

March 3, 2016

Mr. Armando Garza, Chief Administrator  
**Attn: Ms. Erika Zamora, Director of Administrative Operations**  
Hidalgo County Precinct No. 2  
300 West Hall Acres  
Pharr, Texas 78589

**RE: On-Call Geotechnical, Construction Materials Testing and Inspection Services for  
“Road and Bridge, C.I.P. and Other Projects in General”  
Work Authorization #9 – CMT for San Antonio Avenue Rehabilitation Project  
(from Moore Dr to Sam Houston Blvd)**

Dear Mr. Garza,

Attached for your review and approval is Work Authorization #9 to the On-Call Geotechnical, Construction Materials Testing and Inspection Services for “Road and Bridge, C.I.P. and Other Projects in General” Contract with Hidalgo County Precinct No. 2. This submittal is made to you in duplicate form for your further coordination with Commissioner Cantu.

We appreciate the opportunity to provide our professional services and look forward to working with you. Should you have any questions, please feel free to give me a call at (956) 585-1909.

Sincerely,

David A. Saenz, P.E., C.F.M.  
Project Manager

cc: Mr. Jacinto Garza, P.E. – L&G Engineering

Attachments: Work Authorization #9



**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. 9**.

**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 \_\_\_\_\_, 2016.

**THE ENGINEER:  
L&G ENGINEERING**

**THE OWNER:  
HIDALGO COUNTY**

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

\_\_\_\_\_  
By: Ramon Garcia, County Judge

**ATTEST:**

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

**LIST OF ATTACHMENTS**

- Exhibit A – Services to be Provided by the Owner
- Exhibit B – Services to be Provided by the Engineer
- Exhibit C – Work Schedule
- Exhibit D – Fee Schedule

# EXHIBIT A

## -Scope of Services to be provided by the 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 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 3 of this 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, in order for the Engineer 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 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

### SECTION 1 - PROJECT DESCRIPTION

The services designated herein as “Services provided by the ENGINEER” shall include the performance of all engineering services for the following described facility:

COUNTY/CITY: HIDALGO COUNTY

PROJECT/DESCRIPTION: On-Call Geotechnical & Construction Materials Testing Services for  
“Road and Bridge, C.I.P. and Other Projects in General”

CMT for San Antonio Ave Rehab Project (from Moore Dr to Sam Houston Blvd)

ENGINEER shall mean L&G Engineering.

STATE shall mean Texas Department of Transportation.

COUNTY shall mean Hidalgo County.

# EXHIBIT B

## Scope of Services to be provided by the Engineer

### SECTION 2 ROUTE AND DESIGN STUDIES – **N/A**

(Function Code 110)

Services

Provided By:

ENGINEER COUNTY

~~1. Soil Core Hole Drilling~~

- ~~\_\_\_\_\_ a. Pavement (See Section 3, page 3-1 for requirements)~~
- ~~\_\_\_\_\_ b. Retaining Walls (See Section 4, page 4-1 for requirements)~~
- ~~\_\_\_\_\_ c. Miscellaneous Structures (See Section 4, page 4-1 for requirements)~~
- ~~\_\_\_\_\_ d. Bridges (See Section 5, page 5-1 for requirements)~~

# EXHIBIT B

## Scope of Services to be provided by the Engineer

### SECTION 3 - ROADWAY DESIGN CONTROLS – N/A

(Function Code 160)

Services

Provided By:

