Endemic: N

Global Rank: G4T2

State Rank: S2N

#### **swallow-tailed kite**

*Elanoides forficatus*

Lowland forested regions, especially swampy areas, ranging into open woodland; marshes, along rivers, lakes, and ponds; nests high in tall tree in clearing or on forest woodland edge, usually in pine, cypress, or various deciduous trees

Federal Status:

State Status: T

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S2B

#### **western burrowing owl**

*Athene cunicularia hypugaea*

Open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G4T4

State Rank: S2

#### **white-faced ibis**

*Plegadis chihi*

Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; currently confined to near-coastal rookeries in so-called hog-wallow prairies. Nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.

Federal Status:

State Status: T

SGCN: Y

Endemic: N

Global Rank: G5

State Rank: S4B

#### **white-tailed hawk**

*Buteo albicaudatus*

Near coast on prairies, cordgrass flats, and scrub-live oak; further inland on prairies, mesquite and oak savannas, and mixed savanna-chaparral; breeding March-May

Federal Status:

State Status: T

SGCN: Y

Endemic: N

Global Rank: G4G5

State Rank: S4B

#### DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

## HARRIS COUNTY

### BIRDS

**whooping crane** *Grus americana*

Small ponds, marshes, and flooded grain fields for both roosting and foraging. Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.

Federal Status: LE                      State Status: E                      SGCN: Y  
Endemic: N                              Global Rank: G1                      State Rank: S1N

**wood stork** *Mycteria americana*

Prefers to nest in large tracts of baldcypress (*Taxodium distichum*) or red mangrove (*Rhizophora mangle*); forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading birds (i.e. active heronries); breeds in Mexico and birds move into Gulf States in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960

Federal Status:                      State Status: T                      SGCN: Y  
Endemic: N                              Global Rank: G4                      State Rank: SHB,S2N

### CRUSTACEANS

**Houston burrowing crayfish** *Fallicambarus houstonensis*

All species in the genus *Fallicambarus* are primary burrowers (Guiasu, 2007). It is clearly a primary burrower with 100% of adult and subadult specimens known from excavated burrows. Large numbers of juveniles were collected from Temporary pools (October through February) (Johnson, 2008).

Federal Status:                      State Status:                      SGCN: Y  
Endemic:                              Global Rank: G2                      State Rank: S3

### FISH

**alligator gar** *Atractosteus spatula*

From the Red River to the Rio Grande (Hubbs et al. 2008); occurs in the Trinity River upstream of Lake Livingston. Found in rivers, streams, lakes, swamps, bayous, bays and estuaries typically in pools and backwater habitats. Floodplains inundated with flood waters provide spawning and nursery habitats.

Federal Status:                      State Status:                      SGCN: Y  
Endemic: N                              Global Rank: G3G4                      State Rank: S4

**Mississippi silvery minnow** *Hybognathus nuchalis*

Found in eastern Texas streams, from the Brazos River eastward and northward to the Red River; found in moderate current; silty, muddy, or rocky substrate. In Texas, adults likely to inhabit smaller tributary streams.

Federal Status:                      State Status:                      SGCN: Y  
Endemic:                              Global Rank: G5                      State Rank: S4

**Oceanic Whitetip Shark** *Carcharhinus longimanus*

Habitat description is not available at this time.

Federal Status: LT                      State Status: T                      SGCN: Y  
Endemic: N                              Global Rank: GNR                      State Rank: S2

#### DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

## HARRIS COUNTY

### FISH

**Sabine shiner** *Notropis sabiniae*

Inhabits small streams and large rivers of eastern Texas from San Jacinto drainage northward along the Gulf Coast to the Sabine River Basin; Habitat generalist with affinities for shallow, moving water and rarely found in pools and backwater areas; closely restricted to substrate of fine, silt free sand in small creeks and rivers having slight to moderate current.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S3

**saltmarsh topminnow** *Fundulus jenkinsi*

Occupies estuaries and the edges of saltmarsh habitats along the Gulf coast in salinities of 4-20 ppt in *Spartina* dominated tidal creeks and wetlands (Peterson & Ross 1991; Peterson & Turner 1994; Lopez et al. 2010; and Griffith 1974). Requires access to small interconnected tidal creeks for feeding and reproduction. Spawning occurs from March to August during high tide events (Robertson Thesis, 2016). Non-migratory.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S1

**Shortfin Mako Shark** *Isurus oxyrinchus*

Habitat description is not available at this time.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: GNR	State Rank: S2

**silverband shiner** *Notropis shumardi*

In Texas, found from Red River to Lavaca River; Main channel with moderate to swift current velocities and moderate to deep depths; associated with turbid water over silt, sand, and gravel.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

**southern flounder** *Paralichthys lethostigma*

This is an estuarine-dependent species that inhabits riverine, estuarine and coastal waters, and prefers muddy, sandy, or silty substrates (Reagan and Wingo 1985). Individuals can tolerate wide temperature (~5-35°C) and salinity ranges (0-60 ppt). Southern Flounder spawn in offshore waters of the Gulf of Mexico from October to February (Reagan and Wingo 1985). The oceanic larval stage is pelagic and lasts 30–60 days. Metamorphosing individuals enter estuaries and migrate towards low-salinity headwaters, where settlement occurs (Burke et al. 1991, Walsh et al. 1999). The young fish enter the bays during late winter and early spring, occupying seagrass; some may move further into coastal rivers and bayous. Juveniles remain in estuaries until the onset of sexual maturation (approximately two years), at which time they migrate out of estuaries to join adults on the inner continental shelf. Adult southern flounder leave the bays during the fall for spawning in the Gulf of Mexico. They spawn for the first time when two years old at depths of 50 to 100 feet. Although most of the adults leave the bays and enter the Gulf for spawning during the winter, some remain behind and spend winter in the bays. Those in the Gulf will reenter the bays in the spring. The spring influx is gradual and does not occur with large concentrations that characterize the fall emigration.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

#### DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

## HARRIS COUNTY

### FISH

**western creek chubsucker** *Erimyzon claviformis*

Eastern Texas streams from the Red River to the San Jacinto drainage. Habitat includes silt-, sand-, and gravel-bottomed pools of clear headwaters, creeks, and small rivers; often near vegetation; occasionally in lakes. Spawning occurs in river mouths or pools, riffles, lake outlets, or upstream creeks. Prefers headwaters, but seldom occurs in springs.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2S3

### INSECTS

**American bumblebee** *Bombus pensylvanicus*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G3G4	State Rank: SNR

**bay skipper** *Euphyes bayensis*

Apparently tidal sawgrass marsh only, probably covers same range of salinity as saw grass, nectarivore (butterfly), herbivore (caterpillar), larval foodplant is so far unconfirmed but is probably sawgrass, diurnal; two well separated broods apparently peaking in late May and in September which suggests the larvae may well aestivate in summer and the next brood hibernate

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2G3	State Rank: S1

### MAMMALS

**big brown bat** *Eptesicus fuscus*

Any wooded areas or woodlands except south Texas. Riparian areas in west Texas.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

**big free-tailed bat** *Nyctinomops macrotis*

Habitat data sparse but records indicate that species prefers to roost in crevices and cracks in high canyon walls, but will use buildings, as well; reproduction data sparse, gives birth to single offspring late June-early July; females gather in nursery colonies; winter habits undetermined, but may hibernate in the Trans-Pecos; opportunistic insectivore

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

**blue whale** *Balaenoptera musculus*

Inhabits tropical, subtropical, temperate, and subpolar waters worldwide, but are infrequently sighted in the Gulf of Mexico. They migrate seasonally between summer feeding grounds and winter breeding grounds, but specifics vary. Commonly observed at the surface in open ocean.

Federal Status: LE	State Status: E	SGCN: N
Endemic: N	Global Rank: G3G4	State Rank: SH

#### DISCLAIMER

*The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.*



## HARRIS COUNTY

### MAMMALS

**eastern red bat** *Lasiurus borealis*

Red bats are migratory bats that are common across Texas. They are most common in the eastern and central parts of the state, due to their requirement of forests for foliage roosting. West Texas specimens are associated with forested areas (cottonwoods). Also common along the coastline. These bats are highly mobile, seasonally migratory, and practice a type of "wandering migration". Associations with specific habitat is difficult unless specific migratory stopover sites or wintering grounds are found. Likely associated with any forested area in East, Central, and North Texas but can occur statewide.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S4

**eastern spotted skunk** *Spilogale putorius*

Generalist; open fields prairies, croplands, fence rows, farmyards, forest edges & woodlands. Prefer wooded, brushy areas & tallgrass prairies. S.p. ssp. interrupta found in wooded areas and tallgrass prairies, preferring rocky canyons and outcrops when such sites are available.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S1S3

**Gulf of Mexico Bryde's Whale** *Balaenoptera edeni*

Habitat description is not available at this time.

Federal Status: LE	State Status: E	SGCN: N
Endemic: N	Global Rank: G4	State Rank: SNR

**hoary bat** *Lasiurus cinereus*

Hoary bats are highly migratory, high-flying bats that have been noted throughout the state. Females are known to migrate to Mexico in the winter, males tend to remain further north and may stay in Texas year-round. Commonly associated with forests (foliage roosting species) but are found in unforested parts of the state and lowland deserts. Tend to be captured over water and large, open flyways.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S4

**humpback whale** *Megaptera novaeangliae*

Inhabits tropical, subtropical, temperate, and subpolar waters world wide. Migrate up to 5,000 miles between colder water (feeding grounds) and warmer water (calving grounds) each year. They will use both open ocean and coastal waters, sometimes including inshore areas such as bays, and are often found near the surface; however, this species is rare in the Gulf of Mexico. The northwest Atlantic/Gulf of Mexico distinct population segment is not considered at risk of extinction and is not listed as Endangered on the Endangered Species Act.

Federal Status: LE	State Status:	SGCN: N
Endemic: N	Global Rank: G4	State Rank: SNR

**long-tailed weasel** *Mustela frenata*

Includes brushlands, fence rows, upland woods and bottomland hardwoods, forest edges & rocky desert scrub. Usually live close to water.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

#### DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

## HARRIS COUNTY

### MAMMALS

**Louisiana black bear** *Ursus americanus luteolus*

Bottomland hardwoods, floodplain forests, upland hardwoods with mixed pine; marsh. Possible as transient; bottomland hardwoods and large tracts of inaccessible forested areas.

Federal Status: State Status: T SGCN: Y  
Endemic: N Global Rank: G5T2 State Rank: SNA

**mountain lion** *Puma concolor*

Generalist; found in a wide range of habitats statewide. Found most frequently in rugged mountains & riparian zones.

Federal Status: State Status: SGCN: Y  
Endemic: N Global Rank: G5 State Rank: S2S3

**Muskrat** *Ondatra zibethicus*

Found in fresh or brackish marshes, lakes, ponds, swamps, and other bodies of slow-moving water. Most abundant in areas with cattail. Dens in bank burrow or conical house of vegetation in shallow vegetated water. It is primarily found in the Rio Grande near El Paso and in SE Texas in the Houston area.

Federal Status: State Status: SGCN: Y  
Endemic: N Global Rank: G5 State Rank: S5

**North Atlantic right whale** *Eubalaena glacialis*

Inhabits subtropical and temperate waters in the northern Atlantic. Commonly found in coastal waters or close to the continental shelf near the surface. They migrate from feeding grounds in cooler waters (Canada and New England) to warmer waters of the southeast US (South Carolina, Georgia, and Florida) to give birth in the fall/winter - both areas are identified as critical habitat by NOAA-NMFS. Nursery areas are in shallow, coastal waters. This species is very rare in the Gulf of Mexico and the few reported sightings are likely vagrants (Ward-Geiger et al 2011).

Federal Status: LE State Status: E SGCN: N  
Endemic: N Global Rank: G1 State Rank: S1

**northern yellow bat** *Lasiurus intermedius*

Occurs mainly along the Gulf Coast but inland specimens are not uncommon. Prefers roosting in spanish moss and in the hanging fronds of palm trees. Common where this vegetation occurs. Found near water and forages over grassy, open areas. Males usually roost solitarily, whereas females roost in groups of several individuals.

Federal Status: State Status: SGCN: Y  
Endemic: N Global Rank: G5 State Rank: S4

**Rafinesque's big-eared bat** *Corynorhinus rafinesquii*

Historically, lowland pine and hardwood forests with large hollow trees. roosts in cavity trees of bottomland hardwoods, concrete culverts, and abandoned man-made structures

Federal Status: State Status: T SGCN: Y  
Endemic: N Global Rank: G3G4 State Rank: S2

#### DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

## HARRIS COUNTY

### MAMMALS

**Sei Whale** *Balaenoptera borealis*

Habitat description is not available at this time.

Federal Status: LE                      State Status: E                      SGCN: N  
Endemic: N                              Global Rank: G3                      State Rank: SNR

**southeastern myotis bat** *Myotis austroriparius*

Caves are rare in Texas portion of range; buildings, hollow trees are probably important. Historically, lowland pine and hardwood forests with large hollow trees; associated with ecological communities near water. Roosts in cavity trees of bottomland hardwoods, concrete culverts, and abandoned man-made structures.

Federal Status:                      State Status:                      SGCN: Y  
Endemic: N                              Global Rank: G4                      State Rank: S3

**sperm whale** *Physeter macrocephalus*

Inhabits tropical, subtropical, and temperate waters world wide, avoiding icy waters. Distribution is highly dependent on their food source (squids, sharks, skates, and fish), breeding, and composition of the pod. In general, this species migrates from north to south in the winter and south to north in the summer; however, individuals in tropical and temperate waters don't seem to migrate at all. Routinely dive to catch their prey (2,000-10,000 feet) and generally occupies water at least 3,300 feet deep near ocean trenches.

Federal Status: LE                      State Status: E                      SGCN: N  
Endemic: N                              Global Rank: G3G4                      State Rank: S1

**swamp rabbit** *Sylvilagus aquaticus*

Primarily found in lowland areas near water including: cypress bogs and marshes, floodplains, creeks and rivers.

Federal Status:                      State Status:                      SGCN: Y  
Endemic: N                              Global Rank: G5                      State Rank: S5

**tricolored bat** *Perimyotis subflavus*

Forest, woodland and riparian areas are important. Caves are very important to this species.

Federal Status:                      State Status:                      SGCN: Y  
Endemic: N                              Global Rank: G2G3                      State Rank: S3S4

**western hog-nosed skunk** *Conepatus leuconotus*

Habitats include woodlands, grasslands & deserts, to 7200 feet, most common in rugged, rocky canyon country; little is known about the habitat of the ssp. telmalestes

Federal Status:                      State Status:                      SGCN: Y  
Endemic: N                              Global Rank: G4                      State Rank: S4

#### DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

## HARRIS COUNTY

### MOLLUSKS

**Louisiana Pigtoe** *Pleurobema riddellii*

Occurs in small streams to large rivers in slow to moderate currents in substrates of clay, mud, sand, and gravel. Not known from impoundments (Howells 2010f; Randklev et al. 2013b; Troia et al. 2015). [Mussels of Texas 2019]

Federal Status: State Status: T SGCN: Y  
Endemic: N Global Rank: G1G2 State Rank: S1

**Sandbank Pocketbook** *Lampsilis satura*

Occurs in small streams to large rivers in slow to moderate current in sandy mud to sand and gravel substrate. Can occur in a variety of habitats but most common in littoral habitats such as banks or backwaters or in protected areas along point bars (Randklev et al. 2013b; Randklev et al. 2014a; Troia et al. 2015). [Mussels of Texas 2019]

Federal Status: State Status: T SGCN: Y  
Endemic: Global Rank: G2? State Rank: S1

### REPTILES

**alligator snapping turtle** *Macrochelys temminckii*

Aquatic: Perennial water bodies; rivers, canals, lakes, and oxbows; also swamps, bayous, and ponds near running water; sometimes enters brackish coastal waters. Females emerge to lay eggs close to the waters edge.

