

HIDALGO COUNTY
Professional Geo Technical and/or
Construction Material Testing Engineer Services
Agreement #C-18-228-10-09

WORK AUTHORIZATION NO. 2

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions 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 CONSULTING ENGINEERS, INC.** professional engineers of Mercedes, 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 County Services Facility and Justice Center 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 **\$24,033.71**. 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 4 of the Agreement.

PART 4. FUNDING

This Work Authorization No. **2** shall be funded through funding source:

Account No. 9-1353-419-40-220-051/054/056-0-730

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.**

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 Ellie Torres as to content and detail of this Work Authorization No. # 2.

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 June 18, 2019 as indicated below and effective as of the ____ day of _____, 2019.

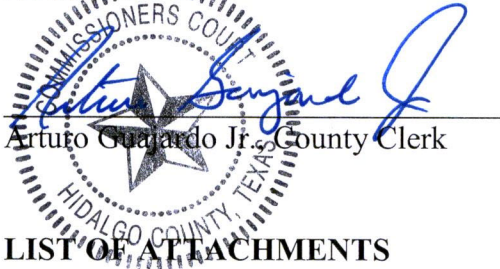
THE ENGINEER:
L&G CONSULTING ENGINEERS, INC.

THE OWNER:
HIDALGO COUNTY

By: Jacinto Garza, P.E.

Richard F. Cortez
Hon. Richard Cortez, County Judge

ATTEST:

Arturo Guadardo Jr.
County Clerk


APPROVED BY
COMMISSIONERS' COURT
ON: 6/18/19

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 (OMITTED)
- ATTACHMENT "D" - Cost Proposal

EXHIBIT A

Scope of Services to be provided by the Owner

The following provides an outline of the services to be provided by the **Owner** in the development of the **Project**.

General:

The **Owner** will provide to the **Engineer** the following:

- 1) Provide the authorization to proceed with services through coordination with the project consulting and design **Engineer**.
- 2) Payment for work performed by the **Engineer** and accepted by the **Owner** in accordance with Article/Part/Section 4 of the Agreement.
- 3) Assistance to the **Engineer**, as necessary, to obtain the required data and information from other local, regional, State and Federal agencies the **Engineer** 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 **Engineer's** request for information and/or required submittals and deliverables.
- 6) Attend and participate in progress meetings as required and as coordinated and conducted by **Engineer**.
- 7) Provide the authorization to proceed with services on project by project basis through consulting design and construction **Engineer**.

EXHIBIT B

Scope of Services to be provided by the Engineer

GENERAL SCOPE OF WORK

The work to be performed by the **Engineer** under this Work Authorization shall consist of; Geotechnical Drilling and Miscellaneous Field Services, Geotechnical Laboratory Testing Services and Geotechnical Engineering Services for the County Services Facility and Justice Center project hereinafter denoted as the **Project**.

The **Engineer** shall provide all services required (as noted under this Work Authorization) for usage by the **Owner** in the preparation of plans, specification and estimate, and related documents for the **Project**. The **Engineer** shall maintain a direct line of communication and coordinate with the **Owner** throughout the project.

The **Engineer** shall furnish all equipment, materials, supplies, and incidentals as needed to perform the services required, except as otherwise specified to be provided by the **Owner**.

Specific activities to be performed by the **Engineer** include the following:

I. Geotechnical Drilling Services and Miscellaneous Field Services

The **Engineer** will coordinate with the **Owner** for verification of project vicinity map indicating general boring site locations.

The **Engineer** will provide drilling/excavation and sampling of subsurface materials as follows in accordance with this Work Authorization and in conformance with ASTM guidelines:

- Structural Boring – Four (4) Borings will be drilled at approximate locations of the building structures on the project (Two (2) Borings per Bldg.) (Borings will be advanced to a depth of approximately 20 feet below the existing top of natural ground) (Boring Designation B-01 through B-04)
- Pavement Boring – Seven (7) Borings will be drilled at approximate locations of the parking lot on the project (Borings will be advanced to a depth of approximately 8 feet below the existing top of natural ground) (Boring Designation B-PV-01 through B-PV-07)

The **Engineer** will stake the boring locations and provide utility clearances prior to performing the field exploration portion of the project. The **Owner** will be responsible to provide any necessary permits or authorization to access areas (right of entry) where borings are to be drilled. All borings will be located in the field by a representative of the **Engineer**. All boring locations will be documented with GPS coordinates. Field survey and tie-down locations of all borings will be the responsibility of the **Owner**.

