

WORK AUTHORIZATION NO. 03

**WILLIAMSON COUNTY ROAD & BRIDGE PROJECT:
CR 255 Project**

This Work Authorization is made pursuant to the terms and conditions of the Williamson County Contract for Engineering Services, being dated May 5, 2020 and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and **Fugro USA Land, Inc.** (the "Engineer").

Part 1. The Engineer will provide the following Engineering Services set forth in Attachment "B" of this Work Authorization.

Part 2. The maximum amount payable for services under this Work Authorization without modification is \$ 56,086.02.

Part 3. Payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the Contract.

Part 4. This Work Authorization shall become effective on the date of final acceptance and full execution of the parties hereto and shall terminate on January 31, 2024. The Engineering Services set forth in Attachment "B" of this Work Authorization shall be fully completed on or before said date unless extended by a Supplemental Work Authorization.

Part 5. This Work Authorization does not waive the parties' responsibilities and obligations provided under the Contract.

Part 6. County believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Work Authorization. Engineer understands and agrees that County's payment of amounts under this Work Authorization is contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to continue to make payments under this Contract. It is further understood and agreed by Engineer that County shall have the right to terminate this Contract at the end of any County fiscal year if the governing body of County does not appropriate sufficient funds as determined by County's budget for the fiscal year in question. County may effect such termination by giving written notice of termination to Engineer.

Part 7. This Work Authorization is hereby accepted and acknowledged below.

Continued next page

EXECUTED this _____.

ENGINEER:

Fugro USA Land, Inc.

COUNTY:

Williamson County, Texas

By: 

Signature & Date

Osman A. El Menchawi, PhD, PE
Printed Name

Vice President
Title

By: _____
Signature

Printed Name

Title

LIST OF ATTACHMENTS

Attachment A - Services to be Provided by County

Attachment B - Services to be Provided by Engineer

Attachment C - Work Schedule

Attachment D - Fee Schedule

Attachment A

Services to be Provided by the County For CR 255 Project

In general, Williamson County and its representatives to their best efforts will render services as follows:

1. Name, business address, and phone number of County's Project Manager.
2. Assistance to the Engineer, as necessary, with obtaining data and information from other local, regional, State and Federal agencies required for this project.
3. Obtain Rights of Entry from landowners.
4. Provide available appropriate County data on file including plans and specifications that are deemed pertinent to the completion of the work required by the scope of services.
5. Provide available criteria and full information as to the Client's requirements for the project. Provide examples of acceptable format for the required deliverables.
6. Provide information on any meetings/discussions held with adjoining property owners that may impact the project.
7. Provide timely reviews and decisions necessary for the Engineer to maintain the project work schedule. Review recommendations offered by the Engineer, progress of work, and final acceptance of all documents.
8. Support project development efforts with stakeholders, coordinate meetings and interface with stakeholders, as needed.
9. Assist with coordination between the Engineer and the County's other consultants.
10. Provide existing and proposed ROW and easement documents for proposed facilities.
11. Provide an agent as necessary to secure proposed ROW.

Attachment B

Services to be Provided by Engineer For CR 255 Project

PROJECT DESCRIPTION

Project Limits

CR 255; from CR 254 to Ronald Reagan Blvd. for approximately 2.9 miles & about 800 feet along Ronald Reagan Blvd., east of its intersection with CR 255.

Proposed Facility

Reconstruction of an existing 2-lane roadway into part of a proposed ultimate 6-lane roadway with median within the project limits mentioned above as shown on the attached five (5) sheets titled "CR 255 (CR 254 to Ronald Reagan Blvd.) ROW Acquisition Status, Data Date: 10/10/2022". (see Attachment B-1).

GEOTECHNICAL SERVICES

Scope of Work

The proposed scope of work consists of the following tasks:

Task 1 - Geotechnical Exploration

Task 2 - Laboratory Testing

Task 3 – Engineering & Reporting

Discussed below in brief is the scope of services for each task.

Task 1 - Geotechnical Exploration

- Perform geotechnical exploration borings within the proposed project right-of-way as indicated in Attachment B-1. As provided by the Client, the field exploration program will include borings outside the existing pavement structure but within the right-of-way at approximately 1,200-ft intervals. The table below summarizes the boring program based on depths and boring intervals as specified by the Client.

