



## **STANDARD AGREEMENT**

(version 2-20-2018)

This AGREEMENT ("Agreement") is entered by and between **HR Green, Inc.** ("Contractor"), located at **11011 Richmond Avenue, Suite 200 Houston, TX 77042** and **City of League City** ("City"), a municipal corporation, located at 300 W. Walker, League City, Texas 77573 on the date set forth below.

### **Terms:**

1. **Scope of Services:** Contractor will perform the designated services and/or provided the designated products, as set forth in **Exhibit A**, which is attached and incorporated herein, and which can be generally described as **professional engineering services**. If there is a conflict between the terms of this Agreement and Exhibit A, the terms of this Agreement will prevail.
2. **Term and Termination:** This Agreement shall begin on **October 15, 2018** and shall terminate on **October 15, 2019**. This City reserves the right to terminate this Agreement for convenience upon seven (7) days-notice to the Contractor. Upon such termination, the City shall pay Contractor, at the rate set out in **Exhibit A**, for services satisfactorily performed or products satisfactorily provided up through the date of termination. Notwithstanding any provision in this Agreement to the contrary, the City will not be required to pay or reimburse Contractor for any services performed or for expenses incurred by Contractor after the date of the termination notice that could have been avoided or mitigated by Contractor. This Agreement is eligible for **NA** renewal option(s) with a term of **NA** year.
3. **Compensation:** Contractor shall be paid for the services, as set forth in **Exhibit A**, attached and incorporated for all purposes. In no event shall the total compensation exceed **\$155,031.10** during the term of this Agreement. The City shall pay Contractor in accordance with the Texas Government Code 2251. Contractor must submit invoices for all services, which invoices must include dates of service and details of services provided. Payment for delivery of services rendered shall not be unreasonably withheld or delayed. If the City disapproves any amount submitted for payment by Contractor, the City shall give Contractor specific reasons for disapproval in writing. Upon resolution of any disputed charges, Contractor shall submit an amended invoice covering any remaining charges to the City.
4. **Insurance:** The Contractor **is** required to maintain insurance through the term of this Agreement.

If required by the City, Contractor shall maintain Comprehensive General Liability insurance coverage of \$1,000,000 per occurrence or medical malpractice insurance (whichever applies) throughout the entire term of the Agreement. If at any point during the Agreement, Contractor will enter City property, Contractor shall also maintain the following insurance: (i) Worker's Compensation coverage with statutory limits for the State of Texas, including Employers Liability coverage of \$500,000 per accident; (ii) Commercial Automobile Liability coverage of \$1,000,000 Combined Single Limit; (iii) for engineers and architects only: Professional Liability coverage of \$5,000,000 per occurrence; and (iv) for builders only: Builder's Risk coverage in the amount of the construction cost, including protection against named windstorm and flood. All policies must contain a waiver of subrogation against City. Comprehensive General Liability and Commercial Automobile Liability policies must name the City as Additional Insured. Contractor shall pay all insurance deductibles and deductibles must not exceed \$10,000 unless approved in advance by City. Contractor shall provide City Certificates of Insurance evidencing these insurance requirements prior to the start of work.