ENGINEER COUNTY

- ~~\_\_\_\_\_ 1. Pavement Design – Embankment and Subgrade Analysis~~  
~~===== a. Embankment and Subgrade~~  
~~\_\_\_\_\_ (1) Soil Core Holes (Show cost estimate with Function Code 110)~~  
~~\_\_\_\_\_ (a) Along center line~~  
~~\_\_\_\_\_ (b) Along center line of each roadway~~  
~~\_\_\_\_\_ The location and minimum number of soil core holes required for this~~  
~~\_\_\_\_\_ project are as follows: (To be determined by Engineer during Preliminary~~  
~~\_\_\_\_\_ Engineering)~~  
~~===== (2) Identify, interpret and summarize geologic features that affect engineering design~~  
~~\_\_\_\_\_ (PI, Sulfate content, % of lime)~~  
~~\_\_\_\_\_ d. Traffic Data for Pavement Design (To be provided by others)~~  
~~\_\_\_\_\_ e. Basic Design Criteria~~  
~~\_\_\_\_\_ f. Life Cycle Cost Analysis(es)~~  
~~\_\_\_\_\_ g. Cost Data~~  
~~\_\_\_\_\_ h. Pavement Material Properties~~  
~~\_\_\_\_\_ i. Rehabilitation Investigations~~  
~~\_\_\_\_\_ (1) Core Hole Survey (Show cost estimate with Function Code 110)~~  
~~\_\_\_\_\_ (a) Determine type and depth of existing material, pavement, etc. The Engineer~~  
~~\_\_\_\_\_ will determine whether to salvage ACP and FLEXBASE as well as their~~  
~~\_\_\_\_\_ properties and provide this information to Client.~~

# EXHIBIT B

## Scope of Services to be provided by the Engineer

### SECTION 4 - MISCELLANEOUS (ROADWAY) - **N/A**

(Function Code 163)

Services

Provided By:

ENGINEER COUNTY

- ~~1. Retaining Walls and Embankments~~
  - ~~a. Foundation Studies (Show cost estimate with Function Code 110)~~
    - ~~(1) The soil core holes shall be obtained at approximately 200 foot intervals along retaining wall alignments. The core holes shall extend 25 feet or more below the footing elevation.~~
    - ~~(2) The soil core holes shall be obtained at locations provided by the Engineer along the embankment locations.~~
  - ~~b. Stability Analysis~~
  - ~~c. Estimate~~
  - ~~d. Summary of Quantities~~
  - ~~e. Typical X-section.~~
  - ~~f. General Guidelines for Retaining Walls~~
    - ~~(1) The ground water level should be observed at the water strike.~~
    - ~~(2) Soil core hole data shall be shown on boring logs & layouts as illustrated in the TxDOT Geotechnical Manual (2012).~~
    - ~~(3) Foundation exploration shall conform to the requirements set forth in Administrative Circular No. 25-84, Administrative Circular 33-87 and Administrative Circular No. 25-92.~~
- ~~2. Miscellaneous Structures~~
  - ~~a. Foundation Studies (Show cost estimate with Function Code 110)~~

~~The soils exploration requirements for miscellaneous structures on this project are as follows: (To be provided by the Engineer on an as needed basis)~~
  - ~~b. Foundation Analysis~~

~~To be determined based on miscellaneous structure type and requirements.~~

# EXHIBIT B

## Scope of Services to be provided by the Engineer

### SECTION 5 - BRIDGE DESIGN – N/A (Function Code 170)

Services

Provided By:

ENGINEER COUNTY

- ~~\_\_\_\_\_ 1. Foundation Studies (Show cost estimate with Function Code 110)  
The minimum number of soil core holes shall be obtained in accordance with TxDOT Geotechnical Manual (2012). Soil core holes shall be obtained at approximately (300 foot) intervals along bridge alignments. Texas cone penetrometer (TCP) tests shall be conducted in all soil types encountered at a maximum of (5 foot) intervals.~~
- ~~\_\_\_\_\_ 2. Foundation Analysis  
Shall include analyses of bridge foundation options (drilled shafts, piling, etc.) and for water crossings shall include recommendations for scour predictions.~~

# EXHIBIT B

## Scope of Services to be provided by the Engineer

### SECTION 6 - CONSTRUCTION PHASE SERVICES

(Function Code 320)

Services  
Provided By:  
ENGINEER COUNTY

No      No      **CONSTRUCTION INSPECTION SERVICES:**

~~The ENGINEER will provide engineering and support services (Inspection & Observation) during the construction of the Project or portions of the Project approved by the COUNTY.~~

Yes      No      **CONSTRUCTION MATERIAL TESTING:**

The ENGINEER will provide the COUNTY with construction material testing services for the Project. The services to be provided include sampling and testing of all construction materials as required by the project plans and specifications. All sampling frequencies and test procedures will be performed in general accordance with the Texas Department of Transportation TEX methods (or ASTM methods as required) as outlined in the Guide Schedule for Sampling and Testing (08/10). The construction material testing includes, but is not limited to the following:

- (a) Sampling and laboratory testing of soils and base materials proposed for use in the construction of Project (Roads/Bridges/Misc.) to determine compliance of these materials with project plans and specifications.
- (b) Field density testing of soils and base materials to ensure proper compaction as required by project plans and specifications.
- (c) Field sampling and testing of fresh concrete, and laboratory testing of hardened concrete to determine compliance with project plans and specifications.
- (d) Field compaction testing of asphalt to ensure proper compaction during lay down operations.
- (e) Field inspection, sampling and laboratory testing of asphalt materials to determine their material properties and their compliance with project plans and specifications.
- (f) The ENGINEER will be responsible for concrete batching as well as the asphalt testing at the plants to insure delivery of acceptable material to the job site.
- (g) Any additional laboratory testing as required/requested by the COUNTY and the project plans and specifications.
- (h) Providing accurate and timely reports to the COUNTY and all/other recipients as designated by the COUNTY.
- (i) The ENGINEER will verify the concrete and asphalt designs to assure it is in accordance with TxDOT specifications to be developed by the contractor.

# EXHIBIT B

## Scope of Services to be provided by the Engineer

### SECTION 7 - ADDITIONAL RESONSIBILITIES

#### Document and Information Exchange

Geotechnical Reports, Data, Plan Sheets, General Notes and/or Specifications provided to the COUNTY shall be furnished on 8GB USB flash drives or CD/DVD medium. Each flash drive or CD/DVD shall have a file titled Table of Contents (as applicable). The Table of Contents shall indicate the locations of files within the directory structure of the documentation (as applicable).

General Notes and specifications shall be provided in MS Office 2007 format. Plan sheets shall be provided in Microstation DGN or GEOPAK GPK format. PDF copies of plan sheets shall also be provided.

CMT Reports and Inspection documentation shall be provided in PDF format.

Two copies of the documentation shall be provided to the COUNTY.

If required, the ENGINEER shall provide to the COUNTY, a CD that contains all the plan sheets for the project. The graphics tape shall be compatible with the COUNTY's computer system.

CD Tape Required (YES or NO): YES

#### Proposal Time

The time indicated in the proposal and the contract shall include time necessary for reviews, approval, etc.

#### Office Location

The ENGINEER will perform the services to be provided under this agreement out of their office or offices listed below:

<u>Service</u>	<u>Office Location</u>
Geotechnical	Mercedes Office
CMT	Mercedes Office
Inspection	Mission Office

The work effort will be managed out of the \_\_\_\_\_ Mercedes \_\_\_\_\_  
(City)

office located at 2100 West Expressway 83 \_\_\_\_\_,  
(Address)

Mercedes \_\_\_\_\_, Texas \_\_\_\_\_.  
(City) (State)

# EXHIBIT B

## Scope of Services to be provided by the Engineer

### APPENDIX A – GENERAL SERVICES OUTLINE

The following is a general outline of the services to be provided by the ENGINEER in providing Geotechnical Laboratory services, Construction Materials Testing Services, and Construction Inspection Services:

#### A. Preliminary Phase: ~~N/A~~

- ~~1) Attend preliminary conferences with the COUNTY and, if requested, with the funding agency and other government agencies or interested parties regarding the Project.~~
- ~~2) Provide for the necessary geotechnical investigation and testing necessary to develop design.~~
- ~~3) Provide assistance to the COUNTY in providing material requirements and specifications for design, construction and maintenance projects.~~
- ~~4) Provide assistance to the COUNTY in providing pavement design and/or rehabilitation recommendations for the design, construction and maintenance projects.~~

