

**EXHIBIT “E”**  
**HIDALGO COUNTY**  
**Agreement #C-21-0519-12-28**  
**Work Authorization Form**

**WORK AUTHORIZATION NO. 1**

**THIS WORK AUTHORIZATION** is made pursuant to the terms and conditions of Section 7 of the Agreement made by and between **HIDALGO COUNTY**, action herein by and through the **Commissioner’s Court**, hereinafter called the “**Owner**,” and, Terrecon Consultants, Inc., hereinafter called “**Engineer**”.

**PART 1. SCOPE OF WORK**

The purpose of this Work Authorization is for the Engineer to provide Geotechnical Testing Services for Precinct 4 Waste Collection Station – Davis Road.

The **Engineer** is to provide the Services as required by the Agreement with Owner for Geotechnical Testing Services. This includes but is not limited to the services identified in **Attachment “A” – Scope of Services to be provided by the Engineer** which is attached hereto and incorporated by reference.

**PART 2. ESTIMATED COST**

The estimated cost for services under this Work Authorization is \$6,979.10. This amount is based upon the costs outlined in the Estimated **Cost Proposal** attached hereto as **Attachment “B”** and **Work Schedule** attached as **Attachment “B-1”**.

**PART 3. PAYMENT**

Compensation and payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the Project Specific Service Agreement between Owner and Engineer.

**PART 4. FUNDING**

This Work Authorization No.1 shall be funded through funding source:

Account No. \_ \_ \_ \_ \_

Requisition Number \_\_\_\_\_ (**MUST BE INCLUDED AFTER CC APPROVAL**)

**PART 5. PERIOD OF SERVICE**

This Work Authorization shall become effective on the date of final acceptance of the parties hereto, and terminate upon completion of the scope of work provided in this work authorization or (DATE).

**PART 6. RESPONSIBILITIES AND OBLIGATIONS**

This Authorization does not waive the parties’ responsibilities and obligations provided under the **Agreement**.

**PART 7. ACKNOWLEDGEMENT AND CONFIRMATION**

Acknowledgment and confirmation by Hidalgo County Precinct No. 4 Commissioner Ellie Torres, as to content and detail of this Work Authorization No. 1.

Approved by Commissioners' Court on March 8, 2022, AI#84895.

**Executive Office:** \_\_\_\_\_

**HIDALGO COUNTY**

**COMMISSIONER PRECINCT No. 4:**

**BY:** \_\_\_\_\_

**PART 8. ACCEPTANCE AND APPROVAL**

This Work Authorization is hereby accepted, approved by Hidalgo County Commissioners' Court on March 8, 2022, as indicated above, and effective as of the 8<sup>th</sup> day of March 2022.

**THE ENGINEER:**  
Terracon Consultants, Inc.

**THE OWNER:**  
HIDALGO COUNTY

\_\_\_\_\_  
By: \_\_\_\_\_  
Print Name

\_\_\_\_\_  
By: Richard F. Cortez, County Judge

**ATTEST:**

\_\_\_\_\_  
By: Arturo Guajardo Jr., County Clerk

## ATTACHMENT A - SCOPE OF SERVICES PROVIDED BY ENGINEER

Our proposed Scope of Services consists of field exploration, laboratory testing, and engineering/project delivery. These services are described in the following sections.

### Field Exploration

The field exploration services are planned to consist of drilling a total of 7 borings at the project site. The borings will be located within the limits of the proposed development area.

Number of Borings	Planned Boring Depth (feet) <sup>1</sup>	Planned Location
7	10	Pavement Areas

1. Below ground surface.

The drilling depths will be based on topographic conditions at the time of our drilling operations.

**Boring Layout and Elevations:** We use handheld GPS equipment to locate borings with an estimated horizontal accuracy of +/-20 feet. Field measurements from existing site features may be utilized. If the location and elevation of each boring requires more precise referencing, a survey firm should be engaged in order to develop this information.

**Subsurface Exploration Procedures:** We will advance the soil borings with a truck-mounted drill rig using continuous flight augers (solid stem and/or hollow stem, as necessary, depending on soil conditions). Five samples will be obtained in the upper 10 feet of each boring and at intervals of 5 feet thereafter. Soil sampling is typically performed using thin-wall tube and/or split-barrel sampling procedures. The split-barrel samplers are driven in accordance with the Standard Penetration Test (SPT). The samples will be placed in appropriate containers, taken to our soil laboratory for testing, and classified by a Geotechnical Engineer. In addition, we will observe and record groundwater levels during drilling and sampling.

