

**EXHIBIT "D"**  
**HIDALGO COUNTY**  
**Agreement #C-20-071-01-28**  
**Work Authorization Form**

**WORK AUTHORIZATION NO. 2**

**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, Terracon Consultants, Inc., hereinafter called "**Engineer**".

**PART 1. SCOPE OF WORK**

The purpose of this Work Authorization is for the **Engineer** to provide Construction material testing services for the Precinct 2 Minnesota Road (Raul Longoria to 265' West of Cesar Chavez Road) Project.

The **Engineer** is to provide the Services as required by the Agreement with Owner for Geo-Technical and Construction Material Testing. This includes but is not limited to the services identified in **EXHIBIT "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 **\$6,530.50**. This amount is based upon the costs outlined in the Estimated **Cost Proposal** attached hereto as **EXHIBIT "B"**.

**PART 3. PAYMENT**

Compensation and payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the On-Call Services Agreement between Owner and Engineer.

**PART 4. FUNDING**

This Work Authorization No. 2 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.

**PART 6. RESPONSIBILITIES AND OBLIGATIONS**

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

**PART 7. ACKNOWLEDGEMENT AND CONFIRMATION**

Acknowledgement and confirmation by Hidalgo County Precinct No. 2 Commissioner Eduardo Cantu, as to content and detail of this Work Authorization No. 2.

**HIDALGO COUNTY  
COMMISSIONER PRECINCT No. 2:**

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

**PART 8. ACCEPTANCE AND APPROVAL**

This Work Authorization is hereby accepted, approved by Hidalgo County Commissioners' Court on \_\_\_\_\_ as indicated below and effective as of \_\_\_\_ day of \_\_\_\_\_, 2020.

**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

## EXHIBIT "A"

Scope of Services to be provided by the Engineer  
Terracon Proposal No. P88205029

### Site Location and Anticipated Conditions

Item	Description
Parcel Information	The project site is located along Minnesota Road between Raul Longoria and Cesar Chavez Road in San Juan, Texas.
Existing Improvements	Existing asphalt pavements to be demolished and reconstructed.
Current Ground Cover	Existing asphalt pavements.
Existing Topography	Relatively flat and level.
Site Access	We expect the site, and all exploration locations, are accessible with our truck-mounted drilling equipment.

### Planned Construction

Item	Description
Project Description	About 6,000 linear feet of new asphalt pavements
Pavements	Only flexible (asphalt) pavement sections may be considered.

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 program consists of the following:

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

<sup>1</sup>. Below ground surface.

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

**Boring Layout and Elevations:** We will 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 locations and elevation of each boring requires more precise referencing, a survey firm should be engaged in order to develop the necessary information.

**Subsurface Exploration Procedures:** We advance 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 are obtained in the upper 10 feet of each boring. Soil sampling is typically performed using thin-wall tube and/or split-barrel sampling procedures. The samples are placed in appropriate containers, taken to our soil laboratory for testing, and classified by a geotechnical engineer. In addition, we observe and record groundwater levels during drilling and sampling.

Our exploration team prepares field boring logs as part of standard drilling operations, these include sampling depths, penetration distances, and other relevant sampling information. Field logs include visual classifications of materials encountered during drilling, and our interpretation of subsurface conditions between samples. Final boring logs, prepared from field logs, represent the geotechnical engineer's interpretation, and include modifications based on observations and laboratory tests.

**Property Disturbance:** We backfill borings with auger cuttings after completion and patch with cold-mix asphalt. 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 boreholes are checked periodically and backfilled, if necessary. We can provide this service, or grout the holes for additional fees, at your request.

## **Safety**

We understand Hidalgo County will provide Traffic Control services during the duration of drilling operations. Fees associated with these additional services are not included in our current scope of services and will be forwarded to our client for approval prior to initiating.

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, but identification of unusual or unnatural materials encountered while drilling will be noted on our logs and discussed in our report.

Exploration efforts require borings (and possibly excavations) into the subsurface, therefore Terracon will comply with local regulations to request a utility location service Texas 811. 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 these 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. By acceptance of this proposal, without information to the contrary, we consider this as authorization to access the property for conducting field exploration in accordance with the Scope of Services.

### **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:

- 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 services are complete, we upload a printable version of our completed geotechnical engineering report, including the professional engineer's seal and signature, which documents our services. Previous submittals, collaboration and the report are maintained in our system. This allows 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
- Stratification based on USCS
- Groundwater levels 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 design guidelines

### **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.

**EXHIBIT "B"**  
 Estimated Cost Proposal  
 Terracon Proposal No. P88205029

Our fee estimate is in accordance with the time and tests performed as shown below.

<b>Description of Services</b>	<b>Extended Subtotal</b>
1. Utility Clearance - Site Reconnaissance Visit (Lump Sum)	\$ 250.00
2. Mobilization/Demobilization of Crew and Equipment (Lump Sum)	\$ 300.00
3. Drill 7 Borings to 10 feet	
a. Estimate 70 feet Soil Drilling at \$10.50 per foot	\$ 735.00
b. Field Supervisor, Estimate 8 hours at \$75.00 per hour	\$ 600.00
c. Asphalt Coring, Estimate 3 hours at \$55.00 per hour	\$ 165.00
c. Asphalt Patching, Estimate 7 locations at \$44.00 each	\$ 308.00
<b>Subsurface Investigation Total:</b>	<b>\$ 2,358.00</b>
4. Assume 35 Samples Recovered:	
a. Moisture Content, Estimate 35 Tests at \$9.50 each	\$ 332.50
b. Percent Finer than No. 200 Sieve, Estimate 12 Tests at \$55.00 each	\$ 660.00
c. Atterberg Limits, Estimate 14 Tests at \$75.00 each	\$ 1,050.00
<b>Laboratory Testing Total:</b>	<b>\$ 2,042.50</b>
5. Engineering Analysis and Reports	
a. Principal Engineer: 2 Hours at \$175.00 per hour	\$ 350.00
b. Project Manager: 6 Hours at \$135.00 per hour	\$ 810.00
c. Project Engineer: 8 Hours at \$110.00 per hour	\$ 880.00
d. Project Secretary: 2 Hours at \$45.00 per hour	\$ 90.00
<b>Geotechnical Consulting &amp; Reporting Total:</b>	<b>\$ 2,130.00</b>
<b>TOTAL:</b>	<b>\$ 6,530.50</b>

- Additional mobilization (truck-mounted rig) will be charged at rate shown above
- Additional per diem for delays at above rate per day
- Additional drilling deeper than 25 feet (up to 50 feet) will be charged per foot at rate shown above (drilling only; does not include backfill with grout, field hours, laboratory testing, nor engineering time).
- Our fee assumes all boring and test locations will be accessible at the same time.
- Traffic Control Services: \$2,750.00

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.