

HIDALGO COUNTY
Professional Engineering Services
Contract # C-15-046-03-03

FILED
AT <u>3:00</u> O'CLOCK <u>P</u> M
FEB 27 2017
ARTURO GUALARDO, COUNTY CLERK HIDALGO COUNTY, TEXAS
BY <u>[Signature]</u> DEPUTY

WORK AUTHORIZATION NO. 8

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions of Article I. 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. d/b/a L & G Engineering**, 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 Construction Management, Inspection and CMT Services for the Precinct 2 Regional Linear Park Project from San Antonio Avenue to Ridge Road.

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 **\$196,441.35**. This amount is based upon the costs outlined in the Estimated **Cost Proposal** attached hereto as **EXHIBIT "D" Fee Schedule**.

PART 3. PAYMENT

Compensation and payment to the **Engineer** for the services established under this Work Authorization shall be made in accordance with **Article 6** of the Agreement.

PART 4. FUNDING

This Work Authorization No. 8 shall be funded through funding source:

Account No. 7-1315-452-00-122-110-0-740

Requisition Number 315740

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. 2, Commissioner Eduardo Cantu as to content and detail of this **Work Authorization No. 8**.

**HIDALGO COUNTY
COMMISSIONER PRECINCT NO. 2**

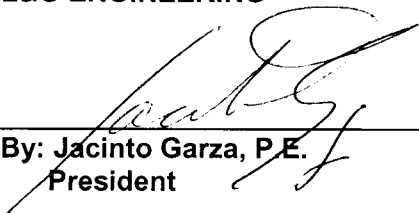
BY: 

PART 8. ACCEPTANCE AND APPROVAL

This Work Authorization is hereby accepted, approved by Hidalgo County Commissioners' Court on _____ as indicated below.

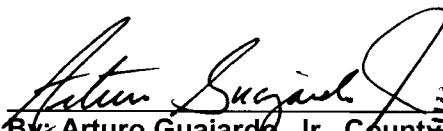
**THE ENGINEER:
L&G ENGINEERING**

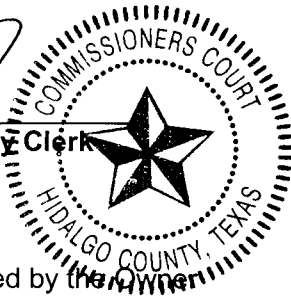
**THE OWNER:
HIDALGO COUNTY**


By: Jacinto Garza, P.E.
President


By: Ramon Garcia
County Judge

ATTEST:


By: Arturo Guajardo, Jr., County Clerk



2/21/17 mg

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”
Services to be Provided by the Owner

The following provides an outline of the services to be provided by the **Owner** for Regional Linear Park Project within the limits of South San Antonio Avenue to Ridge Road in Hidalgo County hereinafter denoted as 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 3 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 **Project**.
- 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 “C” attached to this Work Authorization.
- 6) Attend and participate in progress meetings as required and as coordinated and conducted by **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

CONTROL: 0921-02-365 (Section 1)

PROJECT/DESCRIPTION: Construction Management Services, Construction Inspection and Construction Material Testing for the Hidalgo County Pct. 2 Regional Hike & Bike Project

LENGTH: 2.4 Miles (Approx.)

HIGHWAY: Prop. Hike & Bike Trail

LIMITS: From San Antonio Ave. (San Juan) to Ridge Road (Pharr)

EXISTING FACILITY

PROJECT CLASSIFICATION

(Place an “X” in only one Project Classification)

- Surface Treatment
- Overlay
- Rehabilitation Existing Road (Scarify & Reshape)
- Convert Non-Freeway to Freeway
- Widen Freeway
- Widen Non-Freeway
- New Location Toll Freeway
- New Location Non-Freeway
- Interchange (New or Reconstruct)
- Bridge Widening or Rehabilitation
- Bridge Replacement
- Upgrade to Standards - Freeway
- Upgrade to Standards - Non-Freeway
- Miscellaneous Studies (Use Function Code 110 for All Tasks)
- Pedestrian Facility – Hike & Bike Trail

ENGINEER shall mean L&G Consulting Engineers, Inc.

STATE shall mean Texas Department of Transportation (TxDOT).

