



# L & G Engineering

Consulting Engineers

December 12, 2014

Commissioner Joseph Palacios  
Attn: Ms. Maria (Lulu) Lucio  
Hidalgo County, Precinct No. 4  
1102 N. Doolittle Rd.  
Edinburg, TX. 78539

**RE: Work Authorization No. 1 – “Hoehn Subdivision Sanitary Sewer Improvements” Project**

Dear Ms. Lucio:

**L&G Engineering (L&G)**, is providing you two (2) signed original work authorization forms for Geotechnical Engineering Services for the referenced project as per your request. We are attaching the following in duplicate:

- Work Authorization No. 1
- The Scope of Services (Owner) (Attachment A)
- The Scope of Services (Engineer) (Attachment B).
- Work Schedule (Attachment C)
- Project Cost Proposal (Attachment D)

**L & G Engineering** appreciates the opportunity to submit **Work Authorization No. 1** and look forward to working with **Hidalgo County Pct. 4**. If I may be of any additional assistance or any additional information is required, please feel free to contact me at 956-565-0760 or 956-463-2008.

Sincerely,  
L&G ENGINEERING

Ricardo A. Gil  
General Manager

Attachments

**HIDALGO COUNTY**  
**Professional Engineering Services**  
**Contract # C-14-330-09-09**  
**Work Authorization Form**

**WORK AUTHORIZATION NO. 1**

**THIS WORK AUTHORIZATION** is made pursuant to the terms and conditions of Section I.A. of the Agreement made by and between **HIDALGO COUNTY**, action herein by and through the **Commissioner's Court**, hereinafter called the "**Owner**," and **L&G ENGINEERING** professional engineers of \_\_\_\_\_ Texas, hereinafter called "**Engineer**".

**PART 1. SCOPE OF WORK**

The purpose of this Work Authorization is for the **Engineer** to provide **Geotechnical Engineering Services for the "Hoehn Subdivision Sanitary Sewer Improvements" Project located in Hidalgo County Precinct No. Four (4)**

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 **\$16,217.19**. 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 5.1 of the Agreement.

**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 scopes of the 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**

Acknowledgement and confirmation by Hidalgo County Precinct No. 4 Commissioner Joseph Palacios as to content and detail of this Work Authorization No. # 1.

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 \_\_\_\_\_, 2014 as indicated below and effective as of the \_\_\_\_ day of \_\_\_\_\_, 2014.

THE ENGINEER:  
L&G ENGINEERING LABORATORY, LLC

THE OWNER:  
HIDALGO COUNTY

\_\_\_\_\_  
By: Jacinto Garza, P.E.

\_\_\_\_\_  
Hon. Ramon Garcia, County Judge

ATTEST:

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

**LIST OF ATTACHMENTS**

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

**ATTACHMENT "A"**  
**Scope of Services (Owner)**

***PROJECT: "Hoehn Subdivision Sanitary Sewer Improvements" Project in Hidalgo County Precinct No. Four (4)***

***SERVICES TO BE PROVIDED BY OWNER***

The County of Hidalgo will provide **L&G Engineering** with **Documents, Plans, and Specifications** for the ***"Hoehn Subdivision Sanitary Sewer Improvements" Project in Precinct No. 4 Project.***

## ATTACHMENT "B" Scope of Services

**PROJECT: Geotechnical Engineering Services for the "Hoehn Subdivision Sanitary Sewer Improvements" Project in Hidalgo County Pct. No. 4.**

### **GENERAL SCOPE OF WORK**

The Scope of Work will entail providing **The County of Hidalgo** with **Geotechnical Engineering Services**.

The Scope of Work is identified as follows:

- **Geotechnical Engineering Services**

L&G Engineering will furnish all equipment, materials, supplies, and incidentals as needed to perform the services required by this Contract: The work is as follows:

### **Geotechnical Engineering Services**

#### **Geotechnical Drilling Services**

**L&G Engineering** will provide drilling services for **Hidalgo County Pct. No. 4**. Soil samples will be removed from the sample apparatus during drilling operations. One of our geologists or engineering technicians will conduct various field tests on the recovered samples, visually classify the samples, and record the appropriate data on a field boring log. The samples will be appropriately packaged to minimize loss of their natural moisture content and to reduce the possibility of damage during transportation to our soils laboratory for testing. The tests performed on these samples will include Moisture Content, Liquid Limit, Plastic Limit, Plasticity Index and Materials Finer than No. 200. Unconfined Compressive Strength and Dry Unit Weight tests will be performed as necessary to provide detailed description of undisturbed samples.

Drilling services will also include a 24-hour water level reading at each boring location. Piezometers, when required, will be installed to maintain the integrity of the borehole overnight or over a weekend. Following completion of drilling, sampling, and subsurface water monitoring operations, all boreholes will be backfilled with soil cuttings from the completed borings. If enough soil cuttings are unavailable, clean sand will be used to backfill the completed boreholes. If a piezometer is installed, the pipe will be removed following the water level readings and the borehole backfilled as described above.

Once all of the Engineering Properties of the soils have been determined, the final Log of Boring is created using the field and laboratory data. Included in the Log of Boring are THD Penetrometer Blow Counts, actual Moisture Contents, Plasticity Indices, and other laboratory test data obtained during the laboratory testing phase of the project. Proper description and location of strata, ground water elevations and test hole elevations will also be included in the Log of Boring.