5. **Independent Contractor:** Contractor is an independent contractor and is not an employee, partner, joint venture, or agent of the City. Contractor understands and agrees that he/she will not be entitled to any benefits generally available to City of League City employees. Contractor shall be responsible for all expenses necessary to carry out the services under this Agreement and shall not be reimbursed by the City for such expenses except as otherwise provided in this Agreement.
6. **Intellectual Property:** This Agreement shall be an Agreement for services and the parties intend and consider any work created as a result of this Agreement, including any and all documentation, images, products or results, to be a work for hire under federal copyright law. Ownership of the work shall belong to and remain the exclusive property of the City. The work may be edited at any time within the City's discretion. If the work would not be considered a work-for-hire under applicable law, Contractor hereby assigns, transfers, and conveys any and all rights, title and interest to City of League City, including without limitation all copyrights, patents, rights of reproduction, rights to ownership, and right to secure registrations, renewals, reissues and extensions thereof. As the sole copyright holder of the work, the City maintains and asserts the rights to use, reproduce, make derivative works from, and/or edit the Work in any form of medium, expression or technology now known or hereafter developed, at any time within the City's discretion. Contractor shall not sell, disclose or obtain any other compensation for the services provided herein. If the work is one to which the provisions of 17 U.S.C. § 106A apply, the Contractor hereby waives and appoints the City to assert on the Contractor's behalf the Contractor's moral rights or any equivalent rights regarding the form or extent of any alteration to the work (including, without limitation, removal or destruction) or the making of any derivative works based on the Work, including, without limitation, photographs, drawings or other visual reproductions of the work, in any medium, for the City's purposes.
7. **Confidentiality:** During the course of the work and/or services to be provided under this Agreement, Contractor may come in contact with confidential information of the City. Contractor agrees to treat as confidential the information or knowledge that becomes known to Contractor during performance of this Agreement and not to use, copy, or disclose such information to any third party unless authorized in writing by the City. This provision does not restrict the disclosure of any information that is required to be disclosed under applicable law. Contractor shall promptly notify the City of any misuse or unauthorized disclosure of its confidential information and upon expiration of this Agreement shall return to the City all confidential information in Contractor's possession or control. Contractor shall further comply with all information security policies of the City that may apply and shall not make any press releases, public statements or advertisement referring to the services provided under this Agreement or the engagement of Contractor without the prior written approval of the City.
8. **Warranties and Representations:** Contractor warrants and agrees that Contractor shall perform the Services and conduct all operations in conformity with all applicable federal, state, and local laws, rules, regulations, and ordinances. For any Service performed on premises owned or controlled by the City, Contractor warrants and agrees that Contractor will perform the Services in compliance with all City Rules, including but not limited to, prohibitions related to tobacco use, alcohol, and other drugs.
9. **Licenses/Certifications:** Contractor represents and warrants that it will obtain and maintain in effect, and pay the cost of all licenses, permits or certifications that may be necessary for Contractor's performance of this Agreement. If Contractor is a business entity, Contractor warrants, represents, covenants, and agrees that it is duly organized, validly existing and in good standing under the laws of the state of its incorporation; and is duly authorized and in good standing to conduct business in the State of Texas, that it has all necessary power and has received all necessary approvals to execute and deliver the Agreement and is authorized to execute this Agreement according to its terms on behalf of Contractor.
10. **Performance/Qualifications:** Contractor agrees and represents that Contractor has the personnel, experience, and knowledge necessary to qualify Contractor for the particular duties to be performed under this Agreement. Contractor warrants that all services performed under this Agreement shall be performed consistent with generally prevailing professional or industry standards.

11. **Conflict of Interest:** Contractor warrants, represents, and agrees that Contractor presently has no interest and shall not acquire any interest, direct or indirect, that would conflict in any manner or degree with Contractor's performance of the Services hereunder. Contractor further warrants and affirms that no relationship or affiliation exists between Contractor and the City that could be construed as a conflict of interest with regard to this Agreement.
12. **INDEMNIFICATION: CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS THE CITY, AND EACH OF ITS DIRECTORS, OFFICERS, AGENTS AND EMPLOYEES FROM AND AGAINST ALL CLAIMS, ACTIONS, SUITS, DEMANDS, PROCEEDINGS, COSTS, DAMAGES AND LIABILITIES, INCLUDING WITHOUT LIMITATION ATTORNEYS' FEES AND REASONABLE LITIGATION COSTS, ARISING OUT OF, CONNECTED WITH, OR RESULTING FROM ANY ACTS OR OMISSIONS OF CONTRACTOR OR ANY AGENT, EMPLOYEE, SUBCONTRACTOR, OR SUPPLIER OF CONTRACTOR IN THE EXECUTION OR PERFORMANCE OF THIS CONTRACT, TO THE EXTENT THE CLAIM ARISES FROM NEGLIGENCE, WILLFUL ACT, BREACH OF CONTRACT OR VIOLATION OF LAW.**
13. **Force Majeure:** Neither the City nor Contractor shall be liable for any delay in the performance of this Agreement, nor for any other breach, nor for any loss or damage arising from uncontrollable forces such as fire, theft, storm, war, or any other force majeure that could not have been reasonably avoided by exercise of due diligence.
14. **Notices:** Any notice given under this contract by either party to the other may be affected either by personal delivery in writing or by mail, registered or certified postage prepaid with return receipt requested. Mailed notices shall be addressed to the addresses of the parties as they appear in the contract. Notices delivered personally shall be deemed communicated at the time of actual receipt. Mailed notice shall be deemed communicated three (3) days after mailing.
15. **Texas Family Code Child Support Certification:** Pursuant to Section 231.006, *Texas Family Code*, Contractor certifies that it is not ineligible to receive the award of or payments under the Agreement and acknowledges that the Agreement may be terminated, and payment may be withheld if this certification is inaccurate.
16. **State Auditor:** Contractor understands that acceptance of funds under the Agreement constitutes acceptance of the authority of the Texas State Auditor's Office, or any successor agency (collectively, "Auditor"), to conduct an audit or investigation in connection with those funds. Contractor agrees to cooperate with the Auditor in the conduct of the audit or investigation, including without limitation providing all records requested. Contractor will include this provision in all contracts with permitted subcontractors.
17. **Jurisdiction:** Any disputes under this Agreement shall be brought in a court of competent jurisdiction in Galveston, Texas and governed by Texas law.
18. **Alternative Dispute Resolution:** To the extent that Chapter 2260, Texas Government Code, is applicable to this Contract and is not preempted by other applicable law, the dispute resolution process provided for in Chapter 2260 and the related rules adopted by the Texas Attorney General Pursuant to Chapter 2260, shall be used by the City and the Contractor to attempt to resolve any claim for breach of contract made