Proposed Boring Plan – CR 255 Project

Structure	No. of Borings*	Proposed Boring Depth (ft.) **	Total Drilling Footage
Pavement	15	14	210
* Additional borings may be needed based on project variability identified during field and/or laboratory testing. **From the existing grade at the boring locations; assuming the proposed pavement profile will mostly be at-grade.			

- The boring locations indicated on Attachment B-1 are subject to change based on access to parcels or the right of entry. HNTB will confirm access before mobilization of drilling equipment.

- Borings will be strategically placed within the area with a right-of-entry permit to avoid using traffic control or vegetation clearing during field geotechnical exploration.
- Perform geotechnical soil exploration at the proposed boring locations (outside the existing pavement structure) along the project alignment following the requested boring layout discussed with and approved by the Client and following general procedures by Williamson County and TxDOT.
- Collect additional bulk soil samples from within the upper 2 feet at select locations for performing lime series testing in the laboratory.

Task 2 - Laboratory Testing

- Perform laboratory tests on soil samples recovered from the borings. As requested, the geotechnical laboratory testing will include performing moisture content tests, Atterberg limit tests, particle size analysis tests, free swell, soluble sulfate content tests, and lime series analyses. All laboratory testing will be performed in general accordance with applicable TxDOT, ASTM, or AASHTO Standards.

Task 3 –Engineering and Reporting

- Provide ground improvement recommendations based on the field testing, laboratory testing, and analysis following the Williamson County Design Criteria Manual for the below-requested items:
 - Evaluation of sulfate content and soil swell potential.
 - Subgrade improvement based on TxDOT Potential Vertical Rise analysis (Tex-124-E).
 - Recommended percent lime for subgrade improvement.

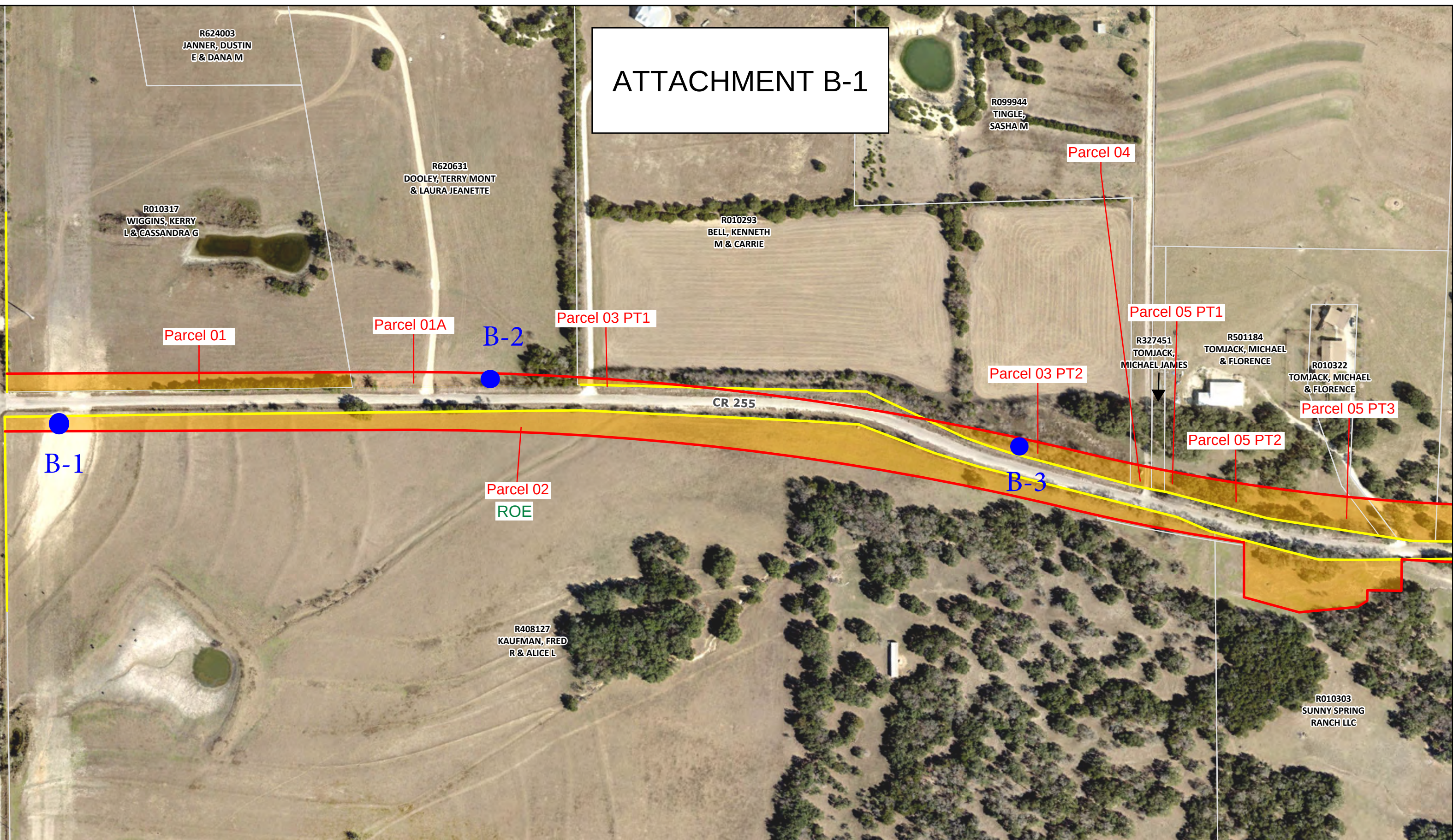
Pavement design is not included in this scope of work.