COUNTY shall mean the Hidalgo County.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 12 - CONSTRUCTION PHASE SERVICES
(Function Code 320)

Services
Provided By:
ENGINEER COUNTY

YES NO **CONSTRUCTION MANAGEMENT SERVICES:**

The ENGINEER will provide engineering, geotechnical testing and support services for and during the construction of the Project or portions of the Project approved by the COUNTY. Specific (basic and special) services for CONSTRUCTION MANAGEMENT AND SUPPORT by the ENGINEER will include the following:

YES NO **Construction Bidding:**

- 1) The ENGINEER will furnish the COUNTY the necessary copies of approved plans, specifications, notices to bidders, and proposals as prepared under PS&E.
- 2) The ENGINEER will assist the COUNTY on the tabulation of bids, recommendations to the Owner as to the proper action on all bid proposals received, and the preparation of formal contract documents for the award of each construction contract.

YES NO **Construction Contract Administration and Inspection:**

- 3) In general, the ENGINEER will provide the management and engineering support/data required for consultation and advisement to the COUNTY and act as the COUNTY's representative as provided in the General Condition of the Construction Contract.
- 4) The ENGINEER will coordinate and conduct a pre-construction conference (if required).
- 5) Defects and Deficiencies. The ENGINEER will use his best efforts to protect the COUNTY against defects and deficiencies in the work of the Contractor. The ENGINEER will promptly notify the COUNTY of any such defect or deficiency, and take all steps possible to require the Contractor to correct the defect or deficiency.
- 6) Contractor Payment. The ENGINEER will review quantities as submitted by the Contractor and will coordinate with the COUNTY for the preparation of the monthly and final estimates for payment to the Contractor.
- 7) The ENGINEER will provide Project site inspection of the authorized construction contract as follows:
 - a) Project Engineer. The ENGINEER will provide visits by the Project Engineer or a competent representative of the ENGINEER to the site of construction for the purpose of monitoring the Contractor's progress and conformance to the construction contract plans and specifications.
 - b) Resident Engineer and/or Construction Inspector(s). The ENGINEER will furnish the services of a Resident Engineer and/or Construction Inspector(s) for on the site inspection construction to monitor/inspect the Contractor's daily progress and conformance to TxDOT's PS&E specifications.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Services
Provided By:
ENGINEER COUNTY
YES NO

Miscellaneous Technical Activities:

- 8) Shop Drawings. The ENGINEER will review and check all shop or working drawings furnished by the Contractor.
- 9) Control of Materials & Equipment. The ENGINEER will provide inspection of all materials and equipment furnished/used by the Contractor as follows:
 - a) Review and record all laboratory, shop and mill tests of materials and equipment for compliance with the construction contract specifications.
 - b) Observe and/or perform Project record testing and/or independent assurance testing as outlined in the construction contract specifications.
- 10) Change Orders. When applicable the ENGINEER will prepare the engineering data, including plan sheet drawings, specifications, and estimates, for the preparation of construction contract change orders, which may be required due to actual field conditions encountered or new requirements directed by the COUNTY.
- 11) As Built Drawings. The ENGINEER will develop as built drawings to depict the work as actually constructed. The COUNTY will be furnished five (5) set of prints.

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 (11/07). 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 0
FEE PROPOSAL**

Pet 2 Regional Linear Park Project
(Section: San Antonio Ave. to Ridge Road)