Our exploration team will prepare field boring logs to record sampling depths, penetration distances, other relevant sampling information, visual classification of materials encountered during drilling and our interpretation of subsurface conditions between samples.

**Property Disturbance:** We will backfill borings with auger cuttings upon completion. Our services do not include repair of the site beyond backfilling our boreholes. Because backfill material often settles below the surface after a period, we recommend the boreholes be checked periodically and backfilled, if necessary. We can provide these services for additional fees, upon request.

## Proposal for Geotechnical Engineering Services

Precinct 4 Waste Collection Station Davis Road ■ Edinburg, Texas

February 28, 2022 ■ Terracon Proposal No. P88225033



### Safety

Terracon is not aware of environmental concerns at this project site that would create health or safety hazards associated with our exploration program; thus, our Scope considers standard OSHA Level D Personal Protection Equipment (PPE) appropriate. Our Scope of Services does not include environmental site assessment services.

Exploration efforts will require borings into the subsurface, therefore Terracon will comply with local regulations to request the Texas 811 utility location service to locate/mark utilities in public easements. We will consult with the owner/client regarding potential utilities, or other unmarked underground hazards. Based upon the results of this consultation, we will consider the need for alternative subsurface exploration methods, as the safety of our field crew is a priority.

Private utilities should be marked by the owner/client prior to commencement of field exploration. Terracon will not be responsible for damage to private utilities not disclosed to us. If the owner/client is unable to accurately locate private utilities, Terracon can assist the owner/client by coordinating or subcontracting with a private utility locating services. Fees associated with the additional services are not included in our current Scope of Services and will be forwarded to our client for approval prior to initiating. The detection of underground utilities is dependent upon the composition and construction of the utility line; some utilities are comprised of non-electrically conductive materials and may not be readily detected. The use of a private utility locate service would not relieve the owner of their responsibilities in identifying private underground utilities.

**Site Access:** Terracon must be granted access to the site by the property owner. If the client accepts this proposal, without providing information to the contrary, we will consider this as authorization to access the property for conducting field exploration in accordance with the Scope of Services. Consultant will be responsible for supervision and site safety measures for its own employees but shall not be responsible for the supervision or health and safety precautions for any third parties, including Client's contractors, subcontractors, or other parties present at the site. In addition, Consultant retains the right to stop work without penalty at any time Consultant believes it is in the best interests of Consultant's employees or subcontractors to do so in order to reduce the risk of exposure to the coronavirus. Client agrees it will respond quickly to all requests for information made by Consultant related to Consultant's pre-task planning and risk assessment processes. Client acknowledges its responsibility for notifying Consultant of any circumstances that present a risk of exposure to the coronavirus or individuals who have tested positive for COVID-19 or are self-quarantining due to exhibiting symptoms associated with the coronavirus.

### Laboratory Testing

The project engineer will review field data and assign laboratory tests to understand the engineering properties of various soil strata. Exact types and number of tests cannot be defined until completion of field work. The anticipated laboratory testing may include the following:

## Proposal for Geotechnical Engineering Services

Precinct 4 Waste Collection Station Davis Road ■ Edinburg, Texas

February 28, 2022 ■ Terracon Proposal No. P88225033



- Water content
- Atterberg limits
- Grain size analysis

Our laboratory testing program often includes examination of soil samples by an engineer. Based on the material's texture and plasticity, we will describe and classify soil samples in accordance with the Unified Soil Classification System (USCS).

### Engineering and Project Delivery

Results of our field and laboratory programs will be evaluated by a professional engineer. The engineer will develop a geotechnical site characterization, perform the engineering calculations necessary to evaluate foundation alternatives, and develop appropriate geotechnical engineering design criteria for earth-related phases of the project.

Your project will be delivered using our **GeoReport**® system. Upon initiation, we provide you and your design team the necessary link and password to access the website (if not previously registered). Each project includes a calendar to track the schedule, an interactive site map, a listing of team members, access to the project documents as they are uploaded to the site, and a collaboration portal. The typical delivery process includes the following:

- Project Planning - Proposal information, schedule and anticipated exploration plan will be posted for review and verification
- Site Characterization - Findings of the site exploration
- Geotechnical Engineering - Recommendations and geotechnical engineering report

When utilized, our collaboration portal documents communication, eliminating the need for long email threads. This collaborative effort allows prompt evaluation and discussion of options related to the design and associated benefits and risks of each option. With the ability to inform all parties as the work progresses, decisions and consensus can be reached faster. In some cases, only minimal uploads and collaboration will be required, because options for design and construction are limited or unnecessary. This is typically the case for uncomplicated projects with no anomalies found at the site.