- Provide a Geotechnical Report for the project evaluated by a professional engineer licensed in the State of Texas. As requested by the Client, the following items will be included in the report: project overview, the scope of work, geology along the project alignment, boring logs (TxDOT Wincore format), field and laboratory test results, description of surface and subsurface conditions, groundwater conditions encountered during the exploration, and subgrade preparation recommendations based on PVR calculations, swell potential evaluations, determination of soluble sulfate content in the soil, and percent lime for subgrade treatment. It is understood that the pavement will be designed by others and Fugro is requested to provide recommendations only for subgrade preparation.

Deliverables:

- Preliminary and Final Geotechnical Report

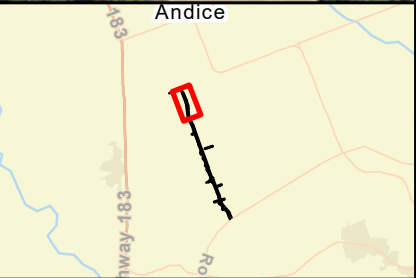
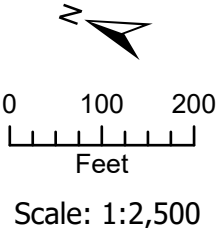
ATTACHMENT B-1



CR 255 (CR 254 to Ronald Reagan Blvd.) ROW Acquisition Status

Date Exported: 10/11/2022
Data Date: 10/10/2022

- EXISTING ROW SURVEYED
- PROPOSED EASEMENT
- PROPOSED ROW
- ROW Acquisition
- Parcels



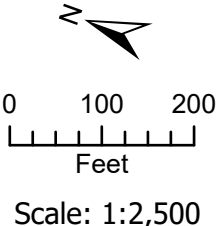
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CR 255 (CR 254 to Ronald Reagan Blvd.) ROW Acquisition Status

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Data Date: 10/10/2022

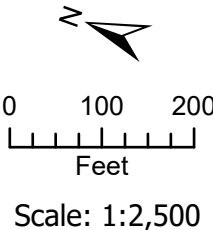
- EXISTING ROW SURVEYED
- PROPOSED EASEMENT
- PROPOSED ROW
- ROW Acquisition
- Parcels





Date Exported: 10/11/2022
Data Date: 10/10/2022

- EXISTING ROW SURVEYED
 PROPOSED EASEMENT
 PROPOSED ROW
 ROW Acquisition
 Parcels