Work Authorization #8

	MANHOURS									
	Senior Engineer (Engineer V)	Senior Environmental Scientist	Project Engineer (Engineer III)	Senior Engineer Tech	Record Keeper	Project Inspector I	CADD Operator / GIS Analyst	Admin / Clerical	L&G TOTAL HOURS	TOTAL LINE ITEM COST
CONTRACT RATE (FY 2017)	\$191.67	\$161.93	\$142.10	\$99.14	\$89.22	\$72.70	\$72.70	\$66.09		
CONSTRUCTION MANAGEMENT:										
<i>Administration:</i>										
1) Maintain communication and coordinate with Design Engineer, Hidalgo County, TxDOT, Other Municipalities and Construction Contractor(s) on a regular basis.	2		8						10	\$ 1,520.14
2) Review, approve or reject invoices for processing.			4						4	\$ 568.40
3) Coordinate with the public and any affected property owners			8						8	\$ 1,136.80
4) Provide review, feedback, or guidance on Change Orders.			2						2	\$ 284.20
5) Accompany Design Engineer, State or Federal representatives and Municipality representatives on visits to the project.	4		8		8		8		28	\$ 3,145.96
6) Attend and conduct all job related meetings, Construction Status meetings and Final Inspection with the Design Engineer, State or Federal representatives and Municipality representatives including final walk through and inspection.	8		18						26	\$ 4,091.16
7) Calculate and verify the final contract quantities.			4						4	\$ 568.40
8) Review and submit to the Design Engineer any suggestions or request for information (RFIs) made by the contractor to change or modify any requirements of the Plans or Contract Documents.			6						6	\$ 852.60
9) Prepare a Contractors progress payment estimate on a monthly basis.	8		16					8	32	\$ 4,335.68
10) Issue a Certificate of Substantial Completion at the appropriate time.	2							2	4	\$ 515.52
11) Provide certification to the Municipality & TxDOT that project was constructed as designed, subject to necessary revisions during construction, in conformance with all project specifications and that all necessary contract provisions were fully complied with.	2							2	4	\$ 515.52
<i>Construction Phase Services:</i>										
12) Attend meetings as necessary, provide written reports								28	28	\$ 1,850.52
13) Provide cost control and value management on change orders			4						4	\$ 568.40
14) Assure quality and completeness of the work with continued on-site and office support monitoring and inspections			32						32	\$ 4,547.20
15) Maintain job safety measures	2		7					7	16	\$ 1,340.67
16) Monitor project schedule, provide weekly updates			8					4	12	\$ 1,401.16
<i>Post Construction Phase Services:</i>										
17) Provide all closeout documents			8					8	16	\$ 1,065.52
18) Coordinate final acceptance of projects	2		2						4	\$ 667.54
SUBTOTAL										\$ 30,075.39

**EXHIBIT D
FEE PROPOSAL**

**Pct 2 Regional Linear Park Project
(Section: San Antonio Ave. to Ridge Road)**

Work Authorization #8

CONSTRUCTION INSPECTION:										
19) Maintain a presence on the project during times when contractor activities are underway and be on-site at all times during construction activities of the project requiring certification to be able to certify, on completion of the project, that the project was built as designed. Prepare Daily Reports, including quantities, locations of work, weather conditions, and weekly progress reports. Review and verify traffic control activities to include inspection of barricades and traffic control devices.						1275			1275	\$ 92,692.50
20) Check that the contractor is in compliance with all construction contract requirements. Municipality permits and ordinances, property rights agreements, erosion and sediment control and stormwater management plans state permits, regulations and statutes, and federal regulations and statutes; and exercise the engineer's authority as provided in the contract documents and report immediately any deviations to the City and Construction Manager (CM).	18			344				8	370	\$ 34,135.14
21) Maintain a photographic record of the progress of construction, annotating such photos to indicate their content and context including date. This photographic record must be available for reference by the Construction Manager, Design Engineer, State or Federal representatives, and Municipality representatives.				14					14	\$ 1,387.96
22) Inspect and approve material sources and water, borrow and staging areas.			2						2	\$ 284.20
23) Receive materials certifications, computations and reference materials submitted by the Contractor. Verify compliance with the Buy America Act. Maintain files on the project site of all items submitted by the contractor and of work done on behalf of the Municipality.			2						2	\$ 284.20
24) Track utility relocations and plot final facility locations on the final as-built plans (if any).				8					8	\$ 793.12
25) Erosion control monitoring in accordance with applicable permits.			2						2	\$ 284.20
26) Develop final as-built plans by marking up a set of contract plans.			2			24		2	28	\$ 2,161.18
27) Check that completed work complies with the plans and specifications and is true to line and grade.			2						2	\$ 284.20
28) Organize an inspection of work completed at such time as contractor may claim substantial completion, with a contractor's representative, Design Engineer, State, Federal & Local representatives, and issue a list of items to be corrected or completed.			2						2	\$ 284.20
SUBTOTAL										\$ 132,590.90

**EXHIBIT D
FEE PROPOSAL**

Pct 2 Regional Linear Park Project
(Section: San Antonio Ave. to Ridge Road)