## Engineering Services

Engineering analyses will be conducted after reviewing the results of both the field and laboratory phases of the study. The findings and conclusions derived from the analyses will be presented in a written engineering report which will be prepared by the engineer. The report will include a boring location plan, boring logs with laboratory classification of recovered soil samples and subsurface water conditions encountered. The report will provide engineering recommendations for:

- Pier capacity curves; and
- Soil parameters that may be used in designing the foundations for the planned structures.

The geotechnical report will provide general comments and applicable recommendations regarding construction methods, sequences, and potential difficulties that may arise during overall construction as it relates to the soil and foundation aspects of this project. This information may serve to guide foundation selection and design and assist in the preparation of specifications for the project.

This contract **does not** include activities and corresponding costs that may be associated with the following:

- Providing an ATV mounted drill rig, dozer or special equipment to clear areas of vegetation and debris or to re-grade the site to gain access to the boring locations;
- Re-grading the site or portions of the site after drilling activities are completed;
- Site safety meetings that may be required; or
- Encountering hazardous or contaminated soils or substances during our field activities.

**Hidalgo County Pct. No. 4** will be notified should these services become necessary for the completion of field exploration activities.

This proposal **does** include activities and corresponding costs that may be associated with locating buried utilities or pipelines as follows:

- Providing PVC pipe for water level readings; and
- Clearing the boring locations for underground utilities.

**Hidalgo County Pct. No. 4** will be responsible for obtaining any necessary permits or authorization to egress areas where the borings are to be drilled.

**Schedule**

Based on the requested services, it is estimated that the drilling operations can take approximately two (2) to three (3) days to complete. We anticipate that drilling operations can usually begin within two (2) to three (3) days following notice to proceed, staking of the borings, clearing the boring locations of utilities and site and weather conditions permitting. The report and engineering analyses should generally be completed within two (2) weeks after completion of the drilling operations.

**ATTACHMENT “C”  
Work Schedule**

***PROJECT:*** Geotechnical Engineering Services for the “*Hoehn Subdivision Sanitary Sewer Improvements*” Project in Hidalgo County Pct. No. 4.

***Work Schedule***

**L&G Engineering** will provide **Hidalgo County Pct. # 4** with **Geotechnical Engineering Services** as outlined in **Contract Agreement C-14-330-09-09**.



**ATTACHMENT "D"**  
**Cost Proposal**

***PROJECT:*** Geotechnical Engineering Services for the *"Hoehn Subdivision Sanitary Sewer Improvements"* Project in Hidalgo County Pct. No. 4.

**See Attached**

Attachment D  
 Geotechnical Field and Laboratory Services  
 Hoehn Subdivision Sanitary Sewer Improvements  
 Prepared for Hidalgo County Pct. No. 4

	SERVICES		UNITS	UNITS	UNIT COST	TOTAL COST
<b>I.</b>	<b>Project Management / Review/Report</b>					
	A. Engineer (Principal)		Hours	6	\$ 159.44	\$ 956.64
	B. Engineer (Staff)		Hours	26	\$ 159.44	\$ 4,145.44
	C. CADD Technician		Hours	4	\$ 61.08	\$ 244.32
<b>II.</b>	<b>Utility Clearances / Boring Locates</b>					
	A. Technician/Soils (Logger) (Locate Borings)(Util Clr)		Hours	4	\$ 47.85	\$ 191.40
			LS			
			Cost			
			Mile			
	B. Mileage (Logger)(Soil Tech)		Mile	50	\$ 0.53	\$ 26.50
<b>III.</b>	<b>Field Exploration</b>					
A	Mobilization/Demobilization					
	1. Mobilization (Drill Rig and Crew)		Daily	2	\$ 441.66	\$ 883.32
B	Field Exploration					
	1. Soil Boring/Solid Stem/Mud Rotary (w SPT)		Feet	106	\$ 31.08	\$ 3,294.48
	Soil Boring/Mud Rotary (w TCP)		Feet			\$ -
	2. Texas Cone Penetration Tests		Each			\$ -
	3. Technician (Soils)(Logger)		Hour	16	\$ 47.85	\$ 765.60
	4. Technician (Soils)(Logger)24 Hr. Water Level Observations		Hour	4	\$ 47.85	\$ 191.40
	5. Piezometers		Each			
	6. Vehicle Charge (Support Truck)		Mile	200	\$ 1.65	\$ 330.00
	7. Mileage (Logger)(Soil Tech)		Mile	200	\$ 0.53	\$ 106.00
C						
<b>IV</b>	<b>Engineering Data Analysis / Report</b>					
	1. Engineering Specialist (Soil Classification)		Hours	8	\$ 119.52	\$ 956.16
	2. Engineering Specialist (Boring Logs)		Hours	8	\$ 119.52	\$ 956.16
	3. Moisture Content		Each	38	\$ 10.45	\$ 397.10
	4. Atterberg Limits of Soils		Each	17	\$ 79.66	\$ 1,354.22
	5. Finer #200 Sieve		Each	17	\$ 66.47	\$ 1,129.99
	6. Unconfined Compression Testing		Each	2	\$ 49.95	\$ 99.90
	7. Admin/Clerical/Report Reproduction		Hours	4	\$ 47.14	\$ 188.56
<b>Project Total</b>						<b>\$ 16,217.19</b>