Federal Status: State Status: T SGCN: Y  
Endemic: N Global Rank: G3 State Rank: S2

**common garter snake** *Thamnophis sirtalis*

Terrestrial and aquatic: Habitats used include the grasslands and modified open areas in the vicinity of aquatic features, such as ponds, streams or marshes. Damp soils and debris for cover are thought to be critical.

Federal Status: State Status: SGCN: N  
Endemic: Global Rank: G5 State Rank: S2

**eastern box turtle** *Terrapene carolina*

Terrestrial: Eastern box turtles inhabit forests, fields, forest-brush, and forest-field ecotones. In some areas they move seasonally from fields in spring to forest in summer. They commonly enters pools of shallow water in summer. For shelter, they burrow into loose soil, debris, mud, old stump holes, or under leaf litter. They can successfully hibernate in sites that may experience subfreezing temperatures.

Federal Status: State Status: SGCN: Y  
Endemic: N Global Rank: G5 State Rank: S3

**loggerhead sea turtle** *Caretta caretta*

Inhabits tropical, subtropical, and temperate waters worldwide, including the Gulf of Mexico. They migrate from feeding grounds to nesting beaches/barrier islands and some nesting does occur in Texas (April to September). Beaches that are narrow, steeply sloped, with coarse-grain sand are preferred for nesting. Newly hatched individuals depend on floating algae/seaweed for protection and foraging, which eventually transport them offshore and into open ocean. Juveniles and young adults spend their lives in open ocean, offshore before migrating to coastal areas to breed and nest. Foraging areas for adults include shallow continental shelf waters.

Federal Status: LT State Status: T SGCN: Y  
Endemic: N Global Rank: G3 State Rank: S4

#### DISCLAIMER

*The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.*

## HARRIS COUNTY

### REPTILES

**Pigmy Rattlesnake** *Sistrurus miliarius*

The pygmy rattlesnake occurs in a variety of wooded habitats from bottomland coastal hardwood forests to upland savannas. The species is frequently found in association with standing water.

Federal Status: State Status: SGCN: Y  
Endemic: N Global Rank: G5 State Rank: S2S3

**Prairie Skink** *Plestiodon septentrionalis*

The prairie skink can occur in any native grassland habitat across the Rolling Plains, Blackland Prairie, Post Oak Savanna and Pineywoods ecoregions.

Federal Status: State Status: SGCN: Y  
Endemic: N Global Rank: G5 State Rank: S5

**slender glass lizard** *Ophisaurus attenuatus*

Terrestrial: Habitats include open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields, and areas near streams and ponds, often in habitats with sandy soil.

Federal Status: State Status: SGCN: Y  
Endemic: N Global Rank: G5 State Rank: S3

**smooth softshell** *Apalone mutica*

Aquatic: Large rivers and streams; in some areas also found in lakes and impoundments (Ernst and Barbour 1972). Usually in water with sandy or mud bottom and few aquatic plants. Often basks on sand bars and mudflats at edge of water. Eggs are laid in nests dug in high open sandbars and banks close to water, usually within 90 m of water (Fitch and Plummer 1975).

Federal Status: State Status: SGCN: Y  
Endemic: N Global Rank: G5 State Rank: S3

**Texas diamondback terrapin** *Malaclemys terrapin littoralis*

Coastal marshes, tidal flats, coves, estuaries, and lagoons behind barrier beaches; brackish and salt water; burrows into mud when inactive. Bay islands are important habitats. Nests on oyster shell beaches.

Federal Status: State Status: SGCN: Y  
Endemic: Y Global Rank: G4T3Q State Rank: S2

**Texas horned lizard** *Phrynosoma cornutum*

Terrestrial: Open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive. Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area.

Federal Status: State Status: T SGCN: Y  
Endemic: N Global Rank: G4G5 State Rank: S3

#### DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

## HARRIS COUNTY

### REPTILES

**timber (canebrake) rattlesnake**      *Crotalus horridus*

Terrestrial: Swamps, floodplains, upland pine and deciduous woodland, riparian zones, abandoned farmland. Limestone bluffs, sandy soil or black clay. Prefers dense ground cover, i.e. grapevines, palmetto.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

**western box turtle**      *Terrapene ornata*

Terrestrial: Ornate or western box turtles inhabit prairie grassland, pasture, fields, sandhills, and open woodland. They are essentially terrestrial but sometimes enter slow, shallow streams and creek pools. For shelter, they burrow into soil (e.g., under plants such as yucca) (Converse et al. 2002) or enter burrows made by other species.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

**western chicken turtle**      *Deirochelys reticularia miaria*

Aquatic and terrestrial: This species uses aquatic habitats in the late winter, spring and early summer and then terrestrial habitats the remainder of the year. Preferred aquatic habitats seem to be highly vegetated shallow wetlands with gentle slopes. Specific terrestrial habitats are not well known.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5T5	State Rank: S2S3

**western hognose snake**      *Heterodon nasicus*

Terrestrial: Shortgrass or mixed grass prairie, with gravel or sandy soils. Often found associated with draws, floodplains, and more mesic habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

### PLANTS

**awnless bluestem**      *Bothriochloa exaristata*

Coastal prairies on black clay; Perennial; Flowering April-Dec; Fruiting April- Dec

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S3

**coastal gay-feather**      *Liatris bracteata*

Coastal prairie grasslands of various types, from salty prairie on low- lying somewhat saline clay loams to upland prairie on nonsaline clayey to sandy loams; flowering in fall

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S2S3

#### DISCLAIMER

*The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.*

## HARRIS COUNTY

### PLANTS

- corkwood** *Leitneria pilosa ssp. pilosa*  
Wet or saturated silty soils along brackish or freshwater swamps and ponds and other low, poorly drained sites; flowers in early spring, fruiting as early as May  
Federal Status: State Status: SGCN: Y  
Endemic: N Global Rank: G2G3T2 State Rank: S2
- Correll's false dragon-head** *Physostegia correllii*  
Wet, silty clay loams on streambanks, in creek beds, irrigation channels and roadside drainage ditches; or seepy, mucky, sometimes gravelly soils along riverbanks or small islands in the Rio Grande; or underlain by Austin Chalk limestone along gently flowing spring-fed creek in central Texas; flowering May-September  
Federal Status: State Status: SGCN: Y  
Endemic: N Global Rank: G2 State Rank: S2
- giant sharpstem umbrella-sedge** *Cyperus cephalanthus*  
In Texas on saturated, fine sandy loam soils, along nearly level fringes of deep prairie depressions; also in depression area within coastal prairie remnant on heavy black clay; in Louisiana, most sites are coastal prairie on poorly drained sites, some on slightly elevated areas surrounded by standing shallow water, and on moderately drained sites; soils include very strongly acid to moderately alkaline silt loams and silty clay loams; flowering/fruiting May-June, August-September, and possibly other times in response to rainfall  
Federal Status: State Status: SGCN: Y  
Endemic: N Global Rank: G3?Q State Rank: S1
- goldenwave tickseed** *Coreopsis intermedia*  
In deep sandy soils of sandhills in openings in or along margins of post oak woodlands and pine-oak forests of east Texas; Perennial; Flowering/Fruiting May-Aug  
Federal Status: State Status: SGCN: Y  
Endemic: N Global Rank: G3 State Rank: S3
- Houston daisy** *Rayjacksonia aurea*  
On and around naturally barren or sparsely vegetated saline slick spots or pimple mounds on coastal prairies, usually on sandy to sandy loam soils, occasionally in pastures and on roadsides in similar soil types where mowing may mimic natural prairie disturbance regimes; flowering late September-November (-December)  
Federal Status: State Status: T SGCN: Y  
Endemic: Y Global Rank: G1 State Rank: S1
- Indianola beakrush** *Rhynchospora indianolensis*  
Locally abundant in cattle pastures in some areas (at least during wet years), possibly becoming a management problem in such sites; Perennial; Flowering/Fruiting April-Nov  
Federal Status: State Status: SGCN: Y  
Endemic: Y Global Rank: G3Q State Rank: S3

#### DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.

## HARRIS COUNTY

### PLANTS

**Oklahoma grass pink** *Calopogon oklahomensis*

Mesic, acidic, sandy to loamy prairies, pine savannas, oak woodlands, edges of bogs, and frequently mowed meadows (Goldman, Magrath & Catling 2002). Flowering March-July.

Federal Status: State Status: SGCN: Y  
Endemic: N Global Rank: G2 State Rank: S1S2

**panicked indigobush** *Amorpha paniculata*

A stout shrub, 3 m (9 ft) tall that grows in acid seep forests, peat bogs, wet floodplain forests, and seasonal wetlands on the edge of Saline Prairies in East Texas. It is distinguished from other *Amorpha* species by its fuzzy leaflets with prominent raised veins underneath, and the flower panicles, which are 8 to 16 inches long and slender, held above the foliage. Perennial; Flowering summer

Federal Status: State Status: SGCN: Y  
Endemic: N Global Rank: G2G3 State Rank: S2

**Shinner's sunflower** *Helianthus occidentalis ssp. plantagineus*

Mostly in prairies on the Coastal Plain, with several slightly disjunct populations in the Pineywoods and South Texas Brush Country.

Federal Status: State Status: SGCN: Y  
Endemic: N Global Rank: G5T2T3 State Rank: S4

**South Texas false cudweed** *Pseudognaphalium austrotexanum*

In sandy grasslands on eroded area above saline flats; along edge of sendero through mesquite woodland and shrub mottes on sandy loam; on gravel and silt bars and flats in scour plain of streams (TEX-LL specimens Carr 23682, 29264, 22647, 27206). Oct-Jan, sometimes in spring.

Federal Status: State Status: SGCN: Y  
Endemic: N Global Rank: G3 State Rank: S3

**Texas ladies'-tresses** *Spiranthes brevilabris*

Sandy soils in moist prairies, incl. blackland/Fleming prairies, calcareous prairie pockets surrounded by pines, pine-hardwood forest, open pinelands, wetland pine savannas/flatwoods, and dry to moist fields, meadows, and roadsides. Delicate, nearly ephemeral orchid, producing winter rosettes, flowers Feb-Apr. Historically endemic to SE coastal plain.

Federal Status: State Status: SGCN: Y  
Endemic: N Global Rank: G1G2 State Rank: S1

**Texas meadow-rue** *Thalictrum texanum*

Mostly found in woodlands and woodland margins on soils with a surface layer of sandy loam, but it also occurs on prairie pimple mounds; both on uplands and creek terraces, but perhaps most common on claypan savannas; soils are very moist during its active growing season; flowering/fruitletting (January-)February-May, withering by midsummer, foliage reappears in late fall(November) and may persist through the winter

Federal Status: State Status: SGCN: Y  
Endemic: Y Global Rank: G2Q State Rank: S2

#### DISCLAIMER

The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.



## HARRIS COUNTY

### PLANTS

**Texas prairie dawn**

*Hymenoxys texana*

In poorly drained, sparsely vegetated areas (slick spots) at the base of mima mounds in open grassland or almost barren areas on slightly saline soils that are sticky when wet and powdery when dry; flowering late February-early April

Federal Status: LE

State Status: E

SGCN: Y

Endemic: Y

Global Rank: G2

State Rank: S2

**Texas tauschia**

*Tauschia texana*

Occurs in loamy soils in deciduous forests or woodlands on river and stream terraces; Perennial; Flowering/Fruiting Feb-April

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G3

State Rank: S3

**Texas willkommia**

*Willkommia texana* var. *texana*

Mostly in sparsely vegetated shortgrass patches within taller prairies on alkaline or saline soils on the Coastal Plain (Carr 2015).

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G3G4T3

State Rank: S3

**Texas windmill grass**

*Chloris texensis*

Sandy to sandy loam soils in relatively bare areas in coastal prairie grassland remnants, often on roadsides where regular mowing may mimic natural prairie fire regimes; flowering in fall

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G2

State Rank: S2

**Tharp's dropseed**

*Sporobolus tharpii*

Occurs on barrier islands, shores of lagoons and bays protected by the barrier islands, and on shores of a few near-coastal ponds. Plants occur at the bases of dunes, in interdune swales and sandflats, and on upper beaches. The substrate is of Holocene age.

Federal Status:

State Status:

SGCN: Y

Endemic: Y

Global Rank: G3

State Rank: S3

**threeflower broomweed**

*Thurovia triflora*

Near coast in sparse, low vegetation on a veneer of light colored silt or fine sand over saline clay along drier upper margins of ecotone between between salty prairies and tidal flats; further inland associated with vegetated slick spots on prairie mima mounds; flowering September-November

Federal Status:

State Status:

SGCN: Y

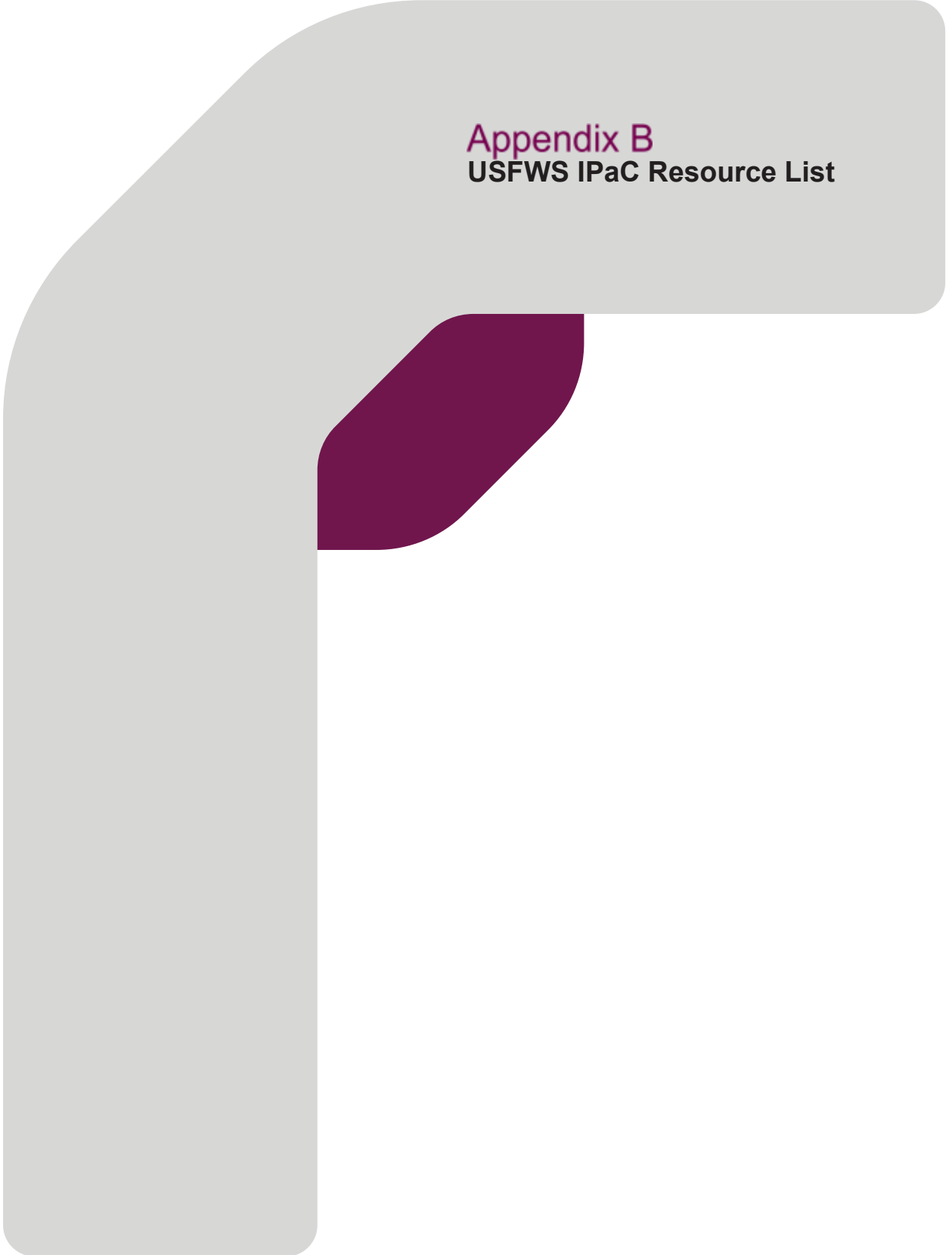
Endemic: Y

Global Rank: G2G3

State Rank: S2S3

**DISCLAIMER**

*The information on this web application is provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. The data provided are for planning, assessment, and informational purposes. Refer to the Frequently Asked Questions (FAQs) on the application website for further information.*

The graphic consists of a large, light gray rounded rectangle with a diagonal cutout on the left side. A smaller, dark purple rounded rectangle is positioned within the cutout, overlapping the gray shape.