Work Authorization #8

CONSTRUCTION MATERIAL TESTING (CMT):										
<small>29) Construction Material Testing Services</small>										
<small>(See Fee Proposal Breakdown on Exhibit D-1)</small>										
										\$ 33,775.06
SUBTOTAL										\$ 33,775.06
SUBTOTAL HOURS										\$ 196,441.35
	30	18	147	22	352	1275	24	77	1945	

Total Work Authorization Cost: \$ 196,441.35

EXHIBIT D-1
ESTIMATED MAN-HOURS AND TEST BREAKDOWN

Hidalgo County Pct. 2 - Regional Linear Park Project (Section 1) (From Ridge Rd. to San Antonio Ave.) - CSJ: 0921-02-365
Construction Materials Testing

Embankment (Test All Fill Material Including Cut From Job) (ITEM 132)

• 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.
• Field density testing of soils and base materials to ensure proposer compaction as required by project plans and specifications.

TxDOT Test	TxDOT Guide Specs	Additional Assumptions	Unit	Qty.	Contract Rate	Total
Liquid Limit	PI>15 - Every 5,000 CY	Included with PI	Each		\$53.15	\$0.00
Plasticity Index	PI>15 - Every 5,000 CY	1 per Cut & 1 per Fill (Job)	Each	2	\$79.66	\$159.32
Gradation	Every 10,000 CY	1 per Cut & 1 per Fill (Job)	Each	2	\$95.76	\$191.52
Moisture/Density	One per Each Material		Each	1	\$212.59	\$212.59
Wet Ball Mill	Every 5,000 CY or 6,000	Inc. to 4 - 1 per Leg (Job)	Each	4	\$23.91	\$95.64
Triaxial		LL/PI, Grad, MD, FD	Each	9	\$23.59	\$212.31
Reports		4 hrs - PI, Gr, MD, 2 hrs - FD	Hour	20	\$56.18	\$1,123.60
Tech Time (Soils)		6 Trips (50 Miles RT)	Mile	300	\$0.35	\$165.00
# of Trips (Tech)			Hour	2	\$66.09	\$132.18
**Admin/Clerical						
					Item Subtotal	\$2,292.16
						2715C/365F CY

Subgrade (Lime Treated) (ITEM 260)

• 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.
• Field density testing of soils and base materials to ensure proposer compaction as required by project plans and specifications.

TxDOT Test	TxDOT Guide Specs	Additional Assumptions	Unit	Qty.	Contract Rate	Total
Liquid Limit	Each 5,000 CY	Included with PI	Each		\$53.15	\$0.00
Plasticity Index	Each 5,000 CY	Inc. to 4 - 1 per Leg (Job)	Each	4	\$79.66	\$318.64
Gradation	Every 20,000 CY	Inc. to 4 - 1 per Leg (Job)	Each	4	\$95.76	\$383.04
Moisture/Density	Every 20,000 CY		Each	1	\$212.59	\$212.59
In-Place Density	Every 3,000 CY	Inc. to 8 - 2 per Leg (Job)	Each	8	\$23.91	\$191.28
Reports		LL/PI, MD, FD	Each	17	\$23.59	\$401.03
Tech Time (Soils)		4 hrs - PI, Gr, MD, 2 hrs - FD	Hour	36	\$56.18	\$2,022.48
# of Trips (Tech)		12 Trips (50 Miles RT)	Mile	600	\$0.55	\$330.00
**Admin/Clerical			Hour	3	\$66.09	\$198.27
					Item Subtotal	\$4,057.33
						3,052 CY

Flexible Base (Untreated - Stockpile Testing) (ITEM 247)

• 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.
• Field density testing of soils and base materials to ensure proposer compaction as required by project plans and specifications.