by Contractor that cannot be resolved in the ordinary course of business. The Director of Finance of the City shall examine Contractor's claim and any counterclaim and negotiate with Contractor in an effort to resolve such claims. The parties hereto specifically agree that (i) neither the occurrence of an event giving rise to a breach of contract claim nor the pendency of a claim constitute grounds for the suspension of performance by Contractor, (ii) neither the issuance of this Contract by the City nor any other conduct, action or inaction of any representative of the City relating to this contract constitutes or is intended to constitute a waiver of the City's or the state's sovereign immunity to suit; and (iii) the City has not waived its right to seek redress in the courts.

19. **Entire Agreement:** This Agreement contains the entire Agreement between the parties and supersedes all prior agreements, arrangements, and understanding, oral or written between the parties relating to this Agreement. This Agreement may not be modified except by mutual written agreement of the parties executed subsequent to this Agreement.
20. **Eligibility to Receive Payment:** Contractor certifies that, as a matter of State law, it is not ineligible to receive the Agreement and payments pursuant to the Agreement and acknowledges that the Agreement may be terminated, and payment withheld if this representation is inaccurate.
21. **Payment of Debt/Delinquency to State:** Contractor certifies that it is not indebted to the City of League City and is current on all taxes owed to the City of League City. Contractor agrees that any payments owing to Contractor under the Agreement may be applied directly toward any debt or delinquency that Contractor owes the City of League City regardless of when it arises, until such debt or delinquency is paid in full.
22. **Products and Materials Produced in Texas:** If Contractor will provide services under the Agreement, Contractor covenants and agrees that in performing its duties and obligations under the Agreement, it will purchase products and materials produced in Texas when such products and materials are available at a price and delivery time comparable to products and materials produced outside of Texas.
23. **Risk of Loss:** If applicable, all work performed by Contractor pursuant to the Agreement will be at Contractor's exclusive risk until final and complete acceptance of the work by City. In the case of any loss or damage to the work prior to City's acceptance, such loss or damage will be Contractor's responsibility.
24. **Publicity:** Contractor shall not use City's name, logo or likeness in any press release, marketing materials or other public announcement without receiving City's prior written approval.
25. **Legal Construction/Severability:** In the event that any one or more of the provisions contained in this contract shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision, and this contract shall be construed as if such invalid, illegal or unenforceable provisions had never been contained in it. To this end, the provisions of this contract are declared to be severable. The Parties may mutually agree to renegotiate the contract to cure such illegality/invalidity or unconstitutionality if such may be reasonably accomplished.
26. **Limitations:** The Parties are aware that there are constitutional and statutory limitations on the authority of City to enter into certain terms and conditions of the Agreement, including, but not limited to, those terms and conditions relating to liens on City's property; disclaimers and limitations of warranties; disclaimers and limitations of liability for damages; waivers, disclaimers and limitations of legal rights, remedies, requirements and processes; limitations of periods to bring legal action; granting control of litigation or settlement to another party; liability for acts or omissions of third parties; payment of attorneys' fees; dispute resolution; indemnities; and confidentiality (collectively, the "Limitations"), and terms and conditions related to the Limitations will not be binding on City except to the extent authorized by the laws and Constitution of the State of Texas.
27. **Sovereign Immunity:** Except as otherwise provided by Texas law, neither the execution of the Agreement by City nor any other conduct, action or inaction of any City representative relating to the Agreement is a waiver of sovereign immunity by City.