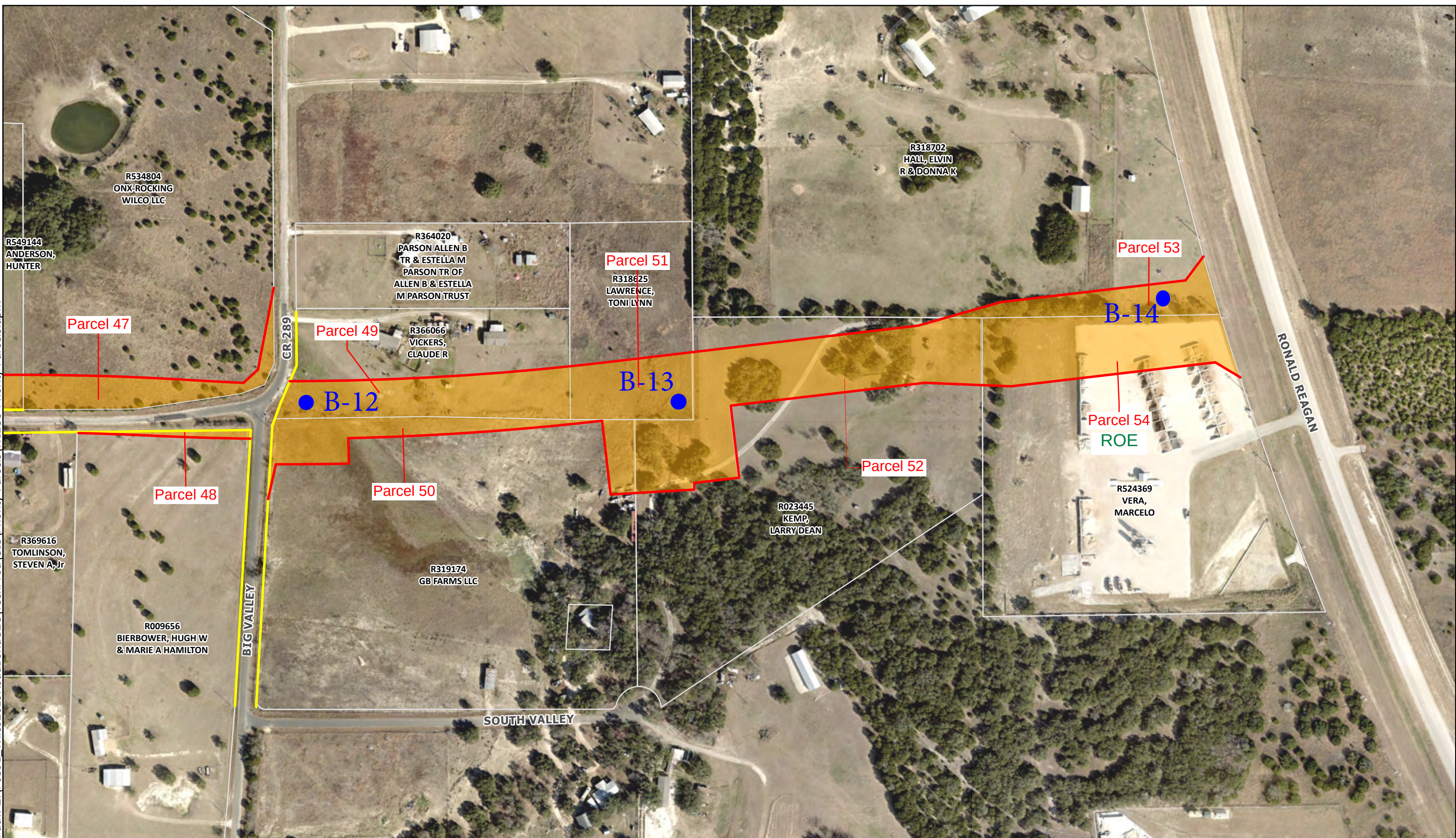


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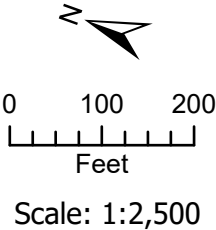
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CR 255 (CR 254 to Ronald Reagan Blvd.)
ROW Acquisition Status

Date Exported: 10/11/2022
Data Date: 10/10/2022

- EXISTING ROW SURVEYED
- PROPOSED EASEMENT
- PROPOSED ROW
- ROW Acquisition
- Parcels





NOT TO SCALE
(Recreated from a Schematic provided by HNTB)

Attachment C

Work Schedule For CR 255 Project

Weather and site conditions permitting, initial site operations can occur within 2 weeks after formal authorization to proceed. A summary of our anticipated durations for each activity is presented in the following table along with a general work schedule overview. Some tasks will run concurrently, others sequentially. We will keep you verbally and electronically informed of our findings as they become available.