TxDOT Test	TxDOT Guide Specs	Additional Assumptions	Unit	Qty.	Contract Rate	Total
Liquid Limit	Each 5,000 CY	Included with PI	Each		\$53.15	\$0.00
Plasticity Index	Each 5,000 CY	Inc. to 4 - 1 per Leg (Job)	Each	1	\$79.66	\$79.66
Gradation	Every 20,000 CY		Each	1	\$95.76	\$95.76
Moisture/Density	Every 20,000 CY		Each	1	\$212.59	\$212.59
Wet Ball Mill	Every 20,000 CY		Each	1	\$232.55	\$232.55
Triaxial		LL/PI, MD, WB, Triaxial	Each	1	\$350.00	\$350.00
Reports		4 hrs - LL, PI, MD & WB/Triax.	Hour	5	\$23.59	\$117.95
Tech Time (Soils)		1 Trip (50 Miles RT)	Hour	12	\$56.18	\$674.16
# of Trips (Tech)			Mile	60	\$0.35	\$21.00
**Admin/Clerical			Hour	1	\$66.09	\$66.09
					Item Subtotal	\$1,656.26
						2,689 CY

Flexible Base (Lime Treated) (ITEM 247)

• 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.

• Field density testing of soils and base materials to ensure proper compaction as required by project plans and specifications.

TxDOT Test	TxDOT Guide Specs	Additional Assumptions	Unit	Qty.	Contract Rate	2,699 CY Total
Liquid Limit		Included with PI	Each		\$53.15	\$0.00
Plasticity Index	Each 5,000 CY	Inc. to 4 - 1 per Leg (Job)	Each	4	\$79.66	\$318.64
Gradation	Each 5,000 CY	Inc. to 4 - 1 per Leg (Job)	Each	4	\$95.76	\$383.04
Moisture/Density	Every 20,000 CY	Complete Mixture	Each	1	\$212.39	\$212.39
In-Place Density	Every 3,000 CY	Inc. to 8 - 2 per Leg (Job)	Each	8	\$23.91	\$191.28
Reports		MC, LL/PI, MD, FD	Each	17	\$23.59	\$401.03
Tech Time (Soils)		4 hrs - PI, Gr, MD, 2 hrs - FD	Hour	36	\$56.18	\$2,022.48
# of Trips (Tech)		12 Trips (50 Miles RT)	Mile	600	\$0.55	\$330.00
**Admin/Clerical			Hour	3	\$66.09	\$198.27
Item Subtotal						\$4,057.33

Asphalt Concrete Pavement (Item 3268 - HMA-QC/QA)

• Field compaction testing of asphalt to ensure proper compaction during lay down operations.

• Field sampling and laboratory testing of asphalt materials to determine their material properties and their compliance with project plans and specifications.

