

HIDALGO COUNTY
Professional Engineering Services
Contract # C-18-221-08-28
Work Authorization Form

WORK AUTHORIZATION NO. 8

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions of Section 4. 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., professional engineers of Pharr, Texas, hereinafter called "**Engineer**".

PART 1. SCOPE OF WORK

The purpose of this Work Authorization is for the **Engineer** to provide geotechnical engineering and construction material testing services for Hidalgo County Precinct # 2 All-Inclusive Park

The scope of services to be provided by the **Owner** is identified in **EXHIBIT "A" - Scope of Services to be Provided by the Owner** attached hereto.

The scope of services to be provided by the **Engineer** is identified in **EXHIBIT "B" - Scope of Services to be Provided by the Engineer** attached hereto.

PART 2. ESTIMATED COST

The estimated cost for services under this Work Authorization is **\$ 12,000.00**. This amount is based upon the costs outlined in the Estimated **Cost Proposal** attached hereto as **EXHIBIT "D"**.

PART 3. PAYMENT

Compensation and payment to the Engineer for the services established under this Work Authorization shall be made in accordance with **Article/Part/Section** _____ of the Agreement.

PART 4. FUNDING

This Work Authorization No. 8 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 project completion as indicated in the "Exhibit C-Work Schedule".

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 #2**, as to content and detail of this **Work Authorization No. 8**.

HIDALGO COUNTY PRECINCT #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 _____, 2019.

THE ENGINEER:
Terracon Consultants, Inc.

THE OWNER:
HIDALGO COUNTY

By: Jorge A. Flores, P.G.

By: Richard Cortez, County Judge

ATTEST:

By: Arturo Guajardo, Jr., County Clerk

LIST OF ATTACHMENTS

- EXHIBIT "A" - Service to be Provided by the Owner
- EXHIBIT "B" - Services to be Provided by the Engineer
- EXHIBIT "C" - Work Schedule
- EXHIBIT "D" - Cost Proposal

EXHIBIT "A"

Services to be Provided by County

The following provides an outline of the services to be provided by the Owner in the development of Projects (as defined and more particularly identified in Exhibit "A" attached to this Agreement).

General:

The Owner will provide to the Laboratory the following:

- 1) Provide the authorization to proceed with services through coordination with the project consulting and design Laboratory.
- 2) Payment for work performed by the Laboratory and accepted by the Owner in accordance with Article 3 of this Agreement.
- 3) Assistance to the Laboratory, as necessary, to obtain the required data and information from other local, regional, State and Federal agencies the Laboratory cannot easily obtain.
- 4) Provide any available relevant data the Owner may have on file concerning the projects.
- 5) Provide timely review and decisions in response to the Laboratory's request for information and/or required submittals and deliverables, in order for the Laboratory to maintain the agreed upon work schedule prepared in accordance with Exhibit "A" attached to this Agreement.
- 6) Attend and participate in progress meetings as required and as coordinated and conducted by Laboratory.
- 7) Provide the authorization to proceed with services on project by project basis through consulting design and construction Laboratory.

EXHIBIT “B”

Scope of Services to be provided by the Engineer

1.0 PROJECT UNDERSTANDING

Our Scope of Services is based on our understanding of the project as described by Hidalgo County Pct. 2 and the expected subsurface conditions as described below. We have not visited the project site to confirm the information provided. Aspects of the project, undefined or assumed, are highlighted as shown below. We request the design team verify all information prior to our initiation of field exploration activities.

1.1 Site Location and Anticipated Conditions

Item	Description
Parcel Information	The project site is located on the southeast quadrant of Dicker Road and McColl Road in Pharr, Texas. Approx. GPS coordinates: Latitude/Longitude: 26.124766° -98.224818°. (See Exhibit D)
Existing Improvements	Undeveloped land.
Current Ground Cover	Native grass and bare soils.
Existing Topography	Relatively flat and level.
Site Access	We expect the site, and all exploration locations, are accessible with our truck-mounted drilling equipment.
Expected Subsurface Conditions	Based on the Geologic Atlas of Texas, McAllen – Brownsville prepared by The University of Texas, the site is located on the Alluvium Formation of the Holocene (Recent) Period of the Quaternary Age. Floodplain deposits, lower course of Rio Grande, are divided into areas dominantly mud and areas dominantly silt and sand. All other areas are alluvium undivided, except for some areas where tidal flat areas are mapped. The soils are mostly composed of clay, silt, sand, gravel and organic matter. The silt and sand are described as calcareous and dark gray to dark brown in color. The sand is mostly quartz and the gravel along Rio Grande include sedimentary rocks from the Cretaceous and Tertiary and a wide variety of igneous and sedimentary rocks from Trans-Pecos Texas, Mexico, and New Mexico including agate. The gravel in side streams of the Rio Grande is mostly Tertiary rocks and chert derived from Uvalde Gravel which caps divide.