Task	Activity	Duration
1	Coordination of Rig Access, Staking of Borings, Permitting, and Utility Location	2 to 3 weeks
	Geotechnical Drilling and Sampling	2 to 3 weeks
2	Laboratory Testing	4 to 5 weeks
3	Engineering Analysis and Preparation of Draft Geotechnical Report	5 to 6 weeks
	Review of Client Comments and Preparation of Final Geotechnical Report	2 weeks

Task	Months				
	1	2	3	4	5
Task 1 - Geotechnical Exploration and Testing					
Task 2 - Laboratory Testing					
Task 3 - Project Management and Reporting					

ATTACHMENT D

CR 255 Project

Structure	No. of Borings*	Proposed Boring Depth (ft.) **	Total Drilling Footage
Pavement	15	14	210
* Additional borings may be needed based on project variability identified during testing.			
**14-ft from the existing grade; assuming proposed pavement profile will mostly be at-grade.			

ATTACHMENT D - Cost Estimate for Geotechnical Exploration and Ground Improvement Recommendations

CR-255 Project
Williamson County, Texas

Task 1 - Geotechnical Exploration		Quantity	Unit	Rate	Subtotal
1.1.1	Mobilization/Demobilization of Drilling Rig	2	each	\$537.30	\$1,074.60
1.1.2.1	Drilling Soil (upto 14 ft. depth) - Continuous sampling to 10 ft.	140	feet	\$26.27	\$3,677.80
1.1.3	Standard Penetration Tests	27	each	\$32.24	\$870.48
1.1.4	TxDOT Cone Penetration Tests	35	each	\$40.60	\$1,421.00
1.1.5.1	Rock Corings - Soft Rock (Austin Chalk)	70	feet	\$35.82	\$2,507.40
1.1.8	Plugging Boreholes with Bentonite	210	feet	\$10.75	\$2,257.50
1.1.12	Dozer/Bobcat Service/Tree Clearing	Not Included	day	\$4,000.00	
1.1.13	Traffic Control Plan	Not Included	each	\$1,500.00	
1.1.14	Traffic Control Service - Minor Project	Not Included	day	\$3,000.00	
1.4.1	Transportation (Local) - Field Visits, Senior Engineering Technician	6	trip	\$95.52	\$573.12
4.3	Project Manager (Coordination)	4	hour	\$232.83	\$931.32
4.4	Project Engineer (Coordination; Property Owners)	16	hour	\$214.92	\$3,438.72
4.9	Senior Engineering Technician (Staking borings, one-call, field logging, project coordination)	48	hour	\$137.31	\$6,590.88
				Subtotal	\$23,342.82
Task 2 - Laboratory Testing		Quantity	Unit	Rate	Subtotal
2.1.1	Bulk-Sample Pick-Up	14	hr	\$71.64	\$1,002.96
2.1.3	Natural Moisture Contents	42	each	\$22.69	\$952.98
2.1.4	Sieve Analysis	28	each	\$83.58	\$2,340.24
2.1.5	Atterberg Limit Determinations	28	each	\$89.55	\$2,507.40
2.1.6	Percent Passing No. 200 Sieve (TEX-111-E)	14	each	\$59.70	\$835.80
2.1.12	Soluble Sulfate (TEX-145 -E)	6	each	\$107.46	\$644.76
2.1.14	Soil-Lime pH Series (TEX-121-E, Part III)	3	each	\$895.49	\$2,686.47
2.1.15	Free Swell Test	5	each	\$149.25	\$746.25
2.1.32	Determine Potential Vertical Rise (TEX-124-E)	14	each	\$89.55	\$1,253.70
3.2	Admin/Clerical/Drafting	6	hour	\$101.49	\$608.94
4.7	Laboratory Manager	6	hour	\$208.95	\$1,253.70
4.8	Graduate Professional	20	hour	\$149.25	\$2,985.00
				Subtotal	\$17,818.20
Task 3 - Engineering, Project Management, and Reporting		Quantity	Unit	Rate	Subtotal
3.2	Admin/Clerical/Drafting	4	hour	\$101.49	\$405.96
4.1	Project Principal	4	hour	\$352.23	\$1,408.92
4.3	Project Manager	12	hour	\$232.83	\$2,793.96
4.4	Project Engineer	48	hour	\$214.92	\$10,316.16
				Subtotal	\$14,925.00
Total Cost Estimate					\$56,086.02