#### B. Design Phase: ~~N/A~~

- ~~1) Attend the COUNTY'S and respective Party's meeting as requested for the purpose of explaining geotechnical investigation report recommendations and preliminary testing results and their impact to proposed design activities.~~
- ~~2) Perform any additional geotechnical investigations, testing and environmental studies necessary to collect information required in the design of the Project.~~
- ~~3) Provide assistance to the COUNTY in providing material requirements and specifications for design, construction and maintenance projects.~~
- ~~4) Provide assistance to the COUNTY in providing pavement design and/or rehabilitation recommendations for the design, construction and maintenance projects.~~
- ~~5) Furnish the COUNTY all necessary reports for preliminary design, design, and construction and maintenance projects.~~

#### C. Construction/Maintenance Phase:

- 1) Attend the COUNTY'S and respective Party's pre-construction and construction meetings as requested for the purpose of explaining geotechnical investigation report recommendation and preliminary testing results and their impact to proposed construction activities and establish coordination and lines of communication for proposed construction materials testing during construction activities.
- 2) Consult and advise with the COUNTY during construction.
- 3) Provide construction materials testing for construction and maintenance project as required by the project plans and specifications and/or specified by the project design Laboratory.
- 4) Review all material designs as requested by the COUNTY and/or project design Laboratory.
- 5) Furnish the COUNTY all necessary reports for construction and maintenance projects.
- 6) Provide construction inspection and observation services as requested by the COUNTY on construction and maintenance projects.

#### D. Miscellaneous/Other:

- 1) Promptly submit formal construction materials testing reports for all tests, observations and services performed indicating where applicable, compliance with COUNTY specifications or other documents. Such reports shall be completed and factual, citing the tests performed, methods employed, values obtained, parts of the structure and location at which tests were made.
- 2) The plans, specifications, and Geotechnical/CMT reports prepared under this Agreement shall become the property of the COUNTY upon completion of the work and payment in full of all monies due to the ENGINEER.
- 3) Retain all pertinent records relating to the services performed for a period of five (5) years following submission of all reports, during which period the records will be made available to the COUNTY within a reasonable time.



## EXHIBIT D

**San Antonio Ave Rehab Proj. (Moore Dr to Sam Houston Blvd) (1.0 miles x 24' width)**

**Prepared For Hidalgo County Pct. No. 2**

<i>Soil Testing - Field and Laboratory</i>					
Technican Time (Soil)	8	Hours	\$54.54	\$436.32	<b>From Moore to Ridge Rd only (0.5 Miles)</b>
Mileage	60	Miles	\$0.55	\$33.00	
Moisture Content	3	Each	\$10.55	\$31.65	
Atterberg Limits (LL, PL, PI)	3	Each	\$79.66	\$238.98	
Particle Size Analysis (Gradation)	3	Each	\$95.76	\$287.28	
Standard Proctor	1	Each	\$205.82	\$205.82	
Field Density Test (Nuclear)	6	Each	\$23.91	\$143.46	
Engineer Lab Manager	2	Hours	\$109.08	\$218.16	
Project Engineer	2	Hours	\$137.96	\$275.92	
Admin/Clerical	1	Hours	\$64.17	\$64.17	
Reports	5	Each	\$23.59	\$117.95	
				<b>Sub.</b>	<b>\$2,052.71</b>

<i>Asphalt Testing - Field and Laboratory</i>					
Technican Time (Asphalt)	12	Hours	\$54.54	\$654.48	<b>All Project Limits</b>
Mileage	90	Miles	\$0.55	\$49.50	
Asphalt Rolling Pattern	6	Each	\$39.86	\$239.16	
Ext-Sieve Analysis AC Content	2	Each	\$232.48	\$464.96	
Maximum Theoretical SPG	2	Each	\$90.00	\$180.00	
Lab Molded Density	2	Each	\$80.00	\$160.00	
Field Coring - ACP Thickness	4	Each	\$66.47	\$265.88	
Lab Density of Asphaltic Cores	4	Each	\$73.04	\$292.16	
Engineer Lab Manager	4	Hours	\$109.08	\$436.32	
Project Engineer	2	Hours	\$137.96	\$275.92	
Admin/Clerical	1	Hours	\$64.17	\$64.17	
Reports	3	Each	\$23.59	\$70.77	
				<b>Sub.</b>	<b>\$3,153.32</b>

**Total Estimated Material Testing Fees    \$5,206.03**