**Appendix B**  
**USFWS IPaC Resource List**

# IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

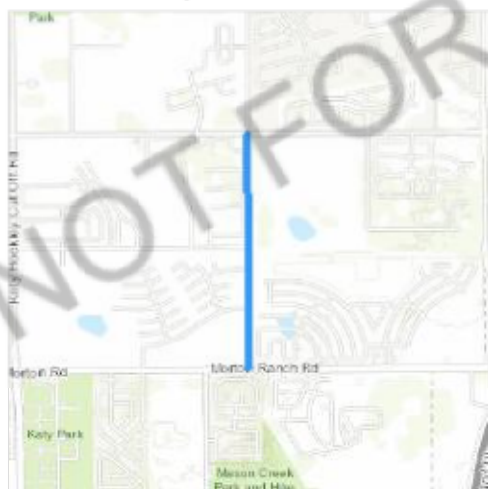
## Project information

### NAME

Porter Road, Segment 3

### LOCATION

Harris County, Texas



### DESCRIPTION

Some(Widening of Porter Road)

## Local office

Texas Coastal Ecological Services Field Office

☎ (281) 286-8282

📅 (281) 488-5882

4444 Corona Drive, Suite 215  
Corpus Christi, TX 78411

<http://www.fws.gov/southwest/es/TexasCoastal/>

[http://www.fws.gov/southwest/es/ES\\_Lists\\_Main2.html](http://www.fws.gov/southwest/es/ES_Lists_Main2.html)

NOT FOR CONSULTATION

# Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

## Mammals

NAME

STATUS

**West Indian Manatee** *Trichechus manatus*

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/4469>

Threatened

Marine mammal

## Birds

NAME

STATUS

**Eastern Black Rail** *Laterallus jamaicensis ssp. jamaicensis*

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/10477>

Threatened

**Piping Plover** *Charadrius melodus*

This species only needs to be considered if the following condition applies:

- Wind related projects within migratory route.

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/6039>

Threatened

**Red Knot** *Calidris canutus rufa*

Wherever found

This species only needs to be considered if the following condition applies:

- Wind related projects within migratory route.

There is **proposed** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/1864>

Threatened

## Flowering Plants

NAME

STATUS

**Texas Prairie Dawn-flower** *Hymenoxys texana*

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/6471>

Endangered

## Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

# Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE.

"BREEDS ELSEWHERE" INDICATES  
 THAT THE BIRD DOES NOT LIKELY  
 BREED IN YOUR PROJECT AREA.)

#### American Golden-plover *Pluvialis dominica*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

#### Bald Eagle *Haliaeetus leucocephalus*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Breeds Sep 1 to Jul 31

#### Dunlin *Calidris alpina arctica*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Breeds elsewhere

#### Le Conte's Sparrow *Ammodramus leconteii*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Breeds elsewhere

#### Lesser Yellowlegs *Tringa flavipes*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9679>

Breeds elsewhere

#### Long-billed Curlew *Numenius americanus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/5511>

Breeds elsewhere

#### Short-billed Dowitcher *Limnodromus griseus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9480>

Breeds elsewhere

#### Sprague's Pipit *Anthus spragueii*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/8964>

Breeds elsewhere

## Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ



"Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

### Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

### Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

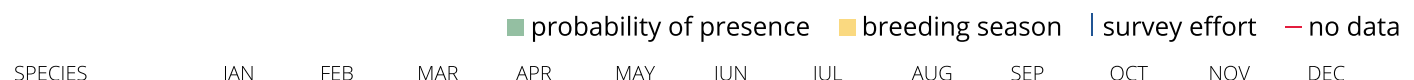
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

### No Data (—)

A week is marked as having no data if there were no survey events for that week.

### Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



<p>American Golden-plover BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)</p>	
<p>Bald Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)</p>	
<p>Dunlin BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)</p>	
<p>Le Conte's Sparrow BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)</p>	
<p>Lesser Yellowlegs BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)</p>	

NOT FOR CONSULTATION

<p>Long-billed Curlew BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)</p>	
<p>Short-billed Dowitcher BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)</p>	
<p>Sprague's Pipit BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)</p>	

### Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

### What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

## What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

## How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

## What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

## Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

## What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

## Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

NOT FOR CONSULTATION

# Marine mammals

Marine mammals are protected under the [Marine Mammal Protection Act](#). Some are also protected under the Endangered Species Act<sup>1</sup> and the Convention on International Trade in Endangered Species of Wild Fauna and Flora<sup>2</sup>.

The responsibilities for the protection, conservation, and management of marine mammals are shared by the U.S. Fish and Wildlife Service [responsible for otters, walruses, polar bears, manatees, and dugongs] and NOAA Fisheries<sup>3</sup> [responsible for seals, sea lions, whales, dolphins, and porpoises]. Marine mammals under the responsibility of NOAA Fisheries are **not** shown on this list; for additional information on those species please visit the [Marine Mammals](#) page of the NOAA Fisheries website.

The Marine Mammal Protection Act prohibits the take (to harass, hunt, capture, kill, or attempt to harass, hunt, capture or kill) of marine mammals and further coordination may be necessary for project evaluation. Please contact the U.S. Fish and Wildlife Service Field Office shown.

1. The [Endangered Species Act](#) (ESA) of 1973.
2. The [Convention on International Trade in Endangered Species of Wild Fauna and Flora](#) (CITES) is a treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.
3. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following marine mammals under the responsibility of the U.S. Fish and Wildlife Service are potentially affected by activities in this location:

NAME

West Indian Manatee *Trichechus manatus*  
<https://ecos.fws.gov/ecp/species/4469>

## Facilities

## National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

# Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

## Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

OTHER

[Pf](#)

RIVERINE

[R4SBCx](#)  
[R5UBFx](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

### Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

### Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

**Data precautions**

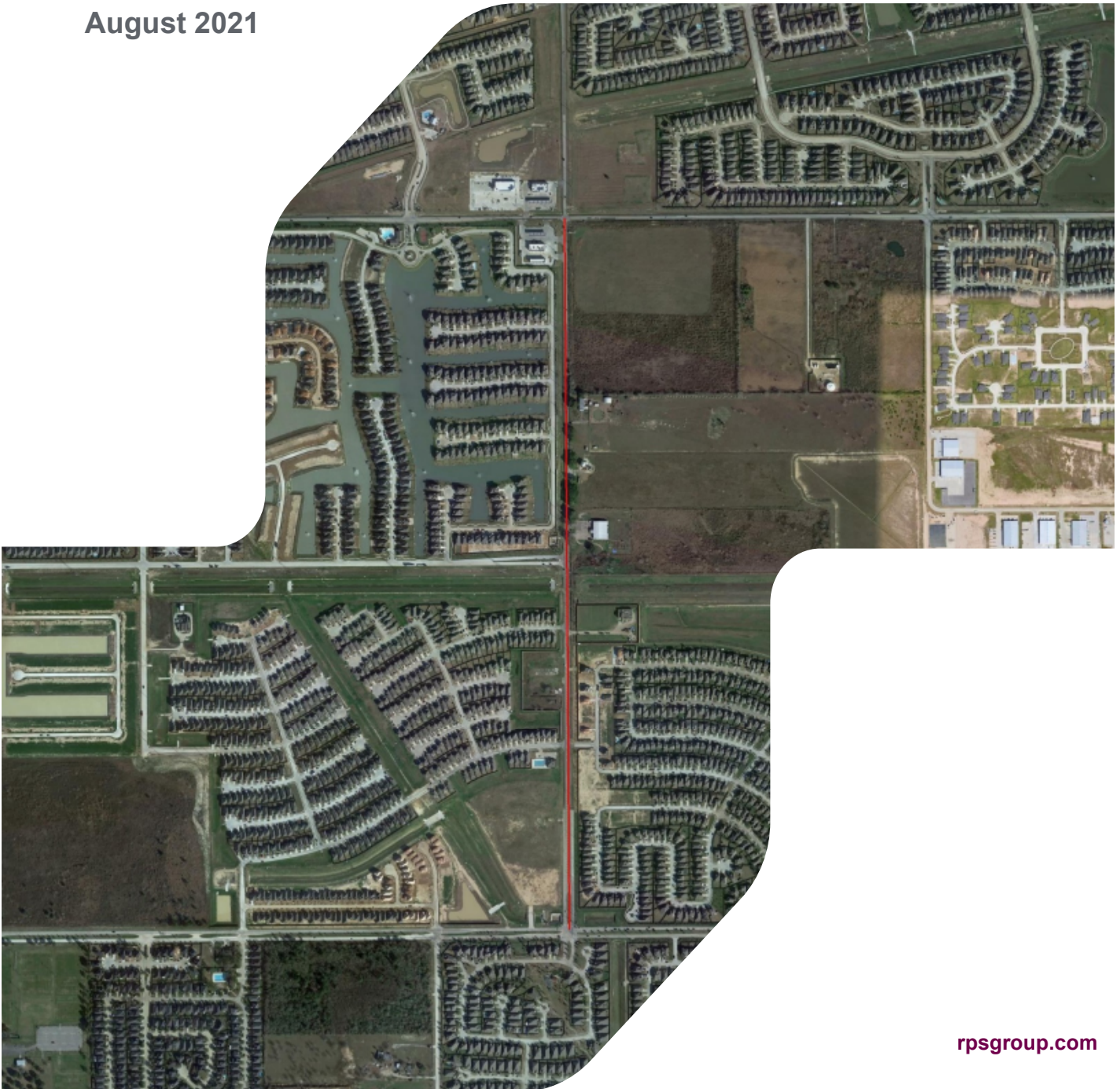
Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION



**WETLANDS AND WATERS OF THE U.S.  
PORTER ROAD, SEGMENT 3 (UPIN 21103N302030003)  
HARRIS COUNTY, TEXAS**

August 2021



## 1. INTRODUCTION

Harris County is proposing to widen Porter Road from approximately 270 feet north of Morton Ranch Road to approximately 545 feet south of Clay Road (**Figure 1**). Porter Road would be widened from two to four lanes. The project area includes 11.2 acres of right-of-way (ROW), including approximately two acres of additional ROW that would be required.

## 2. WETLAND DETERMINATIONS/DELINEATIONS

Wetland determinations were performed for the proposed project using the current federally accepted procedures contained in the United States Army Corps of Engineers (USACE) Wetlands Delineation Manual, Technical Report Y-87-1, January 1987, Final Report (1987 Manual) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0), November 2010. The method used for these determinations was the Routine Onsite Wetland Determination Method for areas less than five acres in size. Normal environmental conditions were present and there were no atypical situations or problem areas encountered.

Resources used to gather information about the vegetation, hydrology, and soils of the project area included the Katy, Texas, U.S. Geological Survey (USGS) 7.5-Minute Topographic Quadrangle maps (**Figure 2**); U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps; Harris County soils information from the Natural Resources Conservation Service (NRCS); USACE 2016 National Wetland Plant List; National Weather Service rainfall data and the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for Harris County. For information on floodplains, soils and NWI signatures see **Figure 3**. These resources were then used in the field to assist in performing the wetland determinations.

During the site visit, sample points were placed within each ecologically defined plant community encountered. Within these communities, consideration was also given to areas with plant communities comprised of hydrophytic vegetation, which are indicative of wetlands and/or saturated or inundated areas. Observation of inundated areas was also considered in the selection of sample points. For each sample point, all pertinent data regarding the technical guidelines, characteristics, and indicators for each of the three required wetland parameters were recorded onto a Wetland Determination Data Form (Data Form). Based on the data, a wetland/nonwetland determination was made. A total of five sample points (SP) were taken for the proposed project (**see Figure 4**). Sample point locations were logged using a Trimble Pathfinder® Pro XRS Global Positioning System (GPS) unit with real-time differential correction capabilities. Copies of the completed Data Forms for each sample point are included in **Appendix A**. Representative photographs of the proposed project taken on August 3, 2021, are included in **Appendix B**.

## 2.1 Vegetation

One of the three parameters required for an area to be determined a wetland is a prevalence of hydrophytic vegetation. The basic rule for determining if an area has a prevalence of hydrophytic vegetation is if more than 50 percent of the dominant plant species from all strata have indicator categories of Obligate Wetland (OBL), Facultative Wetland (FACW) or Facultative (FAC). Each of the five indicator categories is defined below:

- Obligate Wetland (OBL): Occur almost always (estimated probability >99%) under natural conditions in wetlands.
- Facultative Wetland (FACW): Usually occur in wetlands (estimated probability 67% - 99%), but occasionally found in nonwetlands.
- Facultative (FAC): Equally likely to occur in wetlands or nonwetlands (estimated probability 34% 66%).
- Facultative Upland (FACU): Usually occur in nonwetlands (estimated probability 67% - 99%), but occasionally found in wetlands (estimated probability 1% - 33%).
- Obligate Upland (UPL): Occur in wetlands in another region but occur almost always (estimated probability >99%) under natural conditions in nonwetlands in the region specified. If a species does not occur in wetlands in any region, it is not on the National Wetland Plant List.

At each sampling plot, the dominant species from all strata were identified and recorded. The indicator category of each species was recorded using the USACE National Wetland Plant List.

The majority of the proposed project is mowed and maintained ROW dominated by Bermuda grass (*Cynodon dactylon*). The two acres of additional ROW are upland scrub-shrub dominated by false willow (*Baccharis halimifolia*), Chinese tallow saplings (*Tridica sebiferum*), ragweed (*Ambrosia trifida*), and various grass species.

## 2.2 Soils

The second parameter required for an area to be determined a wetland is hydric soil. The project area contained three mapped soil units: Clodine fine sandy loam, 0 to 1% slopes (Cd); Katy Urban land complex, 0 to 1% slopes (KauA); and Katy fine sandy loam, 0 to 1% slopes (Kf). According to the online NRCS Hydric Soils List for Harris County, all three are listed as hydric soils.