The borings will be advanced to the specified depth(s) and in-situ soil testing will be performed in general accordance with ASTM and/or TxDOT Standard Test Procedures and Geotechnical Manual (ASTM D1586 – Standard Penetration Testing (SPT) and/or Tex-132-E – Texas Cone Penetration (TCP)). In addition, where applicable, thin-walled Shelby tube samples may be

Engineer: L&G Consulting Engineers, Inc. (Lab Division)

Owner: Hidalgo County Pct. 4

collected (ASTM D1587 – Thin Walled Tube Sampling). The soils will be sampled as needed to verify subsurface materials and strata changes. Final drilling depths and elevations will be based on topographic conditions at the time of drilling operations.

All samples will be removed from the sample apparatus during drilling operations. The **Engineer** 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 natural moisture content and to reduce the possibility of damage during transportation to the soil testing laboratory facility.

Drilling services will include an initial water strike depth and a 24-hour water level reading at each boring location. Following completion of drilling and sampling, all boreholes will be backfilled with soil cuttings from the completed borings. If there is insufficient soil cuttings available, alternate fill will be used to backfill the completed boreholes.

This proposal 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 re-grading 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;
- Encountering hazardous or contaminated soils or substances during our field activities.

The **Engineer** will notify the **Owner** should these services become necessary to complete field exploration activities, and if approved by the **Owner**, additional negotiated fee and scope will be incorporated through Supplemental Work Authorization.

II. Geotechnical Laboratory Testing Services

Geotechnical Laboratory Testing will be performed by the **Engineer** on the samples recovered during the field study to evaluate their physical and engineering properties. Laboratory testing will be performed in general accordance with ASTM and/or TxDOT Standard Test Procedures. Testing shall include the following test procedures:

- (1) Atterberg Limits (ASTM D4318 or Tex-104-E, 105-E, 106-E)
- (2) Gradation (-200) (ASTM D1140 or Tex-111-E)
- (3) Lab. Determination of Moisture in Soils (ASTM D2216 or Tex-103-E)
- (4) Sulfate Content of Soil (ASTM C1580 or Tex-145-E)
- (5) Lime Series Testing – pH Relation (Tex-121-E, Part III)

III. Geotechnical Engineering Services

The **Engineer** will utilize information gathered from the field and laboratory testing to provide the **Owner** with Geotechnical Engineering results and analyses for the **Project**. The findings and conclusions derived from the results and analyses will be presented in an engineering report and provided to the **Owner** (electronic .pdf medium only). The report will include a boring location

Engineer: L&G Consulting Engineers, Inc. (Lab Division)
Owner: Hidalgo County Pct. 4

plan, boring logs with laboratory classification of recovered soil samples at the boring locations and subsurface water conditions encountered. The report will provide analyses and/or engineering recommendations as follows:

Structures (2 Bldgs)	
1	Structural Evaluation of Borings / Calc. Shear Strength Models / Soil Profiles
2	Shallow Foundation Analysis & Recs (All BC, PVR, WRI, PTI, Modulus)
3	Construction Recommendations based on Geotechnical Investigation/Analyses
Parking Lots (Pavement Recs)	
1	Structural Evaluation of Borings / Soil Profiles
2	Pavement Eng Analysis & Recommendations (Parking Lot & Drives)

The 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 aspects of this project. This information may serve to guide both geometric modeling and foundation selection and design as well as provide assistance in the preparation of specifications for the project.