1.2 Planned Construction

Item	Description
Information Provided	By Hidalgo County Pct. 2 via email on 4/9/2019
Project Description	The project will include the construction of a playground, splash pad and canopy.

2.0 SCOPE OF SERVICES

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

2.1 Field Exploration

The field exploration program consists of the following:

Number of Borings	Planned Boring Depth (feet) ¹	Planned Location
4 - 5	15 - 20	All Inclusive Park

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 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 and at intervals of 5 feet thereafter. 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. 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.

2.2 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, 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.

2.3 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
- Unconfined compressive strength

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).

2.4 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 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
- Recommended foundation options and engineering design parameters
- Estimated settlement of foundations
- Recommendations for design and construction of floor slabs
- Seismic site classification (IBC)
- Subgrade preparation/earthwork recommendations

2.5 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.

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 “C”

Work 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.

Geotechnical Work Schedule

GeoReport® Delivery	Posting Date from Notice to Proceed ^{1, 2}
Project Planning	5 days
Site Characterization	15 days
Geotechnical Engineering	25 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.

Construction Materials Testing Work Schedule

Terracon’s Construction Materials Testing work schedule is directly related to the contractor’s scheduling and performance. It is the responsibility of the contractor or your designated representative to notify Terracon, in advance (minimum of 24 hour notice), for testing services required on this project. Our services will be performed on an as requested basis.

EXHIBIT "D"
Estimated Cost Proposal

Geotechnical

Task	Lump Sum Fee
Subsurface Exploration, Laboratory Testing, Geotechnical Consulting & Reporting	\$4,315
SubTotal:	\$4,315

Construction Materials Testing

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

Earthwork Observation/Testing				
Service	Quantity	Unit	Unit Rate	Estimate
Moisture/Density Curve of Soil (ASTM D698 & D1557)	2	Each	\$ 225.00	\$ 450.00
Atterberg Limits (ASTM D4318)	2	Each	\$ 75.00	\$ 150.00
Percent Finer than No. 200 Sieve	2	Each	\$ 55.00	\$ 110.00
Nuclear Density Test	30	Each	\$ 11.50	\$ 345.00
Engineering Technician	34	Hour	\$ 45.00	\$ 1,530.00
Vehicle Trip Charge	12	Per Trip	\$ 30.00	\$ 360.00
Concrete Testing				
Service	Quantity	Unit	Unit Rate	Estimate
Engineering Technician	60	Hour	\$ 45.00	\$ 2,700.00
Concrete Cylinders	60	Each	\$ 14.50	\$ 870.00
Vehicle Trip Charge	24	Per Trip	\$ 30.00	\$ 720.00
CME Project Management	5	Hour	\$ 90.00	\$ 450.00
			SubTotal:	\$ 7,685.00

Geotechnical and Construction Materials Testing Estimated Cost Proposal Total - \$12,000

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

1 of 1

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY CERTIFICATION OF FILING

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

Terracon Consultants, Inc.
Pharr, TX United States

Certificate Number:
2019-511123

Date Filed:
06/27/2019

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

Hidalgo County

Date Acknowledged:

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

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Geotechnical Engineering and Construction Materials Testing Services for Hidalgo County Precinct #2 All Inclusive Park Project Work Authorization 8

4	Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
			Controlling	Intermediary
	Anderson, Tim	Tempe, AZ United States	X	
	Covert, Michael	Olathe, KS United States	X	
	Cobb, Harold	Houston, TX United States	X	
	Pavlicek, Robert	Raleigh, NC United States	X	
	O'Grady, Michael	Olathe, KS United States	X	
	Packer, Gayle	Olathe, KS United States	X	

5 Check only if there is NO Interested Party.

6 UNSWORN DECLARATION

My name is Jorge A. Flores, P.G., and my date of birth is 10-20-1972.

My address is 1506 Mid Cities Drive, Pharr, TX, 78577, USA.
(street) (city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in Hidalgo County, State of Texas, on the 27th day of June, 2019.
(month) (year)



Signature of authorized agent of contracting business entity
(Declarant)