The mapping of an area as a nonhydric soil does not mean that hydric soil does not exist within the area. Mapped soils, as shown in the soil survey, can contain inclusions of other types of soils, some of which may be hydric. An inclusion is a small area of soil which is different from the dominant mapped soil type

and which is small enough in size to preclude it from practicably being mapped. Inclusions, which are known to occur within a mapped soil type, are listed in the Harris County Soil Survey. Additionally, any soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation is hydric. Therefore, any area subjected to these hydrological conditions frequently enough and/or for long enough duration can develop anaerobic conditions and thus, become hydric.

### 2.3 Hydrology

The third parameter required for an area to be determined a wetland is the presence of wetland hydrology. Areas that are seasonally inundated and/or saturated to the surface for a consecutive number of days for more than 12.5 percent of the growing season in most years are wetlands, provided the soil and the vegetation parameters are met. Areas inundated and/or saturated to the surface for a consecutive number of days between 5 percent and 12.5 percent of the growing season in most years may or may not be wetlands. Areas inundated and/or saturated to the surface for less than 5 percent of the growing season are nonwetlands.

According to the Soil Survey of Harris County, Texas, the growing season for this area in most years is 271 days. Twelve point five (12.5) percent of 271 days is approximately 34 days. Therefore, an area must be inundated and/or saturated to the surface for 34 or more consecutive days during the growing season in most years in order to unequivocally meet the criteria for wetland hydrology. Five percent of 271 days is approximately 14 days. Therefore, an area must be inundated and/or saturated to the surface for at least 14 or more consecutive days during the growing season in most years in order to be eligible for meeting the criteria for wetland hydrology. Areas inundated and/or saturated to the surface for less than 14 consecutive days during the growing season are nonwetlands.

Inundation can occur from direct rainfall and runoff, flooding, tides, groundwater or some combination of these sources. Saturation to the surface could occur from groundwater; however, groundwater saturation to the surface was not found to be a driving force in the hydrology of the project area.

The National Weather Service has a rain gauge located in Katy, Texas, which is within the project area. **Table 1** shows the amount of daily rainfall recorded at the site from June 30, 2021 to August 3, 2021.

The daily rainfall data allowed the duration of inundation to be estimated in those areas that ponded water. Inundation occurring from rainfall for 14 or more consecutive days does not have to occur from a single event rainfall. Inundation for 14 or more consecutive days only has to occur at least once at some time during the growing season in most years.

**Table 1  
National Weather Service Daily Rainfall in Katy, Texas  
June 30, 2021 thru August 3, 2021**

Date	Inches	Date	Inches	Date	Inches
		7/12/21	0	7/24/21	0
7/1/21	0.04	7/13/21	0.06	7/25/21	0
7/2/21	0	7/14/21	0.01	7/26/21	0
7/3/21	0	7/15/21	0.02	7/27/21	0
7/4/21	0.32	7/16/21		7/28/21	0
7/5/21	2.02	7/17/21	0	7/29/21	0
7/6/21	0.15	7/18/21	0	7/30/21	0.18
7/7/21	0	7/19/21	0.01	7/31/21	0.85
7/8/21	0.03	7/20/21	0	8/1/21	0
7/9/21	0.91	7/21/21	0	8/2/21	0
7/10/21	0.75	7/22/21	0	<b>8/3/21</b>	<b>0</b>
7/11/21	0	7/23/21	0		

Note: Bold entry signifies date of wetland determinations. Empty cells indicate that a data observation was not reported.

According to **Table 1**, the region received approximately 5.35 inches of rainfall in the 34 days leading up to the date of the wetland determinations and 1.03 inches in the 14 days leading up to the date of the wetland determinations.

Based on a review of floodplain maps for Harris County, the proposed project is not located within the 100-year floodplain (**Figure 3**).

## 2.4 Wetlands and Waters of the U.S.

Porter Road crosses a linear drainage channel just south of Adriatic Drive. A sample point (SP-3) taken at the ordinary high water mark (OHWM) of the channel did not meet all three wetland criteria; therefore, the channel would not be considered a wetland. The OHWM of the channel was delineated in the field (**Figure 4**). According to aerial photos, the eastern portion of the drainage channel was constructed between 2006 and 2012. The western portion was constructed between 2012 and 2016. The drainage channel is an extension of Harris County Flood Control District's (HCFCD) Channel Unit U101-08-00. According to HCFCD Environmental Services Department data, Unit U101-08-00 is considered natural; however, as the natural portion of the channel does not extend to Porter Road and the sections of the channel adjacent to Porter Road were constructed through uplands between 2006 and 2016, it is our opinion that this section of the linear drainage channel would be considered non-jurisdictional.

A secondary drainage ditch running north-south was observed on the east side of Porter Road between the drainage channel discussed above and Treviso Gardens Drive. This secondary drainage ditch

parallels the existing roadside drainage ditches. A sample point (SP-4) taken at the ordinary high water mark (OHWM) of the secondary ditch did not meet all three wetland criteria; therefore, the secondary ditch would not be considered a wetland. The OHWM of the channel was delineated in the field (**Figure 4**). According to aerial photos, the secondary ditch was constructed between 2006 and 2012, possibly in conjunction with the construction of the eastern section of the drainage channel. As the secondary ditch was constructed through uplands between 2006 and 2012, it is our opinion that the secondary ditch would be considered non-jurisdictional.

The delineated waters are summarized in Table 2. Although the sample points are located outside of the proposed project ROW, because the project crosses the drainage channel and is immediately adjacent to the secondary drainage ditch, these waters are included in this report.

**Table 2  
Delineated Waters Details**

<b>ID/Name</b>	<b>Lat/Long</b>	<b>Type</b>	<b>Preliminary Call</b>
SP-3 - Drainage Channel	29.823961°, -95.789545°	Drainage Channel	Non-jurisdictional
SP-4 – Secondary Drainage Ditch	29.822775°, -95.789886°	Drainage Ditch	Non-jurisdictional

Three additional sample points (SP-1, SP-2 and SP-3) were taken along the proposed project. SP-1 and SP-2 were taken in areas representing the proposed ROW and SP-3 was taken in an area representing the existing ROW. None of the sample points met all three wetland criteria; therefore, these areas would be considered uplands.

No jurisdictional waters of the U.S., including wetlands, were identified within the proposed project area.

### **3. SUMMARY**

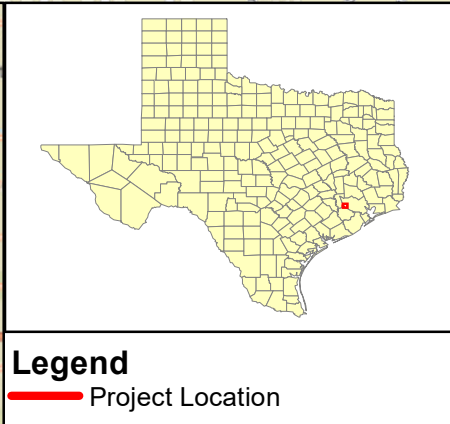
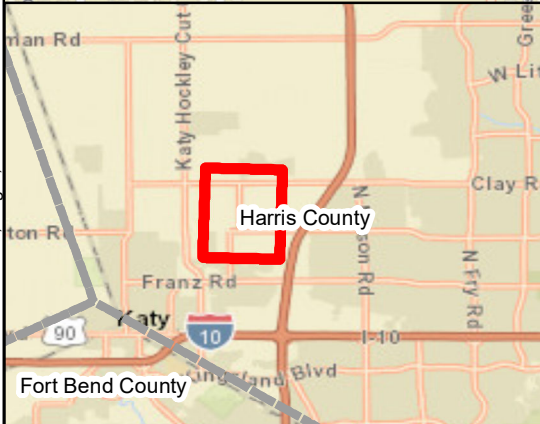
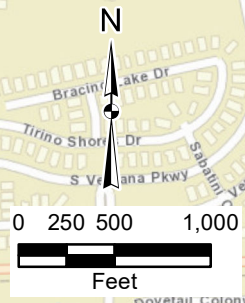
No jurisdictional areas were identified within the proposed project area. These findings are not an official determination of the jurisdictional status. Only USACE has final authority in determining the official presence of jurisdictional waters of the U.S. and the extent of their boundaries.


The Porter Road widening project would not impact any jurisdictional waters or wetlands; therefore, no Section 404 permitting would be required.

A stylized graphic of a hand holding a pen. The hand is a light beige color with rounded corners, and the pen is a dark maroon color. The pen is held in a way that it points towards the top right. The word "FIGURES" is written in a dark maroon, sans-serif font on the back of the hand.

**FIGURES**

J:\1008033 Porter Road, Seg 3, Environmental Svcs\06.00 Work Products\Environmental\GIS\1- Porter Rd Vicinity Map.mxd

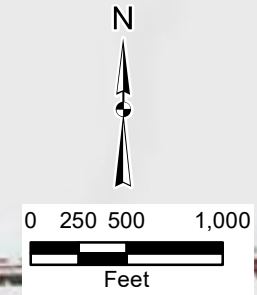
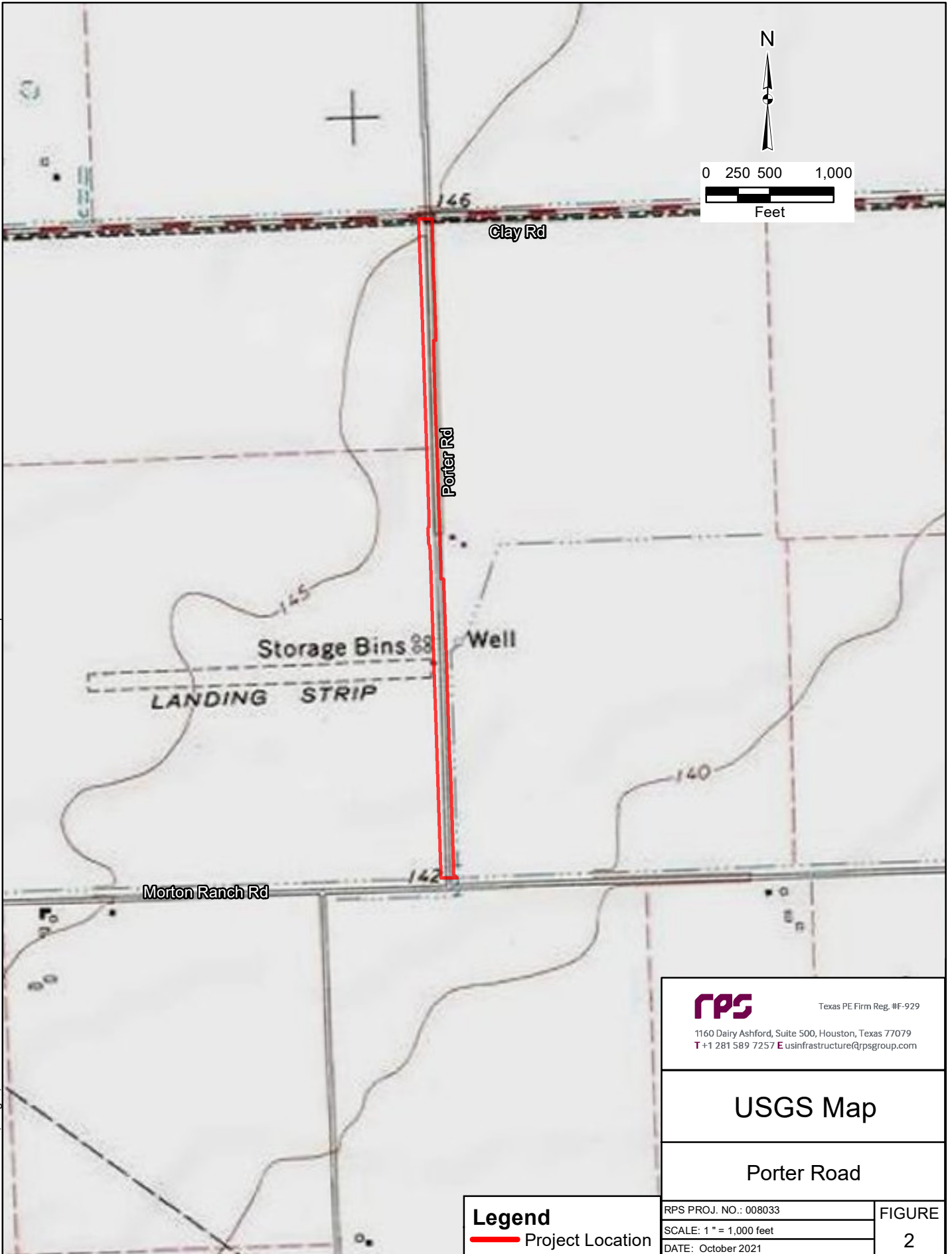


 Texas PE Firm Reg. #F-929 1160 Dairy Ashford, Suite 500, Houston, Texas 77079 T+1 281 589 7257 E usinfrastructure@rpsgroup.com	
<h2>Vicinity Map</h2>	
<h3>Porter Road</h3>	
RPS PROJ. NO.: 008033 SCALE: 1" = 1,000 feet DATE: October 2021	<b>FIGURE</b> 1

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



J:\008033 Porter Road\_Seg 3\_Environmental Svcs\06.00 Work Products\Environmental\GIS2- Porter Rd USGS Map.mxd



Clay Rd

Porter Rd

Storage Bins

Well

LANDING STRIP

Morton Ranch Rd

**rps** Texas PE Firm Reg. #F-929  
 1160 Dairy Ashford, Suite 500, Houston, Texas 77079  
 T +1 281 589 7257 E usinfrastructure@rpsgroup.com

**USGS Map**

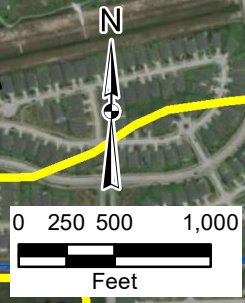
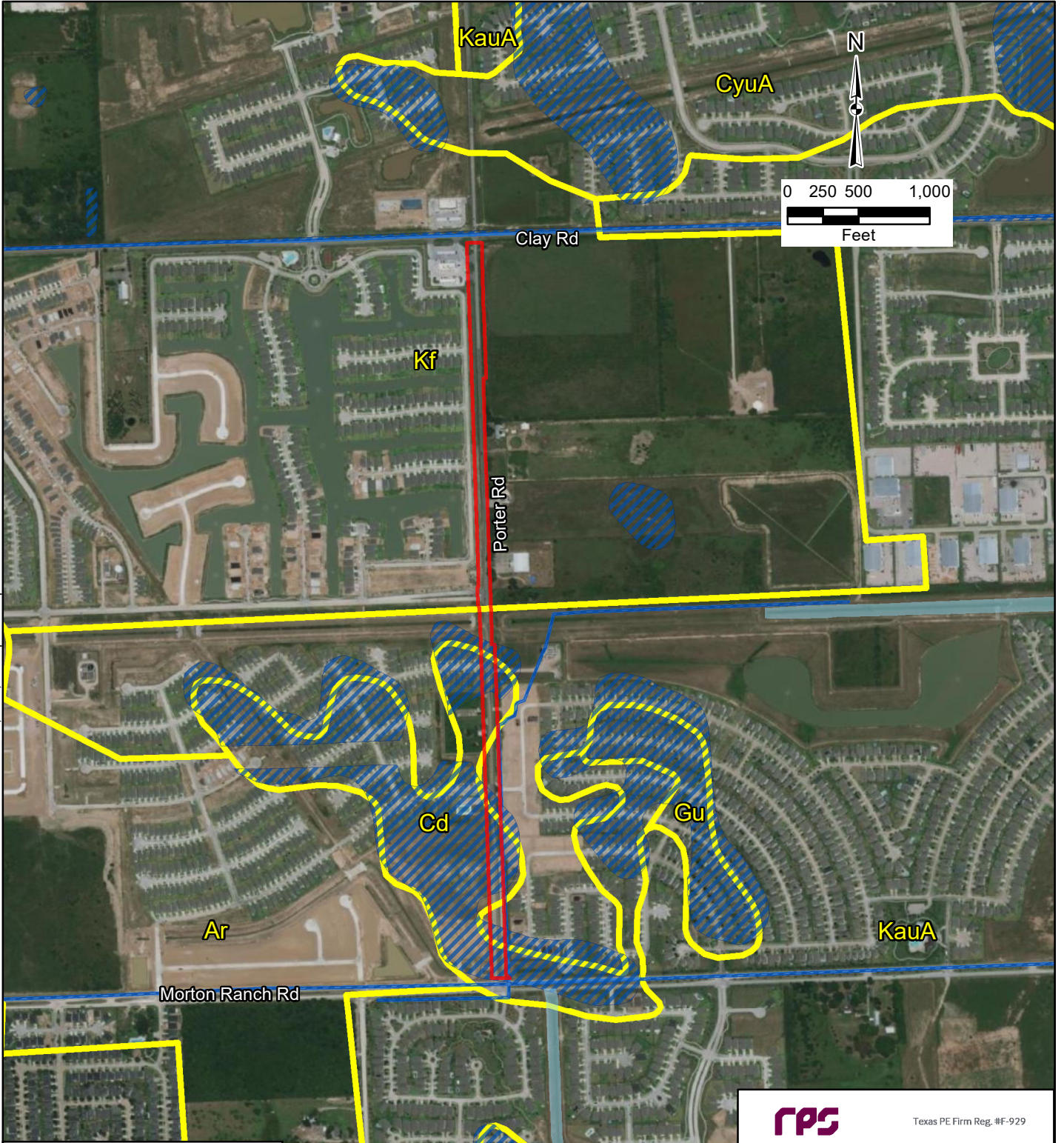
**Porter Road**