When our services are complete, we will upload a printable version of our completed geotechnical engineering report. Previous submittals, collaboration and the report will be maintained in our system. This will allow future reference and integration into subsequent aspects of our services as the project goes through final design and construction.

The geotechnical engineering report will provide the following:

- Boring logs with field and laboratory data

## Proposal for Geotechnical Engineering Services

Precinct 4 Waste Collection Station Davis Road ■ Edinburg, Texas

February 28, 2022 ■ Terracon Proposal No. P88225033



- Stratification based on Unified Soil Classification System (USCS)
- Groundwater levels, if observed during and after the completion of drilling
- Site Location and Exploration Plans
- Subsurface exploration procedures
- Description of subsurface conditions
- Subgrade preparation/earthwork recommendations
- Pavement recommendations

### Additional Services

In addition to the services noted above, the following are often associated with geotechnical engineering services. Fees for services noted above do not include the following:

**Review of Plans and Specifications:** Our geotechnical report and associated verbal and written communications will be used by others in the design team to develop plans and specifications for construction. Review of project plans and specifications is a vital part of our geotechnical engineering services. This consists of review of project plans and specifications related to site preparation, foundation, and pavement construction. Our review will include a written statement conveying our opinions relating to the plans and specifications' consistency with our geotechnical engineering recommendations.

**Observation and Testing of Pertinent Construction Materials:** Development of our geotechnical engineering recommendations and report relies on an interpretation of soil conditions. This is based on widely spaced exploration locations, and assuming construction methods will be performed in a manner sufficient to meet our expectations and is consistent with recommendations made at the time the geotechnical engineering report is issued. We should be retained to conduct construction observations, and perform/document associated materials testing, for site preparation, foundation, and pavement construction. This allows a more comprehensive understanding of subsurface conditions and necessary documentation of construction, to confirm and/or modify (when necessary) the assumptions and recommendations made by our engineers.

**Perform Environmental Assessments:** Our Scope for this project does not include, either specifically or by implication, an environmental assessment of the site intended to identify or quantify potential site contaminants. If the client/owner is concerned about the potential for such conditions, an environmental site assessment should be conducted. We can provide a proposal for an environmental assessment, if desired.

## ATTACHMENT B - COMPENSATION AND PROJECT SCHEDULE

### Compensation

Based upon our understanding of the site, the project as summarized in Exhibit A, and our planned Scope of Services outlined in Exhibit B, our base fee is shown in the following table:

Task	Lump Sum Fee
Subsurface Exploration, Laboratory Testing and Geotechnical Report	\$6,979.10

Additional services not part of the base fee include the following:

Additional Services (see Exhibit B)	Lump Sum Fee	Initial for Authorization
Private Utility Locate Service <sup>1</sup>	\$2,500	
Plans and Specifications Review	\$500	
Site Clearing Services	\$2,200	
Construction Materials Testing Services	TBD	

1. If the owner/client is unable to accurately locate private utilities, we can subcontract a private utility locating firm and/or utilize geophysical equipment, if necessary. The detection of underground utilities is dependent upon the composition and construction of utility lines. Some utilities are comprised of non-electrically conductive materials and may not be readily detected. The use of a private locate service does not relieve the owner of their responsibilities in identifying private underground utilities.

Our Scope of Services does not include services associated with site clearing, wet ground conditions, tree or shrub clearing, or repair of/damage to existing landscape or crops. If such services are desired by the owner/client, we should be notified so we can adjust our Scope of Services. If borings are performed when crops are planted, a crop damage agreement should be established between the Client and crop owner prior to subsurface exploration.

Unless instructed otherwise, we will submit our invoice(s) to the address shown at the beginning of this proposal. If conditions are encountered that require Scope of Services revisions and/or result in higher fees, we will contact you for approval, prior to initiating services. A supplemental proposal stating the modified Scope of Services as well as its effect on our fee will be prepared. We will not proceed without your authorization.

### Project Schedule

We developed a schedule to complete the Scope of Services based upon our existing availability and understanding of your project schedule. However, this does not account for delays in field exploration beyond our control, such as weather conditions, permit delays, or lack of permission



to access the boring locations. In the event the schedule provided is inconsistent with your needs, please contact us so we may consider alternatives.

