

January 9, 2017

City of Deer Park
710 East San Augustine Street
Deer Park, Texas 77536

Attention: Mr. Bill Pedersen
E: bpedersen@deerparktx.org

Subject: **Cost Estimate for Materials Services
New Deer Park City Hall
710 East San Augustine Street
Deer Park, Texas
Terracon Proposal Number P91161241**

Dear Mr. Pedersen:

Terracon Consultants, Inc. (Terracon) is pleased to provide this Proposal for Materials Services for providing materials testing services for the above referenced project. We understand that we have been selected to provide this service based on our professional qualifications. In this letter we present our understanding of the scope of the project, our proposed services, and our estimated testing budget.

A. PROJECT INFORMATION

The project consists of the construction of a two-story new building with a footprint area of approximately 17,000 square feet. The building construction includes a 42-inch thick select fill pad, concrete slab-on-grade, slab-on-deck, structural steel framing, and masonry walls. The building is supported on a drilled and under-reamed pier foundation system. Site utilities, driveways, parking, and sidewalks are also included.

B. SCOPE OF SERVICES

General project information was obtained from Geotechnical Engineering Report No. 91155015 dated April 22, 2015, prepared by Terracon Consultants, Inc. and Project Plans dated November 11, 2016, prepared by Cre8 Architects. Terracon proposes to provide the following scope of services when scheduled by your representative.

1. Earthwork:

- Sample subgrade, backfill, and treated materials. Prepare and test the samples for Atterberg Limits, -200 sieve analysis and moisture density relationship.
- Obtain sample of pavement subgrade for lime determination.
- Perform field gradation tests on treated subgrade soils.
- Observe proof rolling operations of the building pad subgrades.
- Perform field density tests using the nuclear method to determine the moisture content and percent compaction of the subgrade and treated subgrade soils.
- Obtain random samples of select fill to check the Plasticity Index (PI). It's Terracon's experience that "blended" select fill soils are commonly used in the greater Houston area. Therefore,

Terracon recommends that random samples of the proposed fill on site be obtained to verify that the soil meets the requirements for Atterberg Limits (ASTM D4318) and percent fines (ASTM D1140).

2. Drilled Under-reamed Footings:

- Observe the installation of the drilled and under-reamed footing foundation. For each pier observed, information regarding shaft depth, auger diameter, and chained bell tool diameter will be documented.
- Record dimensions and the number, size, and length of vertical reinforcing bars used for footings.
- Obtain pocket penetrometer readings on soil cuttings removed during excavation at or near the bearing stratum in order to document the approximate shear strength of the soil.
- Sample the fresh concrete placed in footings and perform required tests, including slump, air content, concrete temperature, and cast test specimens during placements.

3. Cast-In-Place Concrete - Structural:

- Sample the fresh concrete for each mix, perform required tests, including slump, air content, concrete temperature, and cast test specimens during placements.
- Perform compressive tests of concrete test cylinders cast in the field.
- Observe reinforcing steel prior to concrete placement. We will observe the rebar size, spacing and configuration. Terracon recommends we be scheduled a minimum of 24 hours prior to concrete placement

Terracon requests copies of the approved concrete mix designs.

4. Cast-in-Place Concrete - Parking/Paving/Sidewalks:

- Sample the fresh concrete for each mix, perform required tests, including slump, air content, concrete temperature, and cast test specimens during placements.
- Perform compressive tests of concrete test cylinders cast in the field.

Terracon requests copies of the approved concrete mix designs.

5. Mortar and Grout:

- Mortar: Obtain mortar samples and perform mortar cylinder compression tests.
- Grout: Obtain grout samples and perform compressive strength of grout prisms.

6. Welded and Bolted Framing Connections:

Terracon recommends that the general contractor schedule a pre-erection meeting to discuss the erection sequence, review welding and bolting requirements, and to review welder certification records.