**Legend**  
 — Project Location

RPS PROJ. NO.: 008033  
 SCALE: 1" = 1,000 feet  
 DATE: October 2021

**FIGURE**  
 2

J:\08033 Porter Road\_Seg 3\_Environmental Svcs\06.00 Work Products\Environmental\GIS\3- Porter Rd Soils, NWI, Floodplain Map.mxd



**Legend**

- Project Location
- Soils
- Rivers and Streams
- NWI
- 100-yr Floodplain

Ar	Cyfair-Katy complex, 0 to 1 percent slopes
Cd	Clodine fine sandy loam, 0 to 1 percent slopes
CyuA	Cyfair-Urban land complex, 0 to 1 percent slopes
Gu	Gessner occasionally ponded-Urban land complex, 0 to 1 percent slopes
KauA	Katy-Urban land complex, 0 to 1 percent slopes
Kf	Katy fine sandy loam, 0 to 1 percent slopes

**rps** Texas PE Firm Reg. #F-929  
 1160 Dairy Ashford, Suite 500, Houston, Texas 77079  
 T +1 281 589 7257 E us@infrastructure@rpsgroup.com

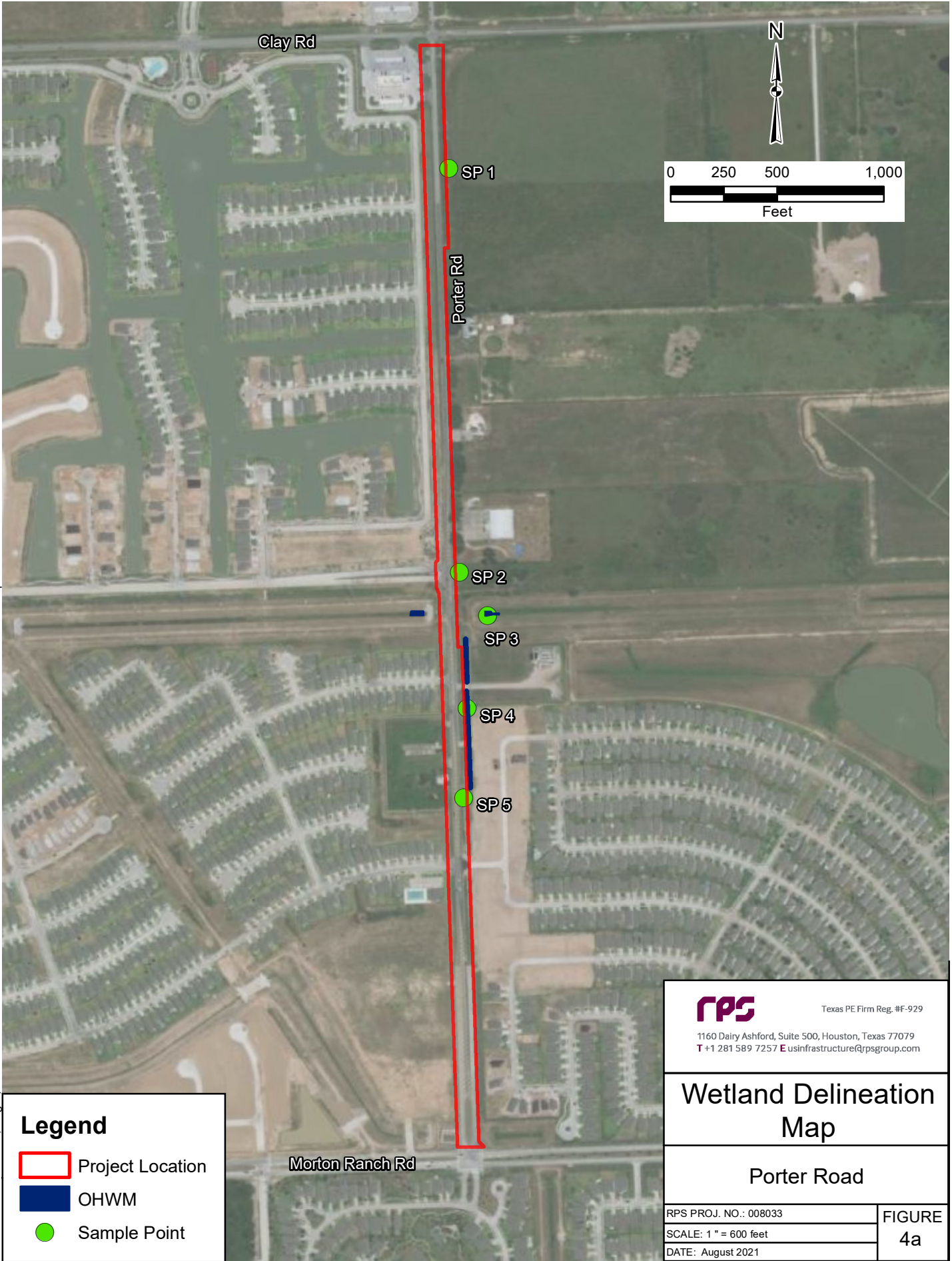
**NWI, Soils  
and Floodplain Map**

**Porter Road**

RPS PROJ. NO.: 008033	<b>FIGURE 3</b>
SCALE: 1" = 1,000 feet	
DATE: October 2021	

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

J:\008033 Porter Road\_Seg 3\_Environmental Svcs\06.00 Work Products\Environmental\GIS\4a- Porter Rd Delineation Map.mxd



**Legend**

- Project Location
- OHWM
- Sample Point

**rps** Texas PE Firm Reg. #F-929  
 1160 Dairy Ashford, Suite 500, Houston, Texas 77079  
 T +1 281 589 7257 E usinfrastructure@rpsgroup.com

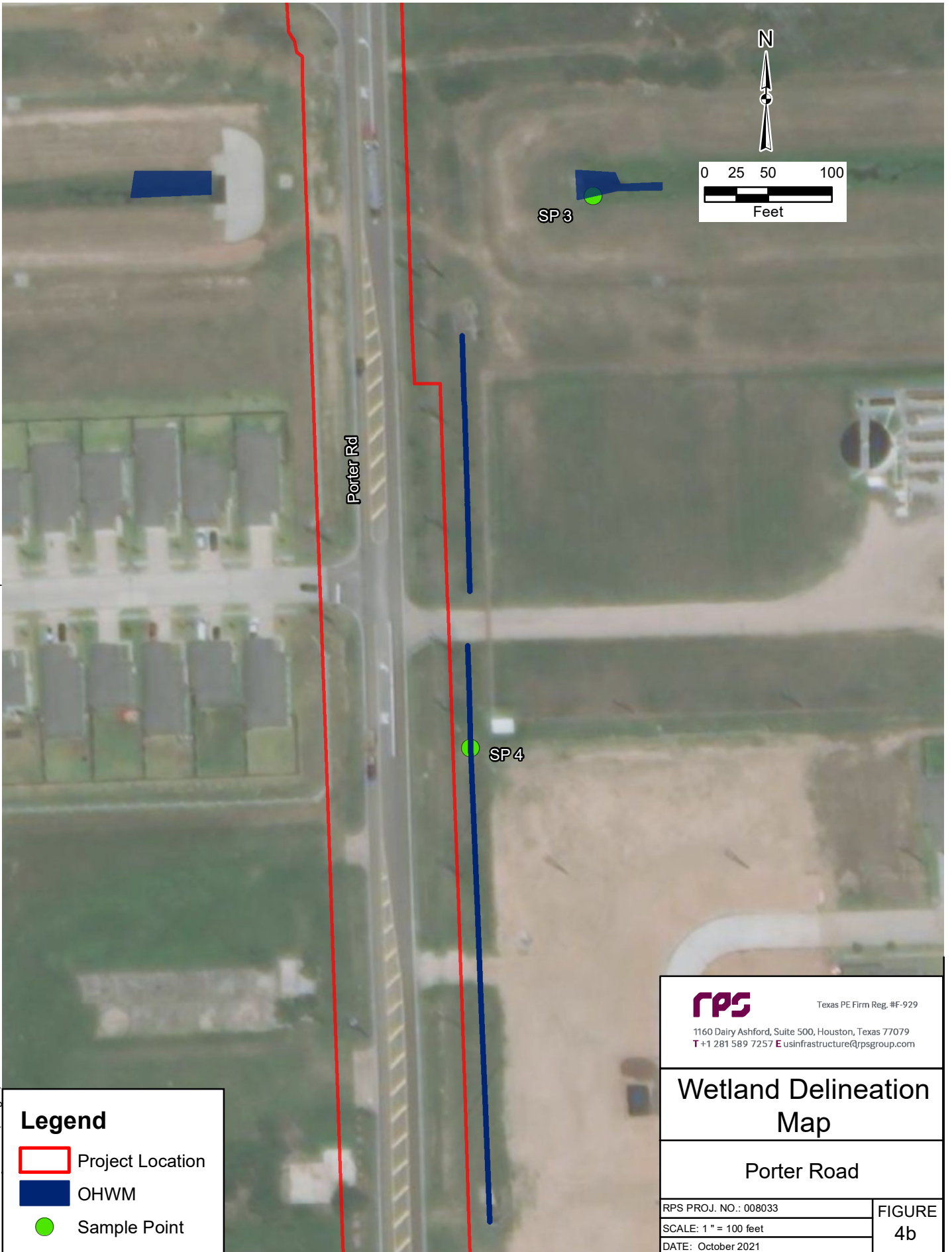
**Wetland Delineation Map**

Porter Road

RPS PROJ. NO.: 008033	<b>FIGURE 4a</b>
SCALE: 1" = 600 feet	
DATE: August 2021	

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

J:\008033 Porter Road\_Seg 3\_Environmental Svcs\06.00 Work Products\Environmental\GIS\4b- Porter Rd Delineation Map.mxd



**Legend**

- Project Location
- OHWM
- Sample Point

<span style="float: right; font-size: 0.8em;">Texas PE Firm Reg. #F-929</span>	
1160 Dairy Ashford, Suite 500, Houston, Texas 77079 T +1 281 589 7257 E usinfrastructure@rpsgroup.com	
<h2 style="margin: 0;">Wetland Delineation Map</h2>	
<h3 style="margin: 0;">Porter Road</h3>	
RPS PROJ. NO.: 008033	FIGURE
SCALE: 1" = 100 feet	4b
DATE: October 2021	

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

The graphic features a large, light gray shape on the left side of the page, resembling a stylized letter 'L' or a bracket. The top-right corner of this shape is rounded. A smaller, dark maroon shape is positioned to the right of the lower part of the gray shape, overlapping its edge. The text 'Appendix A' is written in a dark maroon color, and 'Data Forms' is written in a black color, both centered horizontally within the upper portion of the gray shape.

Appendix A  
Data Forms

**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Porter Road, Segment 3 City/County: Katy/Harris Sampling Date: 8-3-2021  
 Applicant/Owner: Harris County State: Texas Sampling Point: SP-1  
 Investigator(s): J. Casbeer Section, Township, Range: Katy, Tx  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR or MLRA): LRR T Lat: 29.829738° Long: -95.789934° Datum: NAD83  
 Soil Map Unit Name: Katy fine sandy loam, 0-1% Slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <b>Vegetated upland site within proposed right of way</b>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
--	---

<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  
**Aerial photos, NWI, topo map**

Remarks:  
**No indicators of hydrology observed**

**VEGETATION (Five Strata) – Use scientific names of plants.**

Sampling Point: SP-1

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	<u>0</u> = Total Cover			
	50% of total cover: _____		20% of total cover: _____	
<b>Sapling Stratum</b> (Plot size: <u>30</u> )				
1. <i>Triadica sebifera</i>	15	Yes	FAC	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	<u>15</u> = Total Cover			
	50% of total cover: _____		20% of total cover: _____	
<b>Shrub Stratum</b> (Plot size: <u>30</u> )				
1. <i>Baccharis halimifolia</i>	30	Yes	FACW	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	<u>30</u> = Total Cover			
	50% of total cover: _____		20% of total cover: _____	
<b>Herb Stratum</b> (Plot size: <u>30</u> )				
1. <i>Cyperus pseudovegetus</i>	20	Yes	FACW	
2. <i>Solidago gigantea</i>	5	No	FAC	
3. <i>Paspalum dilatatum</i>	20	Yes	FAC	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	<u>45</u> = Total Cover			
	50% of total cover: _____		20% of total cover: _____	
<b>Woody Vine Stratum</b> (Plot size: <u>30</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	<u>0</u> = Total Cover			
	50% of total cover: _____		20% of total cover: _____	

**Remarks:** (If observed, list morphological adaptations below).  
**Area is not regularly mowed or maintained.**

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

---

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: 0 (A) 0 (B)

Prevalence Index = B/A = \_\_\_\_\_

---

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

---

**Definitions of Five Vegetation Strata:**

**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

**Woody vine** – All woody vines, regardless of height.

---

**Hydrophytic Vegetation Present?** Yes  No

**SOIL**

Sampling Point: SP-1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type	Loc <sup>2</sup>		
0-16	10 YR 4/3	100					Clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                         | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)                 | <input type="checkbox"/> 1 cm Muck (A9) (LRR O)                         |
| <input type="checkbox"/> Histic Epipedon (A2)                  | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)                       | <input type="checkbox"/> 2 cm Muck (A10) (LRR S)                        |
| <input type="checkbox"/> Black Histic (A3)                     | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)                           | <input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)     |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                 | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                                   | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)  |
| <input type="checkbox"/> Stratified Layers (A5)                | <input type="checkbox"/> Depleted Matrix (F3)                                       | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)     | <input type="checkbox"/> Redox Dark Surface (F6)                                    | <input type="checkbox"/> Red Parent Material (TF2)                      |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) | <input type="checkbox"/> Depleted Dark Surface (F7)                                 | <input type="checkbox"/> Very Shallow Dark Surface (TF12)               |
| <input type="checkbox"/> Muck Presence (A8) (LRR U)            | <input type="checkbox"/> Redox Depressions (F8)                                     | <input type="checkbox"/> Other (Explain in Remarks)                     |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)             | <input type="checkbox"/> Marl (F10) (LRR U)   |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)     | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)                           |   |
| <input type="checkbox"/> Thick Dark Surface (A12)              | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)                  |   |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)                         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)   | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151)                              |   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)              | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)                     |   |
| <input type="checkbox"/> Sandy Redox (S5)                      | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)                |   |
| <input type="checkbox"/> Stripped Matrix (S6)                  | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |   |
| <input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)    |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks: **No indicators of hydric soil observed.**



## WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Porter Road, Segment 3 City/County: Katy/Harris Sampling Date: 8-3-2021  
 Applicant/Owner: Harris County State: Texas Sampling Point: SP-2  
 Investigator(s): J. Casbeer Section, Township, Range: Katy, Tx  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR or MLRA): LRR T Lat: 29.824528° Long: -95.789939° Datum: NAD83  
 Soil Map Unit Name: Katy fine sandy loam, 0-1% Slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <b>Vegetated upland site within proposed right of way</b>	

### HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b> <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
---	--

<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  
**Aerial photos, NWI, topo map**

Remarks:  
**No indicators of hydrology observed**

**VEGETATION (Five Strata) – Use scientific names of plants.**

Sampling Point: SP-2

**Tree Stratum** (Plot size: 30 )

	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
0 = Total Cover			
50% of total cover: _____ 20% of total cover: _____			

**Sapling Stratum** (Plot size: 30 )

	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
0 = Total Cover			
50% of total cover: _____ 20% of total cover: _____			

**Shrub Stratum** (Plot size: 30 )

	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
0 = Total Cover			
50% of total cover: _____ 20% of total cover: _____			

**Herb Stratum** (Plot size: 30 )

	Absolute % Cover	Dominant Species?	Indicator Status
1. Sorghum halepense	50	Yes	FACU
2. Ambrosia trifida	15	Yes	FAC
3. Setaria italica	20	Yes	FACU
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
85 = Total Cover			
50% of total cover: _____ 20% of total cover: _____			

**Woody Vine Stratum** (Plot size: 30 )

	Absolute % Cover	Dominant Species?	Indicator Status
1. Rubus trivialis	10	No	FAC
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
10 = Total Cover			
50% of total cover: _____ 20% of total cover: _____			

**Dominance Test worksheet:**

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by:

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: 0 (A) 0 (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Five Vegetation Strata:**

**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (If observed, list morphological adaptations below).

Area around the channel is regularly mowed and maintained.

**SOIL**

Sampling Point: SP-2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	10 YR 4/3	100			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                         | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)                 | <input type="checkbox"/> 1 cm Muck (A9) (LRR O)                         |
| <input type="checkbox"/> Histic Epipedon (A2)                  | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)                       | <input type="checkbox"/> 2 cm Muck (A10) (LRR S)                        |
| <input type="checkbox"/> Black Histic (A3)                     | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)                           | <input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)     |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                 | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                                   | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)  |
| <input type="checkbox"/> Stratified Layers (A5)                | <input type="checkbox"/> Depleted Matrix (F3)                                       | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)     | <input type="checkbox"/> Redox Dark Surface (F6)                                    | <input type="checkbox"/> Red Parent Material (TF2)                      |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) | <input type="checkbox"/> Depleted Dark Surface (F7)                                 | <input type="checkbox"/> Very Shallow Dark Surface (TF12)               |
| <input type="checkbox"/> Muck Presence (A8) (LRR U)            | <input type="checkbox"/> Redox Depressions (F8)                                     | <input type="checkbox"/> Other (Explain in Remarks)                     |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)             | <input type="checkbox"/> Marl (F10) (LRR U)   |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)     | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)                           |   |
| <input type="checkbox"/> Thick Dark Surface (A12)              | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)                  |   |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)                         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)   | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151)                              |   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)              | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)                     |   |
| <input type="checkbox"/> Sandy Redox (S5)                      | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)                |   |
| <input type="checkbox"/> Stripped Matrix (S6)                  | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |   |
| <input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)    |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks: **No indicators of hydric soil observed.**

**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Porter Road, Segment 3 City/County: Katy/Harris Sampling Date: 8-3-2021  
 Applicant/Owner: Harris County State: Texas Sampling Point: SP-3  
 Investigator(s): J. Casbeer Section, Township, Range: Katy, Tx  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR or MLRA): LRR T Lat: 29.823961° Long: -95.789545° Datum: NAD83  
 Soil Map Unit Name: Katy urban land complex, 0-1% Slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <b>Drainage channel</b>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Surface Water (A1)</li> <li><input type="checkbox"/> High Water Table (A2)</li> <li><input type="checkbox"/> Saturation (A3)</li> <li><input type="checkbox"/> Water Marks (B1)</li> <li><input type="checkbox"/> Sediment Deposits (B2)</li> <li><input type="checkbox"/> Drift Deposits (B3)</li> <li><input type="checkbox"/> Algal Mat or Crust (B4)</li> <li><input type="checkbox"/> Iron Deposits (B5)</li> <li><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</li> <li><input type="checkbox"/> Water-Stained Leaves (B9)</li> <li><input type="checkbox"/> Aquatic Fauna (B13)</li> <li><input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b></li> <li><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</li> <li><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</li> <li><input type="checkbox"/> Presence of Reduced Iron (C4)</li> <li><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</li> <li><input type="checkbox"/> Thin Muck Surface (C7)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul>	<b>Secondary Indicators (minimum of two required)</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Surface Soil Cracks (B6)</li> <li><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</li> <li><input type="checkbox"/> Drainage Patterns (B10)</li> <li><input type="checkbox"/> Moss Trim Lines (B16)</li> <li><input type="checkbox"/> Dry-Season Water Table (C2)</li> <li><input type="checkbox"/> Crayfish Burrows (C8)</li> <li><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</li> <li><input type="checkbox"/> Geomorphic Position (D2)</li> <li><input type="checkbox"/> Shallow Aquitard (D3)</li> <li><input type="checkbox"/> FAC-Neutral Test (D5)</li> <li><input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b></li> </ul>
--	---

<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6-18</u> Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  
**Aerial photos, NWI, topo map**

Remarks:  
**Drainage channel**

**VEGETATION (Five Strata) – Use scientific names of plants.**

Sampling Point: SP-3

**Tree Stratum** (Plot size: 30 )

	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
0 = Total Cover			
50% of total cover: _____ 20% of total cover: _____			

**Sapling Stratum** (Plot size: 30 )

	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
0 = Total Cover			
50% of total cover: _____ 20% of total cover: _____			

**Shrub Stratum** (Plot size: 30 )

	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
0 = Total Cover			
50% of total cover: _____ 20% of total cover: _____			

**Herb Stratum** (Plot size: 30 )

	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Cynodon dactylon</i>	60	Yes	FACU
2. <i>Cyperus pseudovegetus</i>	5	No	FACW
3. <i>Ludwigia palustris</i>	20	Yes	OBL
4. <i>Setaria Italica</i>	5	No	FACU
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
90 = Total Cover			
50% of total cover: _____ 20% of total cover: _____			

**Woody Vine Stratum** (Plot size: 30 )

	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
0 = Total Cover			
50% of total cover: _____ 20% of total cover: _____			

**Dominance Test worksheet:**

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: <u>0</u> (A)	<u>0</u> (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Five Vegetation Strata:**

**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?**

Yes  No

Remarks: (If observed, list morphological adaptations below).

Area around the channel is regularly mowed and maintained.

**SOIL**

Sampling Point: SP-3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	10 YR 5/4	95	10 YR 5/6	5	C	M	Loamy Clay	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	Hydric Soil Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	---

Remarks: **No indicators of hydric soil observed.**

## WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Porter Road, Segment 3 City/County: Katy/Harris Sampling Date: 8-3-2021  
 Applicant/Owner: Harris County State: Texas Sampling Point: SP-4  
 Investigator(s): J. Casbeer Section, Township, Range: Katy, Tx  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR or MLRA): LRR T Lat: 29.822775° Long: -95.789886° Datum: NAD83  
 Soil Map Unit Name: Clodine fine sandy loam, 0-1% Slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <b>Secondary drainage ditch</b>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1-2</u> Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: <b>Aerial photos, NWI, topo map</b>	
Remarks: <b>Secondary drainage ditch</b>	

**VEGETATION (Five Strata) – Use scientific names of plants.**

Sampling Point: SP-4

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <sup>30</sup> _____ )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
				0 _____ = Total Cover
				50% of total cover: _____ 20% of total cover: _____
<b>Sapling Stratum</b> (Plot size: <sup>30</sup> _____ )				
1. <i>Triadica sebiferum</i>	5	No	FAC	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
				5 _____ = Total Cover
				50% of total cover: _____ 20% of total cover: _____
<b>Shrub Stratum</b> (Plot size: <sup>30</sup> _____ )				
1. <i>Baccharis halimifolia</i>	5	No	FACW	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
				5 _____ = Total Cover
				50% of total cover: _____ 20% of total cover: _____
<b>Herb Stratum</b> (Plot size: <sup>30</sup> _____ )				
1. <i>Cynodon dactylon</i>	70	Yes	FACU	
2. <i>Cyperus pseudovegetus</i>	5	No	FACW	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
				75 _____ = Total Cover
				50% of total cover: _____ 20% of total cover: _____
<b>Woody Vine Stratum</b> (Plot size: <sup>30</sup> _____ )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
				0 _____ = Total Cover
				50% of total cover: _____ 20% of total cover: _____
Remarks: (If observed, list morphological adaptations below).				
Area around the ditch is regularly mowed and maintained.				
				<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

**Dominance Test worksheet:**

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: 0 (A) 0 (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Five Vegetation Strata:**

**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

**Woody vine** – All woody vines, regardless of height.



**SOIL**

Sampling Point: SP-4

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	10 YR 5/4	95	10 YR 5/6	5	C	M	Loamy Clay	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                         | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)                 | <input type="checkbox"/> 1 cm Muck (A9) (LRR O)                         |
| <input type="checkbox"/> Histic Epipedon (A2)                  | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)                       | <input type="checkbox"/> 2 cm Muck (A10) (LRR S)                        |
| <input type="checkbox"/> Black Histic (A3)                     | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)                           | <input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)     |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                 | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                                   | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)  |
| <input type="checkbox"/> Stratified Layers (A5)                | <input type="checkbox"/> Depleted Matrix (F3)                                       | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)     | <input type="checkbox"/> Redox Dark Surface (F6)                                    | <input type="checkbox"/> Red Parent Material (TF2)                      |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) | <input type="checkbox"/> Depleted Dark Surface (F7)                                 | <input type="checkbox"/> Very Shallow Dark Surface (TF12)               |
| <input type="checkbox"/> Muck Presence (A8) (LRR U)            | <input type="checkbox"/> Redox Depressions (F8)                                     | <input type="checkbox"/> Other (Explain in Remarks)                     |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)             | <input type="checkbox"/> Marl (F10) (LRR U)   |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)     | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)                           |   |
| <input type="checkbox"/> Thick Dark Surface (A12)              | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)                  |   |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)                         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)   | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151)                              |   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)              | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)                     |   |
| <input type="checkbox"/> Sandy Redox (S5)                      | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)                |   |
| <input type="checkbox"/> Stripped Matrix (S6)                  | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |   |
| <input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)    |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks: **No indicators of hydric soil observed.**

**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Porter Road, Segment 3 City/County: Katy/Harris Sampling Date: 8-3-2021  
 Applicant/Owner: Harris County State: Texas Sampling Point: SP-5  
 Investigator(s): J. Casbeer Section, Township, Range: Katy, Tx  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR or MLRA): LRRT Lat: 29.821619° Long: -95.789968° Datum: NAD83  
 Soil Map Unit Name: Katy urban land complex, 0-1% Slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <b>Mowed and maintained upland within existing right of way</b>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b> <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: <b>Aerial photos, NWI, topo map</b>	
Remarks: <b>No indicators of hydrology observed</b>	

**VEGETATION (Five Strata) – Use scientific names of plants.**

Sampling Point: SP-5

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <sup>30</sup> _____ )				<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: 0 _____ (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: 1 _____ (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: 0 _____ (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	0 _____ = Total Cover			<b>Prevalence Index worksheet:</b>
	50% of total cover: _____	20% of total cover: _____		Total % Cover of: _____ Multiply by: _____
<b>Sapling Stratum</b> (Plot size: <sup>30</sup> _____ )				OBL species _____ x 1 = _____
1. _____	_____	_____	_____	FACW species _____ x 2 = _____
2. _____	_____	_____	_____	FAC species _____ x 3 = _____
3. _____	_____	_____	_____	FACU species _____ x 4 = _____
4. _____	_____	_____	_____	UPL species _____ x 5 = _____
5. _____	_____	_____	_____	Column Totals: 0 _____ (A) 0 _____ (B)
6. _____	_____	_____	_____	Prevalence Index = B/A = _____
	0 _____ = Total Cover			<b>Hydrophytic Vegetation Indicators:</b>
	50% of total cover: _____	20% of total cover: _____		<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
<b>Shrub Stratum</b> (Plot size: <sup>30</sup> _____ )				<input type="checkbox"/> 2 - Dominance Test is >50%
1. _____	_____	_____	_____	<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup>
2. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	0 _____ = Total Cover			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	50% of total cover: _____	20% of total cover: _____		<b>Definitions of Five Vegetation Strata:</b>
<b>Herb Stratum</b> (Plot size: <sup>30</sup> _____ )				<b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
1. <i>Cynodon dactylon</i>	90	Yes	FACU	<b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
2. _____	_____	_____	_____	<b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
3. _____	_____	_____	_____	<b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, <u>and</u> woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
4. _____	_____	_____	_____	<b>Woody vine</b> – All woody vines, regardless of height.
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	90 _____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____		
<b>Woody Vine Stratum</b> (Plot size: <sup>30</sup> _____ )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	0 _____ = Total Cover			
	50% of total cover: _____	20% of total cover: _____		
Hydrophytic Vegetation Present?				Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: (If observed, list morphological adaptations below). <b>Area is regularly mowed and maintained.</b>				

**SOIL**

Sampling Point: SP-5

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	10 YR 4/3	100					Clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                         | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)                 | <input type="checkbox"/> 1 cm Muck (A9) (LRR O)   |
| <input type="checkbox"/> Histic Epipedon (A2)                  | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)                       | <input type="checkbox"/> 2 cm Muck (A10) (LRR S)  |
| <input type="checkbox"/> Black Histic (A3)                     | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)                           | <input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                 | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                                   | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)  |
| <input type="checkbox"/> Stratified Layers (A5)                | <input type="checkbox"/> Depleted Matrix (F3)                                       | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B)   |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)     | <input type="checkbox"/> Redox Dark Surface (F6)                                    | <input type="checkbox"/> Red Parent Material (TF2)  |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) | <input type="checkbox"/> Depleted Dark Surface (F7)                                 | <input type="checkbox"/> Very Shallow Dark Surface (TF12)   |
| <input type="checkbox"/> Muck Presence (A8) (LRR U)            | <input type="checkbox"/> Redox Depressions (F8)                                     | <input type="checkbox"/> Other (Explain in Remarks)   |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)             | <input type="checkbox"/> Marl (F10) (LRR U)   |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)     | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)                           |   |
| <input type="checkbox"/> Thick Dark Surface (A12)              | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)                  | <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)                         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)   | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151)                              |   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)              | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)                     |   |
| <input type="checkbox"/> Sandy Redox (S5)                      | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)                |   |
| <input type="checkbox"/> Stripped Matrix (S6)                  | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |   |
| <input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)    |   |   |

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks: **No indicators of hydric soil observed.**

The graphic features a large, light gray shape on the left side, resembling a stylized letter 'L' with rounded corners. A smaller, dark maroon shape is positioned to the right of the gray shape, partially overlapping it. The text 'Appendix B' is written in a maroon color, and 'Site Photographs' is written in a black color, both centered within the gray area.