28. **Authority:** Contractor warrants and represents that Contractor has full power and authority to enter into and perform this Agreement and to make the grant of rights contained herein. The person signing on behalf of the City represents that he/she has authority to sign this Agreement on behalf of City.
29. **Non-Waiver:** No covenant or condition of this Agreement may be waived except by written consent of the waiving party. Forbearance or indulgence by one party in any regard whatsoever shall not constitute a waiver of the covenant or condition to be performed by the other party.
30. **Prohibition on Boycotting Israel:** Pursuant to Section 2270.002, Texas Government Code, by executing this Agreement Contractor verifies that Contractor: (1) does not boycott Israel; and (2) will not boycott Israel during the term of this Agreement.
31. **Prohibition Against Business with Iran, Sudan or Foreign Terrorists Organizations:** Contractor warrants, covenants, and represents that Contractor is not engaged in business with Iran, Sudan, or any company identified on the list referenced in Section 2252.152, Texas Government Code.

Executed on this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_. *(date to be filled in by City Secretary)*

**HR GREEN INC. - "Contractor"**

\_\_\_\_\_  
Stephen A. Sparks, P.E.  
Vice President

**CITY OF LEAGUE CITY – "City"**

\_\_\_\_\_  
John Baumgartner, P.E.  
City Manager

**Attest:**

\_\_\_\_\_  
Diana Stapp, City Secretary

**Approved as to Form:**

\_\_\_\_\_  
Office of the City Attorney

# Exhibit A

**Scope of Services/Description of Products**  
(26 number of pages, including this page)

See Next Page...



▷ 11011 Richmond Avenue | Suite 200 | Houston, TX 77042  
Main 713.965.9996 + Fax 713.965.0044 + TBPE Firm F-11278

▷ [HRGREEN.COM](http://HRGREEN.COM)

September 11, 2018

Mr. Scott Tuma  
Engineering Department  
500 West Walker Street  
League City, TX 77573

RE: Proposal for Asphalt Overlay Improvements for:  
Package #4 - Various Streets along Railroad Area

Dear Mr. Tuma:

HR Green is pleased to submit this proposal for performing plans preparation, survey, bid-phase and construction phase services for the above referenced project. The project includes engineering design phase, bid phase, survey, geotechnical and construction phase services for an asphalt overlay project for various streets in the Railroad Area. The streets include Wilkins, W. Saunders, E. Saunders, Interurban, David, Michigan, Houston, Galveston and Kansas.

This proposal is based on our understanding of the project as discussed with you and from site visits to the project. This proposal presents a general overview with preliminary construction cost estimate, scope of service and proposed fee.

#### GENERAL OVERVIEW

The limits include the following:

Street		FROM	TO	Linear Feet
1	W. Wilkins St.	Interurban St.	SH3	1,708
2	W. Saunders St.	Interurban St.	W. Wilkins St.	2,000
3	Interurban	W. Galveston St.	W. Saunders St.	731
4	David Ave.	E. Walker St.	Beaumont St.	1,301
5	N. Michigan	North of Coryell St.	FM518	1,700
6	Colorado	Coryell St.	FM518	1,422
7	Iowa	Walker	Beaumont St.	1,270
8	Illinois	Lewis	Beaumont St.	2,315
9	E. Wilkins	SH3	Butler St.	1,315
10	E. Saunders	SH3	Butler St.	1,315
11	Houston Ave.	FM518	E. Galveston	244
12	E. Galveston	SH3	Butler St.	1,262
13	S. Kansas	Walker	Beaumont	1,270

- The approximate length of Mill & Overlay operations is 17,853 LF. The existing roadway consists of 20 foot wide open ditch asphalt pavement with roadside ditches as well as 30 foot wide curb and gutter streets.
- Preliminary Construction Cost Estimate is \$1,908,817.84 (with a 5% contingency).

The proposed pavement improvements will include a 3-inch and 2-inch Asphalt Overlay with Base Repair in select areas. The project will require Topographic Survey and a Geotechnical Report.

## **PROPOSED FEE**

The proposed fee for Design Phase, Bid Phase Services, Construction Phase Services, Geotechnical and Topographic Survey is \$155,031.10 (see Attachment "A"). As in our previous contract, Design Phase, Bid Phase and Construction Phase services are based on lump sum fees and hourly charges will be based on raw labor rates times a multiplier of 3.10. Reimbursable expenses will be charged at cost plus 10%, and mileage will be charged at the prevailing federal rate.