- Provide a certified welding inspector (CWI) at the job site to observe field welding procedures and visually check bolted/welded connections in accordance with applicable AISC and AWS specifications and Contract Documents. **The approved Shop Drawings will be required for this inspection.**

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- Perform visual inspections of roof metal decking for placement including overlap, fastener spacing, supports at openings and penetrations, and puddle welds pattern, size and quality.

7. Project Management:

- Attend Project meetings as needed.
- Coordinate field and laboratory testing.
- Communicate with Terracon's field technicians, Contractor, and Owner's site representative.
- Review laboratory and field test reports.
- Monitor our budget and invoice.

Scheduling Retests:

It is the responsibility of your representative to schedule retests in a like manner to scheduling our original services. Terracon shall not be held responsible for retests not performed as a result of a failure to schedule our services or any subsequent damage caused as a result of a lack of retesting.

Additional Services:

If work beyond the scope listed above is requested by the Client, Terracon will issue a short Supplement to the Agreement form, or Supplement Cost estimate, that outlines the additional work to be performed and the associated fees. To authorize us to begin this additional work, you simply return a signed copy of the Supplement.

Project Schedule:

Field testing services will be provided on a "call-out" basis when scheduled by your representative. **A minimum of 24-hours notice is required to schedule our services,** although we will attempt to meet requests in a shorter time frame. Terracon will only provide testing when called by your onsite representative. **The extent of our observations and documentation will be limited to the items observed during the site visits. Terracon shall not be held responsible for tests not performed as a result of failure to schedule our services or any subsequent damage caused as a result of a lack of testing.**

C. COMPENSATION

Not To Exceed budget to perform the testing is **\$32,990**. Our fees will be based on the unit rates provided in the attached table. You will be invoiced on units actually used. Services not included in this Proposal, which may be requested or provided throughout the job, will be billed at Terracon rates, available upon request. Overtime is defined as all hours in excess of eight per day, and all hours worked on weekends and holidays. A 4-hour minimum charge will be applied to site visits other than sample or cylinder pickups. We will inform the City of Deer Park if additional fees are needed to complete the work.

D. SITE ACCESS AND SAFETY

Client shall secure all necessary site related approvals, permits, licenses, and consents necessary to commence and complete the services and will execute any necessary site access agreement. Terracon will be responsible for supervision and site safety measures for its own employees, but shall not be responsible for the supervision or health and safety precautions for any third parties, including Client's contractors, subcontractors, or other parties present at the site.

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E. TESTING AND OBSERVATION

Owner understands that testing and observation are discrete sampling procedures, and that such procedures indicate conditions only at the depths, locations, and times the procedures were performed. Terracon will provide test results and opinions based on tests and field observations only for the work tested. Owner understands that testing and observation are not continuous or exhaustive, and are conducted to reduce – not eliminate – project risk. Owner agrees to the level or amount of testing performed and the associated risk. Owner is responsible (even if delegated to contractor) for notifying and scheduling Terracon so Terracon can perform these services. Terracon shall not be responsible for the quality and completeness of Owner's contractor's work or their adherence to the project documents, and Terracon's performance of testing and observation services shall not relieve contractor in any way from its responsibility for defects discovered in its work, or create a warranty or guarantee. Terracon will not supervise or direct the work performed by contractor or its subcontractors and is not responsible for their means and methods.

Authorization

Please authorize us to proceed by signing the attached "Supplement to Agreement for Services" and returning a signed copy to Terracon. This agreement shall constitute the terms and conditions for our services to be performed for this project. This proposal is valid only if authorized within sixty days from the listed proposal date. Please call us at 281-557-2900 if you have any questions or comments regarding this document.

Sincerely,

Terracon Consultants, Inc.

(Registration No. F-3272)

A handwritten signature in blue ink, appearing to read "Edwin Vazquez Martinez".

Edwin Vazquez Martinez
Assistant Project Manager

A handwritten signature in blue ink, appearing to read "Scott R. Englebert".