**Appendix B**  
**Site Photographs**



Porter Road – viewing south from Clay Road



Proposed right of way on the east side of Porter Road – viewing south at SP1



Proposed right of way on the east side of Porter Road – viewing north at SP2



Drainage channel - viewing east on east side of Porter Road (SP3)

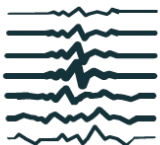


Drainage channel - viewing west on west side of Porter Road



Northern terminus of the secondary ditch – viewing south on the east side of Porter Road





# ARCHEOLOGICAL DESKTOP ASSESSMENT OF THE PROPOSED WIDENING OF PORTER ROAD IN HARRIS COUNTY, TEXAS

By

**Matthew Larsen**

Prepared for:

**RPS Group**

and

**Harris County**

September 2021

© 2021 by AmaTerra Environmental, Inc.

11842 Rim Rock Trail  
Austin, Texas 78737

AmaTerra Project No. 209-035

## **INTRODUCTION AND PROJECT DESCRIPTION**

At the request of RPS Group (RPS) and on behalf of Harris County, AmaTerra Environmental, Inc. (AmaTerra) has conducted an archeological assessment of the proposed Porter Road improvement project in Harris County, Texas (**Figures 1 and 2**). Harris County is proposing to widen approximately 0.84 miles (1.35 kilometers) of Porter Road from an existing two-lane roadway to a four-lane, median-separated roadway between Morton Ranch Road and Clay Road. The proposed project area is approximately 10.2 acres. The proposed project will occur primarily within the existing right-of-way (ROW) for Porter Road. The proposed project will widen the road within a consistent 100-foot-wide ROW, since the existing ROW varies between 80 and 100 feet wide. Anticipated new ROW is expected and will be between approximately 0.9 and two acres in size. According to project schematics, installation of stormwater drainage measures will require a maximum vertical impact of 14 feet below surface, though typical depth of impacts will be between two and four feet.

## **REGULATORY/MANAGEMENT SUMMARY**

The project will take place on existing ROW owned by Harris County and new ROW to be acquired by Harris County. Because Harris County is a political subdivision of the State of Texas, the Antiquities Code of Texas (ACT) will apply to the project. There is no federal involvement in this project so the proposed project does not require federal-level cultural resource regulatory compliance, as outlined in Section 106 of the National Historic Preservation Act of 1966, as amended (Section 106).

The following sections provide a brief background into the project setting, identify cultural resources within the vicinity of the project area, assess the potential for significant cultural resources within the project footprint, and lastly provide recommendations for the project's potential cultural-resource-related regulatory obligations under the ACT based on the research presented within this letter.

## **ENVIRONMENTAL SETTING**

The project area is situated within the Northern Humid Gulf Coastal Prairies subregion of the Western Gulf Coastal Plain ecoregion, as defined by Griffith and colleagues (2007). This ecoregion is characterized by its mostly flat topography and slow-moving streams and rivers. The historic vegetation community was tallgrass prairie with oak mottes but has since been nearly entirely converted to agricultural land, livestock pastures, or urban land.

The proposed project area sits on a low, nearly flat plain. The nearest water source is South Mayde Creek, an intermittent stream 1.84 miles (3 kilometers) to the northeast. The proposed project area has been historically used for agriculture until recent suburban development associated with the Houston metropolitan area occurred starting early in the twenty-first century.

## **GEOLOGY AND SOILS**

The geology underlying the proposed project area (**Figure 3**) is the mid-Pleistocene Lissie Formation (Ql; BEG 1982). The Lissie Formation is composed of sands, silts, and clays, which occasionally have minor gravel components. Soil series in the proposed project area (see Figure 3) are Clodine fine sandy loam (Cd) and Katy fine sandy loam (Kf; NRCS-USDA 2021). Where development has created disturbances, the soil is Katy-Urban land complex (Kaua). There are no Holocene-age sediments in the proposed project area. The existing ROW has been heavily disturbed by previous construction and utilities installation associated with Porter Road and adjacent suburban residential developments.

### **PREVIOUS ARCHEOLOGICAL STUDIES AND ARCHEOLOGICAL POTENTIAL**

Background research for this project consisted of an online records search through the Texas Historical Commission's Archeological Sites Atlas (THC 2021), and a review of historic period maps and aerial photographs. Research focused on the identification of archeological sites, Registered Texas Historic Landmarks (RTHLs), sites listed on the National Register of Historic Places (NRHP), sites listed as State Antiquities Landmarks (SALs), cemeteries, and historical markers within one kilometer (0.62 miles) of the proposed project area. This search revealed that no previous archeological surveys, previously recorded archeological sites, or any other type of cultural resources intersect, overlap, or are within one kilometer of the project area (**Figure 4**).

A search of historic maps and aerial photographs found that none of the existing structures in or adjacent to the proposed project area were built prior to 2005. The earliest mapped structure is a single farmstead on the east side of Porter Road on a 1915 USGS topographic map (**Figure 5**). The structures at this location are the only mapped structures for most of the twentieth century. By 1955, a well is mapped not far south of the farmstead (**Figure 6**). By 1971, a small landing strip and a row of large storage bins are present on the west side of Porter Road, across from the well. There is also an irrigation ditch south and northeast of the water well. Between 2008 and 2009, significant changes to the area occurred. The historic structures were removed, and the well was expanded and moved slightly northeast to its current location. Additionally, the irrigation ditch was greatly expanded to become a stormwater drainage, and construction of residential subdivisions began. By 2011, the storage bins had also been removed. There is little potential for historic-age resources within or adjacent to the proposed project area.

### **REGULATORY RECOMMENDATIONS**

Based upon a review of background information, AmaTerra concludes that construction for the proposed Porter Road expansion has little to no potential to impact intact, significant archeological resources. A comparison of modern aerial and historic aerial photographs suggests the project footprint was significantly impacted by previous road and utilities construction. Moreover, soils and geologic data suggest that any prehistoric and/or historic-age archeological resources that may have been present at one time would have been limited to shallow or surface contexts which have likely been destroyed by development. Though the project area has not been subject to archeological survey previously, it is recommended that such investigations are not warranted due to past disturbance within the project area. The proposed Porter Road expansion project is not likely to impact significant archeological resources or historic properties and AmaTerra recommends that the proposed project does not require archeological survey in advance of construction.

If future construction plans change, additional project consultation with the THC should be initiated. Additionally, in the unlikely event that intact site deposits are encountered during construction, all work will cease until such time as those deposits can be assessed by a professional archeologist and coordination with the THC can occur in accordance with the ACT.

REFERENCES

Bureau of Economic Geology (BEG)

1982 Geologic Atlas of Texas, Houston Sheet. Created by the Bureau of Economic Geology, the University of Texas at Austin. Available online at the Geologic Atlas of Texas 2014, an electronic resource in the Texas Natural Resources Information System (TNRIS), <https://data.tnris.org/collection/e28d8df6-cd30-4e89-bf0f-833e1ed0e670>, accessed August 2021.

Griffith, G., S. Bruce, J. Omernik, and A. Rogers

2007 *Ecoregions of Texas*. Project report to the Texas Commission on Environmental Quality.

Texas Historical Commission (THC)

2021 Texas Archeological Sites Atlas Online. Electronic document, <http://starr.thc.state.tx.us/>, accessed August 2021.

Natural Resources Conservation Service, United States Department of Agriculture (NRCS-USDA)

2021 Web Soil Survey. Electronic resource, <http://websoilsurvey.sc.egov.usda.gov/>. Accessed August 2021.

Porter Road Improvement Project

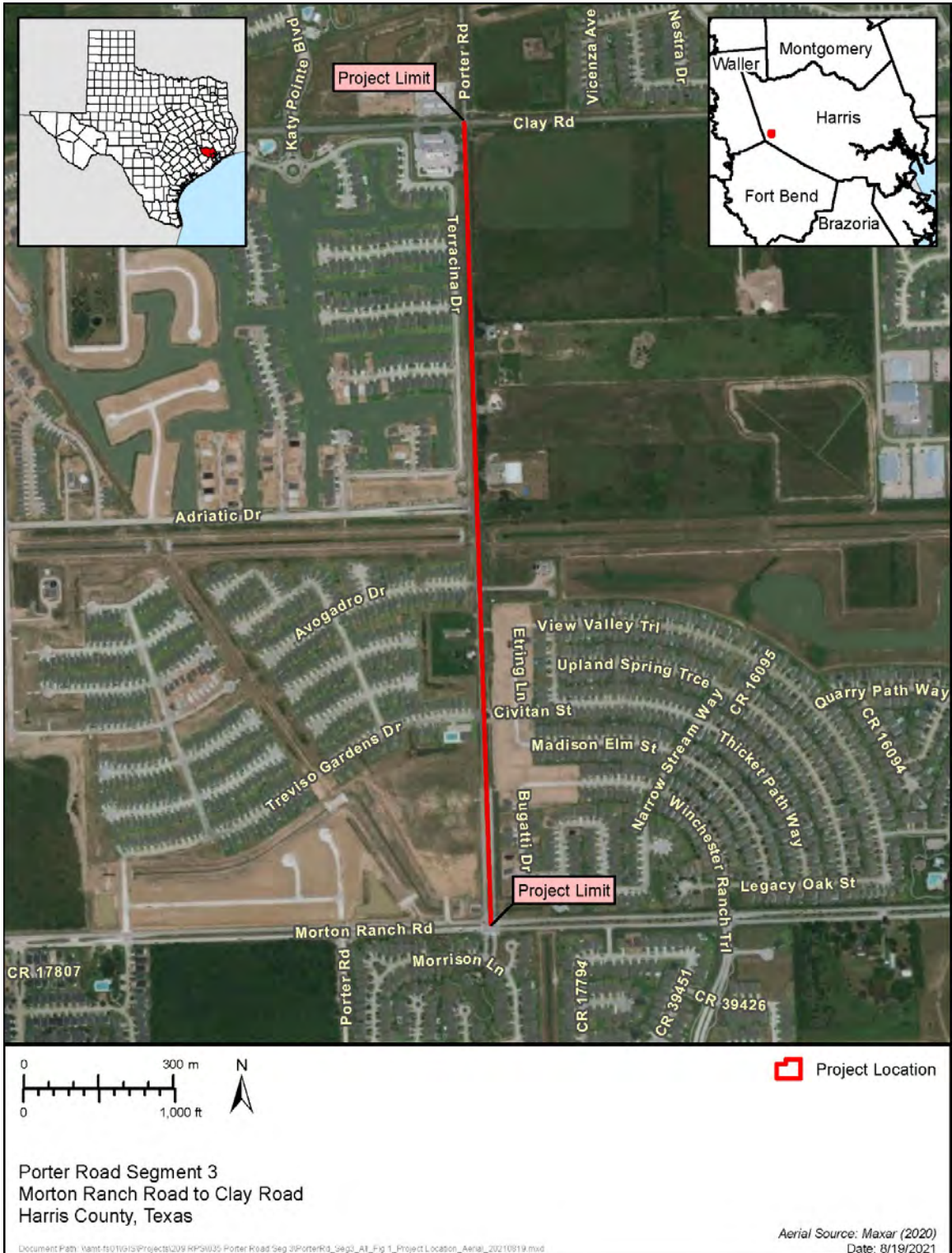


Figure 1. Location of the project area on an aerial photograph.

Porter Road Improvement Project

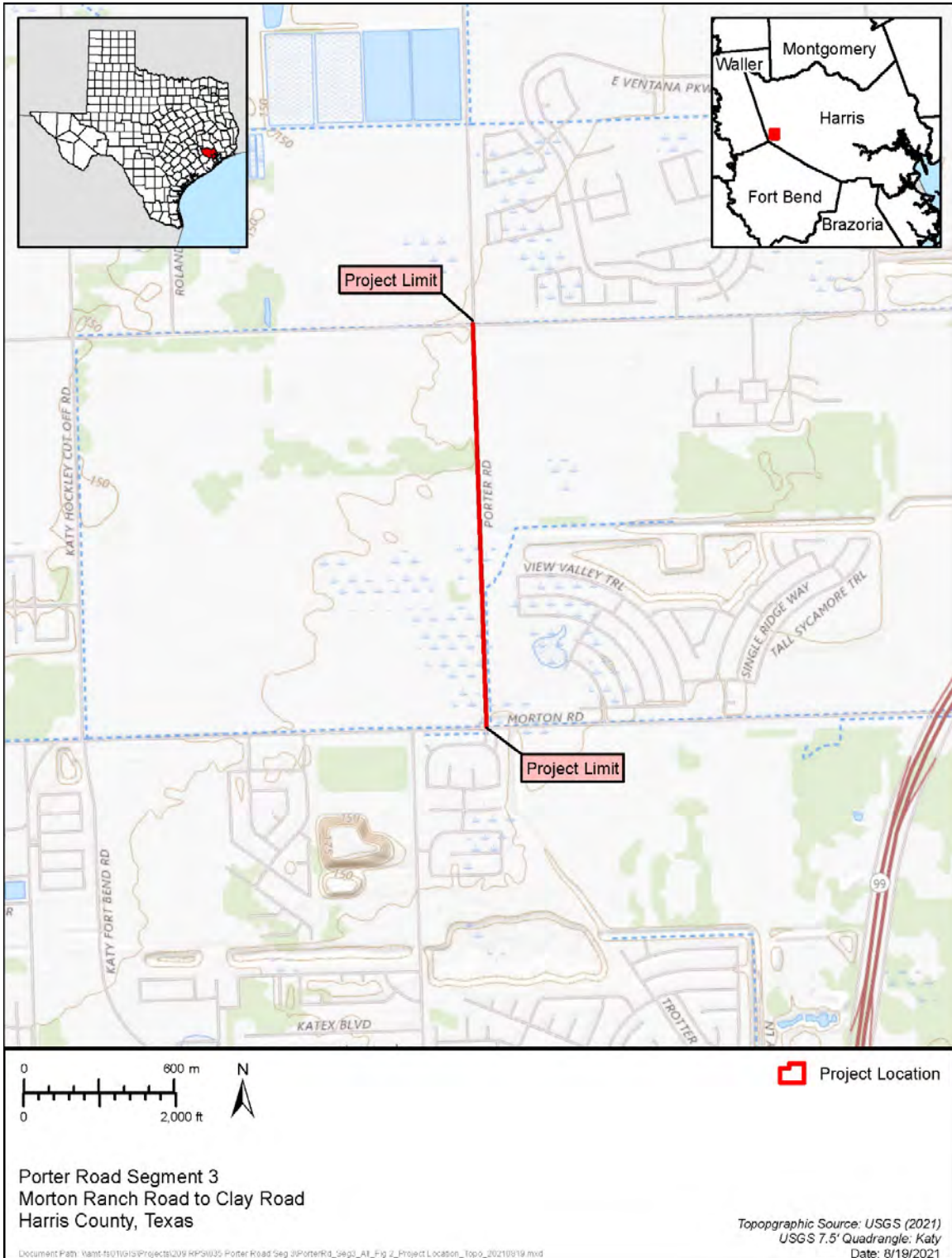


Figure 2. Location of the project area on a 7.5-minute topographic map.

