

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. 1.**

**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 _____, 20__.

THE ENGINEER:
TERRACON CONSULTANTS, INC.

THE OWNER:
HIDALGO COUNTY

By: Jorge A. Flores, P.G.

By: Richard F. Cortez, County Judge

ATTEST:

By: Arturo Guajardo Jr., County Clerk

EXHIBIT "A"

Scope of Services to be provided by the Engineer

Terracon will perform materials testing in general accordance with the project specifications. The time required for quality control testing during the construction phase on the project is directly related to the contractor's scheduling and performance. Therefore, our fee for materials testing and observation services will be based upon applicable unit prices and hourly rates. Our anticipated scope of services is as follows:

- Field density/moisture testing and laboratory evaluation of soils;
- Field observation of construction techniques and installation procedures of the concrete driven piles;
- Field testing and laboratory evaluation of concrete, observation of reinforced concrete; and
- Field testing and laboratory evaluation of asphaltic concrete materials used during pavement construction;

Experienced field/laboratory personnel will be provided for testing services. All field/laboratory materials testing/inspection will be performed under the direction of a Texas Registered Professional Engineer. A detailed scope of services envisioned to complete the testing is as follows:

SOILS

The field services will be supported by appropriate laboratory evaluation of soils used as fill or backfill on the site. The laboratory testing will include laboratory moisture-density relationship (Proctor), with sieve analysis and Atterberg limits determinations for classification and/or determination of import fill suitability. Laboratory material evaluations will be conducted as specified for each type of soil encountered during fill placement. The testing will be performed to check compliance with project specifications. The project contractor and construction manager personnel on the site will be informed of our field observations and test results. Written reports of test results will be prepared on a regular basis throughout the project duration and distributed per your directive.

FOUNDATION

A Certified Engineering Technician will be provided on a full-time basis to observe the construction techniques and installation procedures of the driven piles. Observations will include pile identification, diameter and depth.

CONCRETE

American Concrete Institute (ACI) or equivalent qualified engineering technicians will be provided on an as-requested basis to sample the plastic concrete used during construction. The concrete will

be tested for slump, air content and temperature at the time of placement. Sets of concrete cylinders will be molded at each sampling.

Concrete specimens will have initial field curing as recommended by the ACI standards at the site and returned to our local or portable laboratory for completing final curing prior to testing. Compressive strength testing will be conducted at 7-days (1 or 2 specimens), 28-days (2 or 3 specimens) intervals to determine compliance with project specifications. All test results will be conveyed after testing is completed

ASPHALT

Observations/testing will be performed by, or under the direction of a TxDOT Level 1A and 1B Certified Technician on as requested basis during placement of asphalt at the project. The asphalt will be sampled and submitted to our laboratory for Mix Properties, asphalt content and aggregate grain size distribution to verify compliance with project specifications. Asphalt cores will confirm thickness and density.

PROJECT MANAGEMENT

The project manager will be the point of contact for the project and his duties include as related materials testing and observation services the following:

- a) Attend construction meetings, on as scheduled basis;
- b) Review concrete mixes submitted, on as scheduled basis;
- c) Coordinate field and laboratory testing;
- d) Communicate with Terracon field technicians, Contractor, and Owner's site representative;
- e) Review laboratory and field test reports;
- f) Control our budget and invoice;
- g) Performing site visits to the project site; and
- h) Provide technical assistance.

EXHIBIT "B"

Cost Proposal

| Earthwork Observation/Testing | | | | |
|---|----------|---------|-----------|---------------------|
| Service | Quantity | Unit | Unit Rate | Estimate |
| Moisture/Density Curve (TEX 114) | 6 | Each | \$225.00 | \$ 1,350.00 |
| Moisture/Density Curve (TEX 113) | 2 | Each | \$ 275.00 | \$ 550.00 |
| Atterberg Limits (TEX-106-E) | 8 | Each | \$ 75.00 | \$ 600.00 |
| Sieve Analyses, -200 Sieve (TEX-111-E) | 8 | Each | \$ 60.00 | \$ 480.00 |
| Sieve Analyses (Tex-110-E) | 3 | Each | \$ 85.00 | \$ 255.00 |
| Nuclear Density Gauge Daily Fee (TEX-115-E) | 50 | Each | \$ 35.00 | \$ 1,750.00 |
| Soil Technician | 230 | Hour | \$ 50.00 | \$ 11,500.00 |
| Vehicle (per mile) | 2200 | Mileage | \$ 0.58 | \$ 1,276.00 |
| Subtotal, Earthwork | | | | \$ 17,761.00 |

| Driven Pile Observation | | | | |
|---|----------|---------|-----------|--------------------|
| Service | Quantity | Unit | Unit Rate | Estimate |
| Senior Technician, Regular Rate | 32 | Hour | \$ 60.00 | \$ 1,920.00 |
| Vehicle (per mile) | 160 | Mileage | \$ 0.58 | \$ 92.80 |
| Senior Engineer /Professional Engineer P.E. | 3 | Hour | \$ 135.00 | \$ 405.00 |
| Subtotal, Driven Piles | | | | \$ 2,417.80 |

| Concrete Observation/Testing | | | | |
|--|----------|---------|-----------|--------------------|
| Service | Quantity | Unit | Unit Rate | Estimate |
| Engineering Technician, Regular Hours | 65 | Hour | \$ 50.00 | \$ 3,250.00 |
| Engineering Technician, Overtime Hours | 10 | Hour | \$ 75.00 | \$ 750.00 |
| Concrete Cylinders, (ASTM C31 & C39) | 50 | Each | \$ 15.00 | \$ 750.00 |
| Vehicle (per mile) | 1000 | Mileage | \$ 0.58 | \$ 580.00 |
| Subtotal, Concrete | | | | \$ 5,330.00 |

| Hot-Mix Asphaltic Concrete Observation/Testing | | | | |
|--|----------|----------|-----------|---------------------|
| Service | Quantity | Unit | Unit Rate | Estimate |
| Engineering Technician (TX DOT Level 1A/1B) | 180 | Hour | \$ 50.00 | \$ 9,000.00 |
| Engineering Technician O/T (TX DOT Level 1A/1B) | 90 | Hour | \$ 75.00 | \$ 6,750.00 |
| Extraction/Gradation/Asphalt Content (TEX-236-F) | 4 | Each | \$ 175.00 | \$ 700.00 |
| Asphalt Cores (Patch Holes include) | 20 | Each | \$ 44.00 | \$ 880.00 |
| Coring Equipment | 4 | Per Trip | \$ 150.00 | \$ 600.00 |
| Theoretical Maximum Specific Gravity | 10 | Each | \$ 110.00 | \$ 1,100.00 |
| Vehicle (per mile) | 720 | Mileage | \$ 0.58 | \$ 417.60 |
| Subtotal, Hot-Mix Asphaltic | | | | \$ 19,447.60 |

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|---|----|------|-----------|--------------------|
| Project Management | 20 | Hour | \$ 90.00 | \$ 1,800.00 |
| Principal / Professional Engineer P.E. | 15 | Hour | \$ 185.00 | \$ 2,775.00 |
| Subtotal, Project Manager | | | | \$ 4,575.00 |

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|-----------------------|--|--|--|---------------------|
| ESTIMATE TOTAL | | | | \$ 41,783.60 |
|-----------------------|--|--|--|---------------------|