TxDOT Test	TxDOT Guide Specs	Additional Assumptions	Unit	Qty.	Contract Rate	1,205 Tons Total
Coarse Aggr.		Stockpile	Each			
L.A. Abrasion	1 Per Project Per Source	If BRSQC meets Project Spec ~	Each	0	\$564.55	\$0.00
Soundness	1 Per Project Per Source	If BRSQC meets Project Spec ~	Each	0	\$564.55	\$0.00
Gradation	1 Per Project Per Source	May be Eliminated based on	Each	1	\$72.27	\$72.27
MicroDeval	1 Per every 12 Sublots		Each	0		
Flat & Elongated Particles	1 Per Project Per Source		Each	1	\$60.00	\$60.00
Coarse Aggr. Angularity	1 Per Project Per Source		Each	1	\$80.00	\$80.00
Del. Matt. and Decant	1 Per Project Per Source		Each	1	\$46.50	\$46.50
Fine Aggr.		Stockpile	Each			
Bar Linear Shrinkage	1 Per Project Per Source		Each	1	\$66.47	\$66.47
Organic Impurities	1 Per Project Per Source		Each	1	\$46.50	\$46.50
Gradation	1 Per Project Per Source	Bin or Silo	Each	1	\$72.27	\$72.27
Mineral Filler		Assume No Filler	Each	0	\$66.47	\$0.00
Bar Linear Shrinkage	1 Per Project Per Source	Assume No Filler	Each	0	\$66.47	\$0.00
Gradation	1 Per Project Per Source	Stockpile or Feeder Belt	Each	0	\$72.27	\$0.00
Combined Aggr.			Each			
Sand Equivalent	1 Per Project Per Source		Each	1	\$72.99	\$72.99
Complete Mix		Truck Sample	Each			
Asphalt Content (%)	1 Per Lot Per Design		Each	4	\$90.00	\$360.00
Voids in Mineral Aggr. (VMA)	1 Per Sublot Per Design	with 227-F Rice Gravelly	Each	16	\$110.00	\$1,760.00
Gradation	Min 1 Per 12 Sublots Per		Each	2	\$90.00	\$180.00
Bolt Test	1 Per Project Per Source	Waived by Engineer	Each	0	\$66.40	\$0.00
Indirect Tensile - Dry	1 Per Project Per Source	Waived by Engineer	Each	0	\$600.00	\$0.00
Moisture Content	1 Per Project Per Source		Each	1	\$15.00	\$15.00
Lab Molded Density	1 Per Sublot Per Design		Each	16	\$80.00	\$1,280.00
Hamburg Wheel Tracker	1 Per Project Per Source	Make Contractor Perform Test	Each	0	\$900.00	\$0.00
Roadway		At Site	Each			
Field Coring	2 Cores Per Sublot Per	For Tex-207-F	Each	32	\$66.47	\$2,127.04
In-Place Air Voids	2 Cores Per Sublot Per		Each	32	\$25.00	\$800.00
Segregation Profile	1 Per Project Per Source		Each	1	\$300.00	\$300.00
Joint Density	1 Per Project Per Source	Waived by Engineer	Each	0	\$300.00	\$0.00
Tack Coat Adhesion	1 Per Project Per Source		Each	1	\$100.00	\$100.00
Thermal Profile	1 Per Project Per Source	Make Contractor Perform Test	Each	0	\$175.00	\$0.00
Ride Quality	Engineer may verify		Each	0	\$0.00	\$0.00
Reports			Each			
Tech Time (Aggr)	8 hours per 1 days (trips/test -		Hour	82	\$23.59	\$1,934.38
Tech Time (Asph)	12 hours per 4 days		Hour	8	\$56.18	\$449.44
# of Trips (Tech)	5 Trips (50 Miles RT)		Hour	48	\$56.18	\$2,696.64
**Admin/Clerical			Mile	250	\$0.55	\$137.50
Item Subtotal						\$660.90
Item Subtotal						\$13,692.90

Hydraulic Cement Concrete Drilled Shafts - Traffic Signal Poles (Class C)

- Field sampling and testing of fresh concrete and laboratory testing of hardened concrete to determine compliance with project plans and specifications.
- Concrete batching as well as the asphalt testing at the plants to insure delivery of acceptable material to the job site (as required).

	TxDOT Test	TxDOT Guide Specs	Additional Assumptions	Unit	Qty.	Contract Rate	7 CY (1 Loc.)
Coarse Aggr.							Total
Decantation	Tex-406-A	Each 20,000 CY (or source)	QA Test. (QC by Source)	Each	1	\$46.50	\$46.50
Sieve Analysis	Tex-401-A	Each 1,000 CY (or source)	5 Sieve	Each	1	\$85.00	\$85.00
Deleterious Matl.	Tex-415-A	Each 20,000 CY (or source)		Each	1	\$46.50	\$46.50
L.A. Abrasion	Tex-410-A	Two Each Source	If CRSQC meets Project Spec -	Each	0	\$564.55	\$0.00
Soundness	Tex-411-A	Two Each Source	If CRSQC meets Project Spec -	Each	0	\$564.55	\$0.00
Fine Aggr.							
Sand Equivalent	Tex-203-F	Each 1,000 CY (or source)	QA Test. (QC by Source)	Each	1	\$72.99	\$72.99
Organic Imp.	Tex-406-A	One Per Project Per Source		Each	1	\$46.50	\$46.50
Sieve Analysis	Tex-401-A	Each 1,000 CY (or source)	9 Sieve	Each	1	\$138.24	\$138.24
Fineness Mod.	Tex-402-A	Each 1,000 CY (or source)		Each	1	\$15.95	\$15.95
Deleterious Matl.	Tex-413-A	Each 20,000 CY (or source)		Each	1	\$46.50	\$46.50
Acid Insoluble	Tex-612-J	Two Each Source	if CRSQC meets Project Spec -	Each	0	\$86.40	\$0.00
Mineral Filler							
Sieve Analysis	Tex-401-A	Two Each Source	QA Test. (QC by Source)	Each	0	\$85.00	\$0.00
Concrete							
*Strength	Tex-418-A	Each 60 CY (2 Sets = 4 Cyl.)	use 2 Sets per DS (2 DS)	Each	4	\$27.92	\$111.68
Slump	Tex-415-A	One per 2 Sets		Each	1	\$0.00	\$0.00
Entrained Air	Tex-416-A	One per 2 Sets		Each	1	\$23.86	\$23.86
Temperature	Tex-422-A	One per 2 Sets		Each	1	\$0.00	\$0.00
Reports							
Tech Time (Aggr)			CA, F.A.MF, Conc.	Each	11	\$23.59	\$259.49
Tech Time (Conc)				Hour	8	\$56.18	\$449.44
# of Trips (Tech)				Hour	4	\$56.18	\$224.72
**Admin/Clerical			2 Trips (50 Miles RT)	Mile	100	\$0.55	\$55.00
				Hour	2	\$66.09	\$132.18
						Item Subtotal	\$1,754.55