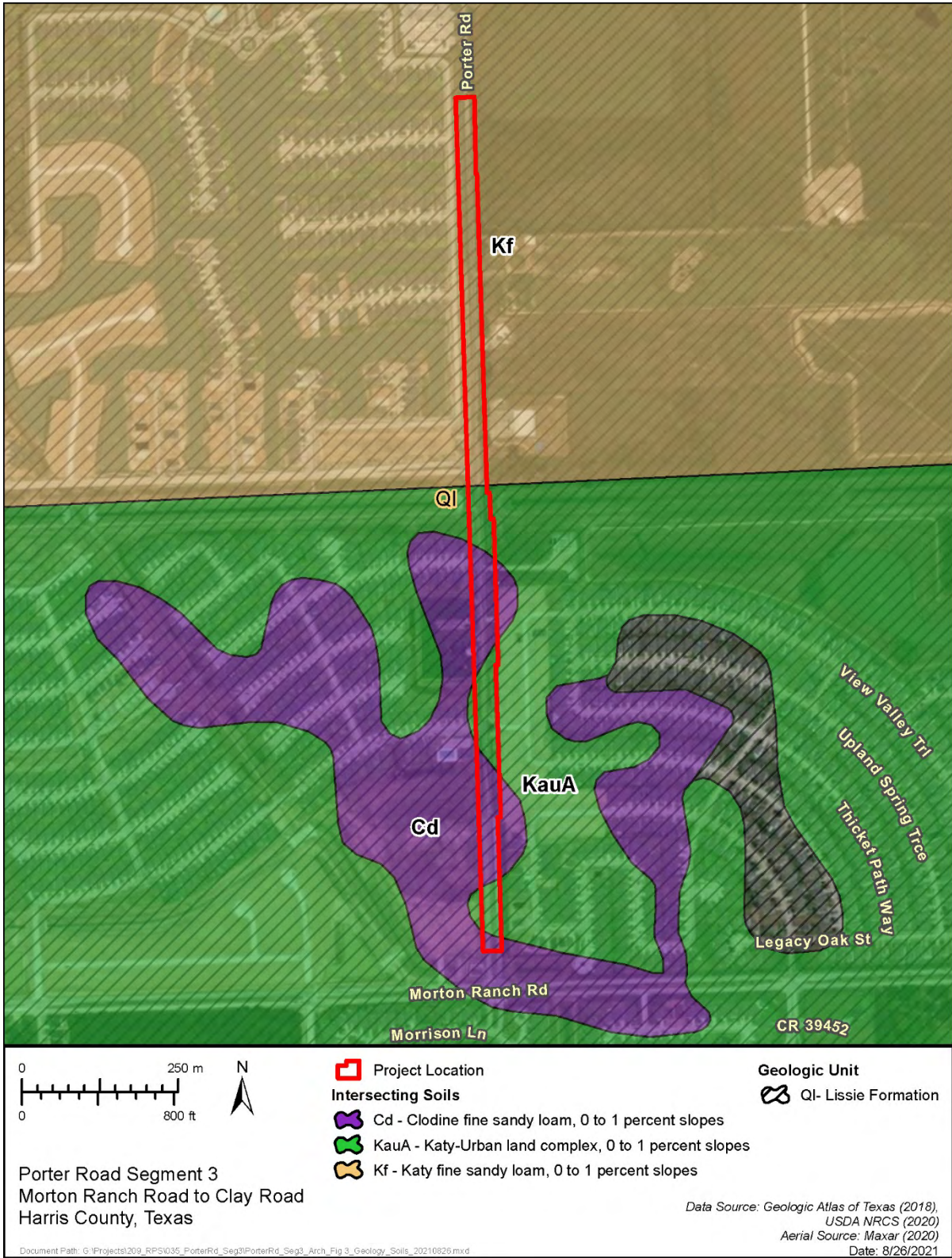


Figure 3. Geologic units and soils in the project area.



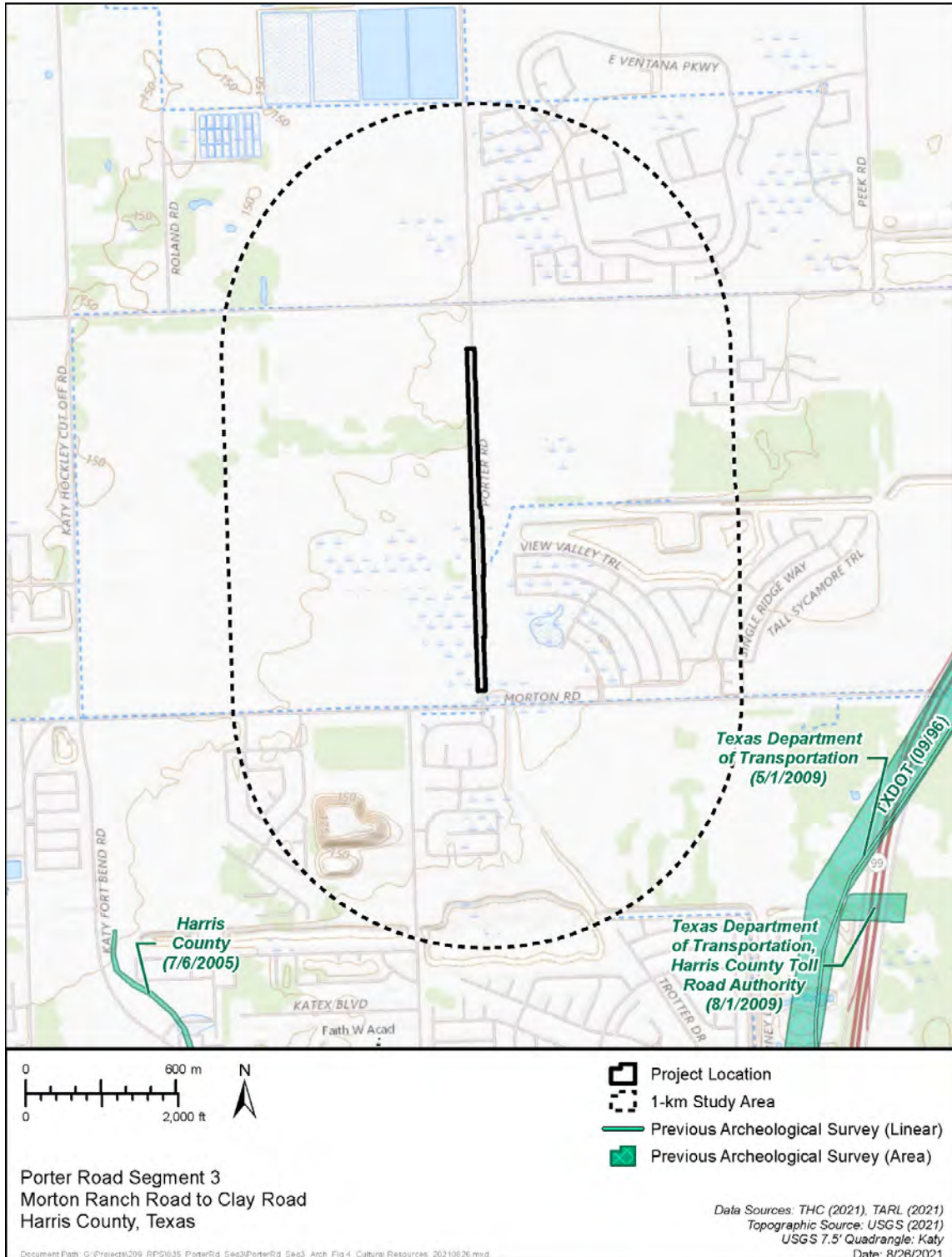


Figure 4. Locations of identified cultural resources and surveys within one kilometer of the project area.

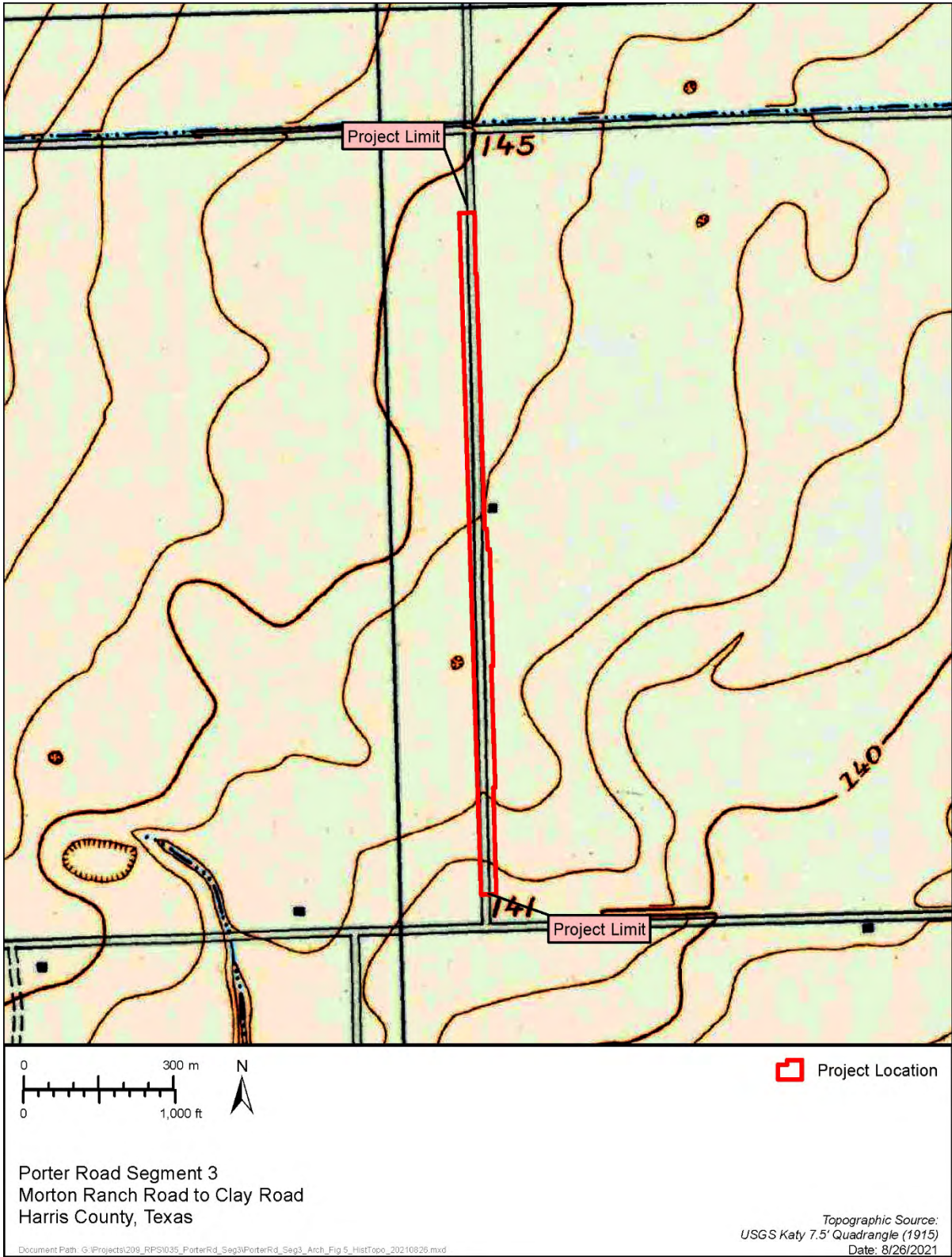


Figure 5. Project area location on a 1915 topographic map.

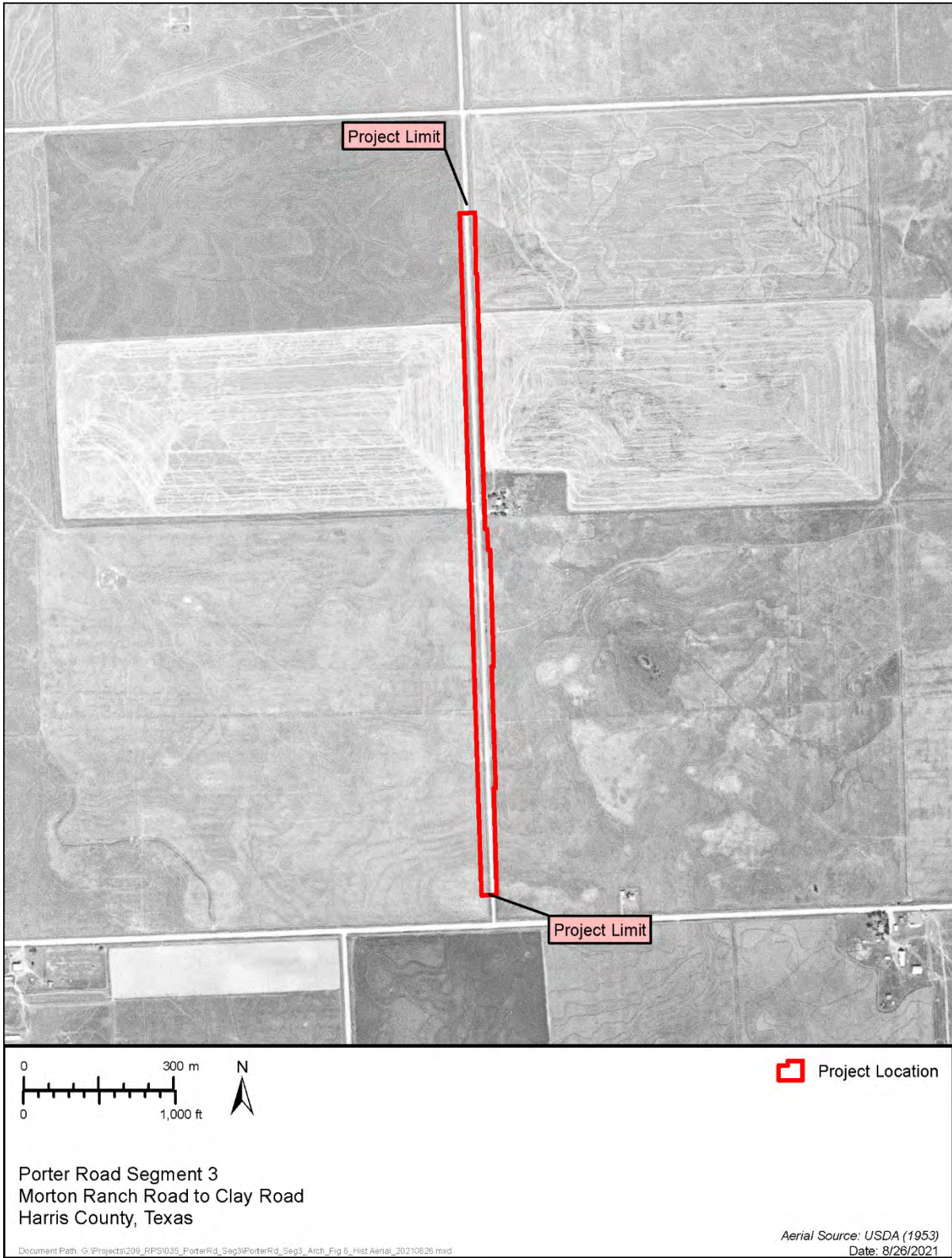


Figure 6. Project area location on a 1953 aerial photograph.