<b>GeoReport® Delivery</b>	<b>Posting Date from Notice to Proceed <sup>1, 2</sup></b>
Project Planning	5 days
Site Characterization	15 days
Geotechnical Engineering	28 days

1. Upon receipt of your notice to proceed we will activate the schedule component of our **GeoReport®** website with specific, anticipated calendar days for the three delivery points noted above as well as other pertinent events such as field exploration crews on-site, etc.
2. We will maintain a current calendar of activities within our **GeoReport®** website. In the event of a need to modify the schedule, the schedule will be updated to maintain a current awareness of our plans for delivery.

## ATTACHMENT B-1

### Detailed Breakdown of the Work Phases

COST WORKSHEET:		Total:		\$6,979.10		2/28/2022 10:49	
# of Borings	Depth of Borings	Footage	# of Samples				
7	10	70 ft	35	Project Name - Precinct 4 Waste Collection Station Davis Road Project Location - Davis Road & Alamo Road City/State - Edinburg, Texas Proposal Number - P88225033			
0	0	0 ft					
0	0						
0	0						
0	0						
0	0						
<b>7 Boring(s)</b>		<b>Subtotal: 70 ft</b>	<b>35 Samples</b>				
<b>Drilling/Field</b>				<b>Total</b>			
Local Mobilization	1.0	day(s)	\$300.00	/day	300.00		
Driller Per Diem for 2 People/day	0	day(s)	\$300.00	/day	0.00		
Straight Flight Auger	70	feet	\$10.50	/ft	735.00		
Borings over 50 feet	0	feet	\$12.00	/ft	0.00		
Add. Charge for Rock Coring	0	feet	\$32.00	/ft	0.00		
Field Tech to Stake Boring(s)	2	hour(s)	\$60.00	/hr	120.00		
Logger Trip to Site	8	hour(s)	\$60.00	/hr	480.00		
Mileage-Logger	20	miles	\$0.58	/mile	11.60		
Add. Field Tech Time in Field	2	hour(s)	\$60.00	/hr	120.00		
Utility Clearance	1	hour(s)	\$60.00	/hr	60.00		
Boring Backfill	1	hour(s)	\$180.00	/hr	180.00		
Backhoe for Path Access	0	day(s)	\$2,200.00	/day	0.00		
Water Reading(s)	2	hour(s)	\$60.00	/hr	120.00		
Drilling Permit(s)	\$0.00	Permit Cost - Lump Sum			0.00		
Staff Engineer (EIT) in Field	0	hour(s)	\$110.00	/hr	0.00		
Project Manager in Field	0	hour(s)	\$135.00	/hr	0.00		
Principal in Field/hr	0	hour(s)	\$160.00	/hr	0.00		
<b>Subtotal</b>					<b>\$2,126.60</b>		
<b>Laboratory Testing</b>				<b>Total</b>			
Moisture Content	35	test(s)	\$9.50	/test	\$332.50		
Dry Density	0	test(s)	\$30.00	/test	\$0.00		
- 200	13	test(s)	\$55.00	/test	\$715.00		
Sieve Analysis (Gradation)	0	test(s)	\$100.00	/test	\$0.00		
Atterberg Limit	15	test(s)	\$75.00	/test	\$1,125.00		
Swell	0	test(s)	\$165.00	/test	\$0.00		
Unconfined Compression	0	test(s)	\$50.00	/test	\$0.00		
Unconsolidated Undrained	0	test(s)	\$90.00	/test	\$0.00		
Rock Compression	0	test(s)	\$55.00	/test	\$0.00		
Hydrometer	0	test(s)	\$265.00	/test	\$0.00		
Triaxial	0	test(s)	\$450.00	/test	\$0.00		
Consolidated Unconfined	0	test(s)	\$450.00	/test	\$0.00		
Hydraulic Conductivity (Perm)	0	test(s)	\$350.00	/test	\$0.00		
<b>Subtotal</b>					<b>\$2,172.50</b>		
<b>Engineering Report/Time</b>				<b>Total</b>			
Senior Principal	2	hour(s)	\$175.00	/hr	\$350.00		
Principal	4	hour(s)	\$160.00	/hr	\$640.00		
Project Manager/Engineer	4	hour(s)	\$135.00	/hr	\$540.00		
Staff Engineer (EIT)	8	hour(s)	\$110.00	/hr	\$880.00		
CADD Technician	2	hour(s)	\$45.00	/hr	\$90.00		
Project Secretary	4	hour(s)	\$45.00	/hr	\$180.00		
<b>Subtotal</b>					<b>\$2,680.00</b>		
<b>Total:</b>					<b>\$6,979.10</b>		