EXHIBIT "D"
Geotechnical Field and Laboratory Services
WA #2 - County Services & Justice Center Geo - SUMMARY
Prepared for Hidalgo County Pct. 4

	SERVICES	UNITS	UNITS	UNIT COST	TOTAL COST
I.	Project Management / Review				
	A. Principal / Project Manager / Review	Hours			
	B. Senior Project Engineer (Staff)	Hours			\$ -
	C. Typing and Clerical (Report)	Hours			
	D. Lodging	Day			
	E. Mileage	Mile			
	F. Air Travel	Trip			
II.	Utility Clearances / Boring Locates				
	A. Technician (Locate Borings)(Util Clr)	Hours	6	\$ 58.20	\$ 349.20
	B. Staff Engineer/Geologist/Scientist	Hours			
	C. Rebar (stakes with impalement covers)	Cost +12.5%			
	D. Vehicle Charge	Mile			
	E. Mileage	Mile	120	\$ 0.54	\$ 64.80
	F. Survey Locate Borings (X,Y,Z)	LS			\$ -
	G. Clear Site for Access (Dozer)	LS			\$ -
III.	Field Exploration				
A	Mobilization/Demobilization	Day	2	\$ 468.56	\$ 937.12
B	Field Exploration				
	1. ASTM Drill & SPT/Tube Sampling (SS)	Feet	136	\$ 32.97	\$ 4,483.92
	2. TxDOT TCP Field Test (BL/ft)	Ea.			\$ -
	3. Field Logger/Eng Tech (Soil & Agg Tech)	Hour	16	\$ 58.20	\$ 931.20
	4. 24 Hr. Water Level Observations	Hour	4	\$ 58.20	\$ 232.80
	5. Piezometers	Each			\$ -
	6. Supp. Vehicle-Trailer, Tools H2O Supply	Mile	120	\$ 1.75	\$ 210.00
	7. Vehicle Charge	Mile	240	\$ 0.54	\$ 129.60
C	Miscellaneous Field Services				
IV.	Engineering Data Analysis / Report				
	1. Staff Engineer	Hours			
	2. Sr. Eng Tech / Geo Eng (Soil Classification)	Hours	4	\$ 116.40	\$ 465.60
	3. Sr. Eng Tech / Geo Eng (Logs & Summ.)	Hours	4	\$ 116.40	\$ 465.60
	4. Moisture Content	Ea.	56	\$ 11.20	\$ 627.20
	5. Atterberg Limits	Ea.	30	\$ 84.51	\$ 2,535.30
	6. -200 Determination	Ea.	30	\$ 70.51	\$ 2,115.30
	7. Sieve Analysis (w/ Hydrometers)	Ea.			\$ -
	8. UC Testing (w/ Unit Weight)	Ea.			\$ -
	9. Consolidation Testing	Ea.			\$ -
	10. Dry Unit Weight	Ea.			\$ -
	11. Soils Sulfate Content	Ea.	11	\$ 91.66	\$ 1,008.26
	12. Determination of Soil pH	Ea.			\$ -
	13. Lime Series Testing (5 Pt.)	Ea.	3	\$ 549.97	\$ 1,649.91
Project Sub-Total (Geo Field and Lab)					\$ 16,205.81

EXHIBIT "D"
Geotechnical Field and Laboratory Services
WA #2 - County Services & Justice Center Geo - (1) County Services Bldg
Prepared for Hidalgo County Pct. 4