Scott R. Englebert, P.E.
Materials Department Manager

A handwritten signature in blue ink, appearing to read "Noosha P. Smith".

Noosha P. Smith, P.E.
Senior Principal

Attachments:

1. Budget Table
2. Supplement to Agreement for Services

| Cost Estimate | | | | |
|-------------------------------|--------------|------|-----------|--------------|
| New Deer Park City Hall | | | | |
| Service | Quantity | Unit | Unit Rate | Estimate |
| 1.0 Field | | | | |
| Engineering Technician | 200 | hour | \$ 48.00 | \$ 9,600.00 |
| Engineering Technician, OT | 40 | hour | \$ 72.00 | \$ 2,880.00 |
| Certified Welding Inspector | 60 | hour | \$ 110.00 | \$ 6,600.00 |
| Nuclear Gauge Charge | 30 | day | \$ 60.00 | \$ 1,800.00 |
| Vehicle Charge | 60 | day | \$ 60.00 | \$ 3,600.00 |
| | | | sub-total | \$ 24,480.00 |
| 2.0 Laboratory | | | | |
| Moisture Density Relationship | 8 | each | \$ 160.00 | \$ 1,280.00 |
| Atterberg Limits | 30 | each | \$ 50.00 | \$ 1,500.00 |
| 200 Wash | 10 | each | \$ 50.00 | \$ 500.00 |
| Lime Determination | 1 | each | \$ 350.00 | \$ 350.00 |
| Cylinder Tests (4 cyl/set) | 140 | each | \$ 14.00 | \$ 1,960.00 |
| Mortar Cylinders (6 per set) | 4 | set | \$ 150.00 | \$ 600.00 |
| Grout Prisms (6 per set) | 4 | set | \$ 150.00 | \$ 600.00 |
| | | | sub-total | \$ 6,790.00 |
| 3.0 Project Management | | | | |
| Administrative | 8 | hour | \$ 50.00 | \$ 400.00 |
| Project Manager | 12 | hour | \$ 110.00 | \$ 1,320.00 |
| | Total | | | \$ 32,990.00 |

SUPPLEMENT TO AGREEMENT FOR SERVICES

CHANGE TO SCOPE OF SERVICES AND FEES

This **SUPPLEMENT to AGREEMENT FOR SERVICES** to the original Agreement for Services (original Agreement dated 03/19/2015, Agreement reference number P91150050) is between City of Deer Park ("Client") and Terracon Consultants, Inc. ("Consultant") for additional or changed Services to be provided by Consultant for client on the Project, as described in the Agreement for Services. This Supplement is incorporated into and part of the Agreement for Services.

- 1. Scope of Services.** The scope of the additional or changed Services are described in the Scope of Services section of the Consultant's Supplemental Proposal, unless Services are otherwise described below or in Exhibit B to this Supplement (which section or exhibit are incorporated into the Supplement).

As noted in Terracon Proposal P91161241

- 2. Compensation.** Client shall pay compensation for the additional or changed Services performed at the fees stated in the Supplemental Proposal unless fees are otherwise stated below or in Exhibit C to this Supplement (which section or exhibit are incorporated into the Supplement).

As noted in Terracon Proposal P91161241

All terms and conditions of the **Agreement for Services** shall continue in full force and effect. This Supplement is accepted and Consultant is authorized to proceed.

Consultant: **Terracon Consultants, Inc.**
By:  Date: **1/9/2017**
Name/Title: **Noosha P Smith / Office Manager III**
Address: **551 League City Pkwy Ste F**
League City, TX 77573-5463
Phone: **(281) 557-2900** Fax: **(281) 557-2990**
Email: **Noosha.Smith@terracon.com**

Client: **City of Deer Park**
By: _____ Date: _____
Name/Title: _____
Address: **710 East San Augustine street**
Deer Park, Texas 77536
Phone: _____ Fax: _____
Email: _____