## **SCOPE OF SERVICES**

- I. Design Phase Services and Bid-Phase Services
  - Prepare Title Sheet with project limits
  - Prepare Summary of Quantities sheet
  - Prepare existing and proposed Typical Sections
  - Prepare driveway taper details
  - Survey layout sheets
  - Geotech report and boring location sheets
  - Prepare roadway plan sheets for open ditch and curb & gutter sections.
  - Identify and call out on roadway plan sheets the locations of curb and gutter removal and replacement for Wilkins, Saunders, & Interurban Streets.
  - Prepare Base Repair Detail to be used in select areas in need of base repair.
  - Include TxDOT standard Traffic Control Detail sheets to be used for one-lane closure pavement operations. This does not include development of traffic control plan sheets or detour plan sheets.
  - Prepare project layout sheet indicating the limits of the project.
  - Pavement Markings for Stop Bars and Blue Reflector Fire Hydrant Markers at select locations.
  - Attend monthly progress meetings
  - Prepare engineers opinion of probable construction cost, bid documents and specification and attend Pre-Bid meeting.
  - Assist the City in obtaining bids for the project.
  - Make construction documents available on CivCast for vendor distribution.
  - Provide information to and answer questions from bidders concerning construction documents.
  - Evaluate the bids and low bidder qualifications and make recommendations to the City for the award of contract.
  - Prepare five (5) contract document sets for execution by the successful Contractor.
  - Review Contract documents provided by the Contractor and submit to the City for further execution.





Mr. Scott Tuma  
September 11, 2018

II. Construction Phase Services

- Coordinate with the City and attend Pre-Construction meeting
- Prepare meeting minutes for the pre-construction meeting and provide copies to all attendees.
- Provide construction administration services for the project.
- Assist the City during construction phase.
- Review and respond accordingly to all submittals and RFI's.
- Prepare change orders necessitated by field conditions.
- Review contractor's pay estimates, evaluate completed work, and make payment recommendations to the City.
- Assist the City in conducting final observation of the project. Coordinate with the City and the Contractor on the punch list items identified in the final inspections.
- Assist the City with project close-out, conduct a final observation of the project and make recommendation for Final Payment on the Project.
- Visit the site at appropriate intervals to observe construction progress and quality of work and to determine if the work is proceeding in accordance with the plans.
- Provide one (1) set of reproducible record plans based on the red lined drawings provided to HR Green by the Contractor.
- Include CBDG documentation in project manual.
- HR Green is not responsible for the means, methods, techniques, sequence of procedures of construction selected by the Contractor(s) or the safety precautions and programs incident to the work of the Contractor(s). HR Green is not responsible for the failure of the Contractor to perform the work in accordance with the construction documents. During site visits and on the basis of on-site observations HR Green will keep the City informed of the progress of the work, and will endeavor to identify to the City any defects or deficiencies in such work when they are observed.

III. Not Included in Scope:

- Drainage Study
- Drainage Plans
- Detailed measurements and investigations during construction phase are not part of this task.
- Full time site representation and inspection services during construction phase are not part of this task.
- Construction testing is not included in this proposal. It is our understanding that the City of League City will contract directly with a testing firm to perform testing services.

HR Green appreciates the opportunity to submit this proposal and we look forward to working with you and your staff on this important project. Please call should you have any questions or comments.

Sincerely,

HR GREEN, INC.

A handwritten signature in blue ink, appearing to read 'Stephen Sparks', is written over the printed name.