Hydraulic Cement Concrete Misc. - Curb/Sidewalk/Curb Ramps (Class A)

- Field sampling and testing of fresh concrete and laboratory testing of hardened concrete to determine compliance with project plans and specifications.
- Concrete batching as well as the asphalt testing at the plants to insure delivery of acceptable material to the job site (as required).

Concrete	TXDOT Test	TXDOT Guide Specs	Additional Assumptions	Unit	Qty.	Contract Rate	22 CY+Curb Ramp Total
Concrete							
*Strength	Tex-418-A	Each 180 CY(1 Set = 2 Cyl)	Adjust Per Str & Placement	Each	10	\$27.92	\$279.20
Slump	Tex-415-A	Not Required	Not Required	Each	0	\$0.00	\$0.00
Entrained Air	Tex-416-A	One per Set	Not Required	Each	5	\$23.86	\$119.30
Temperature	Tex-422-A	Not Required	Not Required	Each	0	\$0.00	\$0.00
Reports			Conc.	Each	10	\$23.59	\$235.90
Tech Time (Aggr)		Not Required		Hour	0	\$56.18	\$0.00
Tech Time (Conc)				Hour	24	\$56.18	\$1,348.32
# of Trips (Tech)			7 Trips (50 Miles RT)	Miles	350	\$0.55	\$192.50
**Admin/Clerical				Hour	2	\$66.09	\$132.18
						Item Subtotal	\$2,307.40

Batching for Hydraulic Cement Concrete (Class C) & Asphalt Concrete Pavement (ACP) - Inspection of Batching at Plant (1 Tech per Plant, Reports)

- Field sampling and testing of fresh concrete and laboratory testing of hardened concrete to determine compliance with project plans and specifications.
- Concrete batching as well as the asphalt testing at the plants to insure delivery of acceptable material to the job site (as required).

Concrete	TXDOT Test	TXDOT Guide Specs	Additional Assumptions	Unit	Qty.	Contract Rate	Total
Concrete							
Tech Time (Conc)			1 Trip (50 Miles RT)	Hour	2	\$56.18	\$112.36
# of Trips (Tech)				Mile	50	\$0.55	\$27.50
Hot Mix				Reports	1	\$23.59	\$23.59
Tech Time (Asph)			4 Trips (50 Miles RT)	Hour	32	\$56.18	\$1,797.76
# of Trips (Tech)				Mile	200	\$0.55	\$110.00
**Admin/Clerical				Reports	4	\$23.59	\$94.36
				Hour	2	\$66.09	\$132.18
						Item Subtotal	\$2,287.75

Concrete Strength testing includes strength testing of cylinder specimens (breaks)

- as well as preparation, holding and curing of strength specimen costs
- 1 Set is defined as 2 Cylinders (7-day or 28-day)
- All Structural Concrete requires a minimum 2 Sets per Test Location (4 Cyl)
- ** Project Administrative Fee is assessed on a per invoice basis and involves engineering review, evaluation, management and administration

Summary		
Sub-Total (CMT Items) =		\$32,315.68
Eng. Lab Mgr. (Coor. w/Asst Eng./Rpt. Rev.) (13 hrs x 112.36 Hr.)		\$1,459.36
Construction Materials Testing Total :		\$33,775.06