	SERVICES	UNITS	UNITS	UNIT COST	TOTAL COST
I.	Project Management / Review				
	A. Principal / Project Manager / Review	Hours			
	B. Senior Project Engineer (Staff)	Hours			\$ -
	C. Typing and Clerical (Report)	Hours			
	D. Lodging	Day			
	E. Mileage	Mile			
	F. Air Travel	Trip			
II.	Utility Clearances / Boring Locates				
	A. Technician (Locate Borings)(Util Clr)	Hours	2	\$ 58.20	\$ 116.40
	B. Staff Engineer/Geologist/Scientist	Hours			
	C. Rebar (stakes with impalement covers)	Cost +12.5%			
	D. Vehicle Charge	Mile			
	E. Mileage	Mile	30	\$ 0.54	\$ 16.20
	F. Survey Locate Borings (X,Y,Z)	LS			\$ -
	G. Clear Site for Access (Dozer)	LS			\$ -
III.	Field Exploration				
A	Mobilization/Demobilization	Day	0.5	\$ 468.56	\$ 234.28
B	Field Exploration				
	1. ASTM Drill & SPT/Tube Sampling (SS)	Feet	40	\$ 32.97	\$ 1,318.80
	2. TxDOT TCP Field Test (BL/ft)	Ea.			\$ -
	3. Field Logger/Eng Tech (Soil & Agg Tech)	Hour	4	\$ 58.20	\$ 232.80
	4. 24 Hr. Water Level Observations	Hour	1	\$ 58.20	\$ 58.20
	5. Piezometers	Each			\$ -
	6. Supp. Vehicle-Trailer, Tools H2O Supply	Mile	30	\$ 1.75	\$ 52.50
	7. Vehicle Charge	Mile	60	\$ 0.54	\$ 32.40
C	Miscellaneous Field Services				
IV.	Engineering Data Analysis / Report				
	1. Staff Engineer	Hours			
	2. Sr. Eng Tech / Geo Eng (Soil Classification)	Hours	1	\$ 116.40	\$ 116.40
	3. Sr. Eng Tech / Geo Eng (Logs & Summ.)	Hours	1	\$ 116.40	\$ 116.40
	4. Moisture Content	Ea.	14	\$ 11.20	\$ 156.80
	5. Atterberg Limits	Ea.	8	\$ 84.51	\$ 676.08
	6. -200 Determination	Ea.	8	\$ 70.51	\$ 564.08
	7. Sieve Analysis (w/ Hydrometers)	Ea.			\$ -
	8. UC Testing (w/ Unit Weight)	Ea.			\$ -
	9. Consolidation Testing	Ea.			\$ -
	10. Dry Unit Weight	Ea.			\$ -
	11. Soils Sulfate Content	Ea.	2	\$ 91.66	\$ 183.32
	12. Determination of Soil pH	Ea.			\$ -
	13. Lime Series Testing (5 Pt.)	Ea.	0	\$ 549.97	\$ -
Project Sub-Total (Geo Field and Lab)					\$ 3,874.66

EXHIBIT "D"
Geotechnical Field and Laboratory Services
WA #2 - County Services & Justice Center Geo - (2) Justice Center Bldg
Prepared for Hidalgo County Pct. 4

	SERVICES	UNITS	UNITS	UNIT COST	TOTAL COST
I.	Project Management / Review				
	A. Principal / Project Manager / Review	Hours			
	B. Senior Project Engineer (Staff)	Hours			\$ -
	C. Typing and Clerical (Report)	Hours			
	D. Lodging	Day			
	E. Mileage	Mile			
	F. Air Travel	Trip			
II.	Utility Clearances / Boring Locates				
	A. Technician (Locate Borings)(Util Clr)	Hours	2	\$ 58.20	\$ 116.40
	B. Staff Engineer/Geologist/Scientist	Hours			
	C. Rebar (stakes with impalement covers)	Cost +12.5%			
	D. Vehicle Charge	Mile			
	E. Mileage	Mile	30	\$ 0.54	\$ 16.20
	F. Survey Locate Borings (X,Y,Z)	LS			\$ -
	G. Clear Site for Access (Dozer)	LS			\$ -
III.	Field Exploration				
A	Mobilization/Demobilization	Day	0.5	\$ 468.56	\$ 234.28
B	Field Exploration				
	1. ASTM Drill & SPT/Tube Sampling (SS)	Feet	40	\$ 32.97	\$ 1,318.80
	2. TxDOT TCP Field Test (BL/ft)	Ea.			\$ -
	3. Field Logger/Eng Tech (Soil & Agg Tech)	Hour	4	\$ 58.20	\$ 232.80
	4. 24 Hr. Water Level Observations	Hour	1	\$ 58.20	\$ 58.20
	5. Piezometers	Each			\$ -
	6. Supp. Vehicle-Trailer, Tools H2O Supply	Mile	30	\$ 1.75	\$ 52.50
	7. Vehicle Charge	Mile	60	\$ 0.54	\$ 32.40
C	Miscellaneous Field Services				
IV.	Engineering Data Analysis / Report				
	1. Staff Engineer	Hours			
	2. Sr. Eng Tech / Geo Eng (Soil Classification)	Hours	1	\$ 116.40	\$ 116.40
	3. Sr. Eng Tech / Geo Eng (Logs & Summ.)	Hours	1	\$ 116.40	\$ 116.40
	4. Moisture Content	Ea.	14	\$ 11.20	\$ 156.80
	5. Atterberg Limits	Ea.	8	\$ 84.51	\$ 676.08
	6. -200 Determination	Ea.	8	\$ 70.51	\$ 564.08
	7. Sieve Analysis (w/ Hydrometers)	Ea.			\$ -
	8. UC Testing (w/ Unit Weight)	Ea.			\$ -
	9. Consolidation Testing	Ea.			\$ -
	10. Dry Unit Weight	Ea.			\$ -
	11. Soils Sulfate Content	Ea.	2	\$ 91.66	\$ 183.32
	12. Determination of Soil pH	Ea.			\$ -
	13. Lime Series Testing (5 Pt.)	Ea.	0	\$ 549.97	\$ -
Project Sub-Total (Geo Field and Lab)					\$ 3,874.66