Stephen Sparks, PE

Vice President, Attachments

**ATTACHMENT "A" - LEVEL OF EFFORT (HR GREEN, INC)**

**METHOD OF PAYMENT: LUMP SUM**

**PACKAGE #4: VARIOUS STREETS ASPHALT OVERLAY**

TASK DESCRIPTION	FRANK PRINCIPAL/ DEPARTMENT MANAGER	JESUS SENIOR PROJECT MANAGER	MOHAMMED SENIOR ENGINEER	VICKY PROJECT ENGINEER	CHRIS SENIOR ENGINEER TECHNICIAN	REY CADD TECHNICIAN	CHRISTI CLERICAL	TOTAL LABOR HRS. & COSTS
CONTRACT RATE PER HOUR (With 3.00 Mult.)	\$249.00	\$245.00	\$175.00	\$135.00	\$119.00	\$93.00	\$78.00	
<b>PLANS PREPARATION</b>								
AQUIRE AND REVIEW EXISTING DATA			1	1	1			3
SITE VISITS			4	4	4	4		16
REVIEW SURVEY TOPO			2	8	8			18
REVIEW GEOTECHNICAL REPORT			2					2
TITLE SHEET: WITH PROJECT TITLE AND LIMITS OF PROJECT			1	1	2			4
GENERAL NOTES, SPECIFICATIONS AND PROVISIONS			1	1	2	2		6
SUMMARY OF QUANTITIES SHEET			4	8	2	4		18
EXISTING TYPICAL SECTIONS			1	2	4			7
PROPOSED TYPICAL SECTIONS (OPEN DITCH AND CURB AND GUTTER)			2	4	4	8		18
BASE REPAIR DETAIL SHEET			1	2	2	3		8
DRIVEWAY DETAILS SHEETS (2 submittals)			1	1	2	3		7
SURVEY CONTROL SHEETS: WITH BENCHMARKS AND PROJECT CONTROL			1	2	2	3		8
ROADWAY PLAN ONLY SHEETS (DB)(Scale: H 1"=20' Full, 1"=40' Half)(19 sheets-2 submittals)		8	20	24	88	110		250
IDENTIFY LIMITS OF CURB AND GUTTER REPLACEMENT (Wilkins, Saunders & Interurban)		2	4	8	16	24		54
TRAFFIC CONTROL STANDARD DETAILS: TxDOT TCP STANDARDS (11 SHEETS)			1	2	2	3		8
CONSTRUCTION PROJECT SIGN			1		2			3
COMPUTE & TABULATE REMOVAL QUANTITIES (2 submittals)			4	16	2			22
COMPUTE & TABULATE ROADWAY QUANTITIES (2 submittals)			4	16	2			22
COMPUTE MISCELLANEOUS QUANTITIES, ETC.			4	16	1			21
QA/QC PREPARATION \ COMMENT RESPONSES (2 submittals)		8	4	16	1			29
CONSTRUCTION COST ESTIMATE		1	4	8				13
HOURS SUB-TOTALS	0	19	67	140	147	164	0	537
CONTRACT RATE PER HOUR	\$249.00	\$245.00	\$175.00	\$135.00	\$119.00	\$93.00	\$78.00	
TOTAL LABOR COSTS	\$0.00	\$4,655.00	\$11,725.00	\$18,900.00	\$17,493.00	\$15,252.00	\$0.00	\$68,025.00
% DISTRIBUTION OF STAFFING	0.00%	3.54%	12.48%	26.07%	27.37%	30.54%	0.00%	
<b>SUBTOTAL PLANS PREPARATION</b>								<b>\$68,025.00</b>

TASK DESCRIPTION	PRINCIPAL/ DEPARTMENT MANAGER	SENIOR PROJECT MANAGER	SENIOR ENGINEER	PROJECT ENGINEER	SENIOR ENGINEER TECHNICIAN	CADD TECHNICIAN	CLERICAL	TOTAL LABOR HRS. & COSTS
<b>BID PHASE SERVICES</b>								
PREPARE PROJECT BID MANUAL AND DOCUMENTS			6				1	7
UPLOAD PLANS TO CIVCAST			2				1	3
ATTEND PRE-BID MEETING, PREPARE ADDENDUMS IF NECESSARY			4					4
EVALUATE BID TABULATIONS, VERIFY LOW BIDDER QUALIFICATIONS, AWARD LETTER			4					4
HOURS SUB-TOTALS	0	0	16	0	0	0	2	18
CONTRACT RATE PER HOUR	\$249.00	\$245.00	\$175.00	\$135.00	\$119.00	\$93.00	\$78.00	
TOTAL LABOR COSTS	\$0.00	\$0.00	\$2,800.00	\$0.00	\$0.00	\$0.00	\$156.00	\$2,956.00
% DISTRIBUTION OF STAFFING	0.00%	0.00%	88.89%	0.00%	0.00%	0.00%	11.11%	
<b>SUBTOTAL BID PHASE SERVICES</b>								<b>\$2,956.00</b>