EXHIBIT "D"
Geotechnical Field and Laboratory Services
WA #2 - County Services & Justice Center Geo - (3) Parking Lot
Prepared for Hidalgo County Pct. 4

	SERVICES		UNITS	UNITS	UNIT COST	TOTAL COST
I.	Project Management / Review					
	A. Principal / Project Manager / Review		Hours			
	B. Senior Project Engineer (Staff)		Hours			\$ -
	C. Typing and Clerical (Report)		Hours			
	D. Lodging		Day			
	E. Mileage		Mile			
	F. Air Travel		Trip			
II.	Utility Clearances / Boring Locates					
	A. Technician (Locate Borings)(Util Clr)		Hours	2	\$ 58.20	\$ 116.40
	B. Staff Engineer/Geologist/Scientist		Hours			
	C. Rebar (stakes with impalement covers)		Cost +12.5%			
	D. Vehicle Charge		Mile			
	E. Mileage		Mile	60	\$ 0.54	\$ 32.40
	F. Survey Locate Borings (X,Y,Z)		LS			\$ -
	G. Clear Site for Access (Dozer)		LS			\$ -
III.	Field Exploration					
A	Mobilization/Demobilization		Day	1	\$ 468.56	\$ 468.56
B	Field Exploration					
	1. ASTM Drill & SPT/Tube Sampling (SS)		Feet	56	\$ 32.97	\$ 1,846.32
	2. TxDOT TCP Field Test (BL/ft)		Ea.			\$ -
	3. Field Logger/Eng Tech (Soil & Agg Tech)		Hour	8	\$ 58.20	\$ 465.60
	4. 24 Hr. Water Level Observations		Hour	2	\$ 58.20	\$ 116.40
	5. Piezometers		Each			\$ -
	6. Supp. Vehicle-Trailer, Tools H2O Supply		Mile	60	\$ 1.75	\$ 105.00
	7. Vehicle Charge		Mile	120	\$ 0.54	\$ 64.80
C	Miscellaneous Field Services					
IV.	Engineering Data Analysis / Report					
	1. Staff Engineer		Hours			
	2. Sr. Eng Tech / Geo Eng (Soil Classification)		Hours	2	\$ 116.40	\$ 232.80
	3. Sr. Eng Tech / Geo Eng (Logs & Summ.)		Hours	2	\$ 116.40	\$ 232.80
	4. Moisture Content		Ea.	28	\$ 11.20	\$ 313.60
	5. Atterberg Limits		Ea.	14	\$ 84.51	\$ 1,183.14
	6. -200 Determination		Ea.	14	\$ 70.51	\$ 987.14
	7. Sieve Analysis (w/ Hydrometers)		Ea.			\$ -
	8. UC Testing (w/ Unit Weight)		Ea.			\$ -
	9. Consolidation Testing		Ea.			\$ -
	10. Dry Unit Weight		Ea.			\$ -
	11. Soils Sulfate Content		Ea.	7	\$ 91.66	\$ 641.62
	12. Determination of Soil pH		Ea.			\$ -
	13. Lime Series Testing (5 Pt.)		Ea.	3	\$ 549.97	\$ 1,649.91
	Project Sub-Total (Geo Field and Lab)					\$ 8,456.49