TASK DESCRIPTION	PRINCIPAL/ DEPARTMENT MANAGER	SENIOR PROJECT MANAGER	SENIOR ENGINEER	PROJECT ENGINEER	SENIOR ENGINEER TECHNICIAN	CADD TECHNICIAN	CLERICAL	TOTAL LABOR HRS. & COSTS
<b>CONSTRUCTION PHASE</b>								0
ATTEND PRE-CONSTRUCTION MEETING			4					4
ATTEND CONSTRUCTION PROGRESS MEETINGS, AS NEEDED			6					6
REVIEW SHOP DRAWINGS AND SUBMITTALS			3					3
RESPOND TO RFIS			3					3
ASSIST LEAGUE CITY CONSTRUCTION ENGINEER/INSPECTOR			3					3
ATTEND FINAL WALK THROUGH			3					3
PREPARE AS-BUILT DRAWINGS			1		8			9
HOURS SUB-TOTALS	0	0	23	0	8	0	0	31
CONTRACT RATE PER HOUR	\$249.00	\$245.00	\$175.00	\$135.00	\$119.00	\$93.00	\$78.00	
TOTAL LABOR COSTS	\$0.00	\$0.00	\$4,025.00	\$0.00	\$952.00	\$0.00	\$0.00	\$4,977.00
% DISTRIBUTION OF STAFFING	0.00%	0.00%	127.78%	0.00%	44.44%	0.00%	0.00%	
<b>SUBTOTAL CONSTRUCTION PHASE SERVICES</b>								<b>\$4,977.00</b>

TASK DESCRIPTION	PRINCIPAL/ DEPARTMENT MANAGER	SENIOR PROJECT MANAGER	SENIOR ENGINEER	PROJECT ENGINEER	SENIOR ENGINEER TECHNICIAN	CADD TECHNICIAN	CLERICAL	TOTAL LABOR HRS. & COSTS
<b>PROJECT MANAGEMENT</b>								
PROJECT MEETINGS WITH CITY OF LEAGUE CITY (3 MEETINGS)			6					6
COORDINATION WITH CITY OF LEAGUE CITY (CONF. CALLS/EMAILS)			2					2
COORDINATION WITH SURVEYOR			1					1
COORDINATION WITH GEOTECHNICAL			1					1
GENERAL PROJECT MANAGEMENT (PREPARE SUBMITTALS AND INVOICING)			1				6	7
HOURS SUB-TOTALS	0	0	11	0	0	0	6	17
CONTRACT RATE PER HOUR	\$330.00	\$245.00	\$175.00	\$135.00	\$119.00	\$93.00	\$78.00	
TOTAL LABOR COSTS	\$0.00	\$0.00	\$1,925.00	\$0.00	\$0.00	\$0.00	\$468.00	\$2,393.00
% DISTRIBUTION OF STAFFING	0.00%	0.00%	64.71%	0.00%	0.00%	0.00%	35.29%	
<b>SUBTOTAL (FC 164)</b>								<b>\$2,393.00</b>

TASK DESCRIPTION	SUB CONSULTANT FEE	10% MARK-UP						TOTAL LABOR HRS. & COSTS
<b>SUBCONSULTANT SERVICES</b>								
SERVEY (KUO) WITH 10% MARK UP	\$55,470.00	10%						\$61,017.00
GEOTECHNICAL (TERRACON) WITH 10 % MARK UP	\$13,650.00	10%						\$15,015.00
TOTAL LABOR COSTS								\$76,032.00
<b>SUBTOTAL SUBCONSULTANTS</b>								<b>\$76,032.00</b>

OTHER DIRECT EXPENSES	UNITS	COST/UNIT	QUANTITY					
Mileage (# of miles) (current state rate)	MI	\$0.543	500					\$271.50
CIVCAST	EA	\$100.00	1					\$100.00
Courier Services (Deliveries)	EA	\$30.00	0					\$0.00
Photocopies B/W (8.5 X 11) (Bid Book: 5 sets x 300 sheets)	EA	\$0.12	1500					\$180.00
Photocopies B/W (11 X 17) (Plans: 2 Submittals x 70)	EA	\$0.15	140					\$21.00
Photocopies B/W (22 X 34) (Plans: 2 Submittals x 70)	EA	\$0.54	140					\$75.60
Photocopies Color (8.5 X 11)	EA	\$0.80	0					\$0.00
Photocopies Color (11 X 17)	EA	\$1.50	0					\$0.00
Blackline Prints (11" X 17")	EA	\$1.10	0					\$0.00
Plots (Color on Bond)	SF	\$4.00	0					\$0.00
<b>TOTAL OTHER DIRECT EXPENSES</b>								<b>\$648.10</b>

SUMMARY	
TOTAL LABOR COSTS FOR <b>PLANS PREPARATION</b>	\$68,025.00
TOTAL LABOR COSTS FOR <b>BID-PHASE SERVICES</b>	\$2,956.00
TOTAL LABOR COSTS FOR <b>CONSTRUCTION-PHASE SERVICES</b>	\$4,977.00
TOTAL LABOR COSTS FOR <b>PROJECT MANAGEMENT</b>	\$2,393.00
TOTAL LABOR COSTS FOR <b>SUBCONSULTANTS</b>	\$76,032.00
OTHER DIRECT EXPENSES FOR <b>HR GREEN, INC.</b>	\$648.10
<b>GRAND TOTAL</b>	<b>\$155,031.10</b>

# Preliminary Engineer's Opinion of Probable Construction Costs

## For City of League City - Various Streets Asphalt Overlay

Prepared By: HR Green, Inc.

Date Prepared: September 6, 2018

Various Streets Package #4					
A. Site Preparation Items					
Item	Description	Quantity	Unit	Unit Price	Total Price
1	Clearing and Grubbing, Complete in Place, In accordance with drawings and Specifications	178.50	STA	\$200.00	\$35,700.00
2	Milling Existing Pavement, In accordance with drawings and Specifications	45,467	SY	\$3.25	\$147,767.75
Subtotal for Site Preparation					\$183,467.75
B. Pavement Items					
Item	Description	Quantity	Unit	Unit Price	Total Price
3	1 1/2 Inch Asphaltic Concrete Pavement (Surface), Complete in Place, In accordance with drawings and Specifications	3,751.0	Tons	\$90.00	\$337,590.00
4	1 1/2Inch Asphaltic Concrete Pavement (Level-Up), Complete in Place, In accordance with drawings and Specifications	3,751.0	Tons	\$95.00	\$356,345.00
5	Prime Coat (MC-30), Complete in Place, In accordance with drawings and Specifications	11,367	Gal	\$4.00	\$45,468.00
6	Tack Coat (MC-30), Complete in Place, In accordance with drawings and Specifications	4,547	Gal	\$3.00	\$13,641.00
7	Base Repair (At Select Areas)(10" Black Base), Complete in Place, In accordance with drawings and Specifications	6252.0	Tons	\$95.00	\$593,940.00
8	Backfill Material, Reclaimed Asphalt Pavement (RAP) for Shoulder Dressing, In accordance with drawing and specifications	178.50	STA	\$250.00	\$44,625.00
9	Remove and replace curb and gutter, Complete in Place, In accordance with drawings and Specifications	4439.00	LF	\$50.00	\$221,950.00
Subtotal for Pavement Items					\$1,613,559.00
C. Construction Traffic Control Items					
Item	Description	Quantity	Unit	Unit Price	Total Price
10	Temporary Traffic Handling and Control & Flagmen	3	Mo.	\$1,500.00	\$4,500.00
Subtotal for Construction Traffic Control Items					\$4,500.00
D. Signing and Pavement Marking Items					
Item	Description	Quantity	Unit	Unit Price	Total Price
11	Thermo Pvmnt Marking (24-inch)(White)(Solid), Complete in Place, In accordance with drawings and Specifications	100	LF	\$10.00	\$1,000.00
12	Thermo Pvmnt Marking (4-inch)(White)(Solid), Complete in Place, In accordance with drawings and Specifications	100	LF	\$0.65	\$65.00
13	Thermo Pvmnt Marking (4-inch)(Yellow)(Solid), Complete in Place, In accordance with drawings and Specifications	100	LF	\$0.55	\$55.00
14	Reflective Yellow Pavement Markers (4-inch)(2-Way)(Type II A-A), Complete in Place, In accordance with drawings and Specifications	50	Ea.	\$5.50	\$275.00
Subtotal for Sign and Pavement Marking Items					\$1,395.00
E. Supplemental Items					
Item	Description	Quantity	Unit	Unit Price	Total Price
15	Adjust Exist Manhole, In accordance with drawings and Specifications	10	Ea.	\$1,000.00	\$10,000.00
20	Adjust Exist Water Valve, In accordance with drawings and Specifications	10	Ea.	\$500.00	\$5,000.00
Subtotal for Supplemental Items					\$15,000.00
A. Site Preparation Items					\$183,467.75
B. Pavement Items					\$1,613,559.00
C. Construction Traffic Control Items					\$4,500.00
D. Signing and Pavement Marking Items					\$1,395.00
E. Supplemental Items					\$15,000.00
Sub Total					\$1,817,921.75
5% Contingency					\$90,896.09
Grand Total					\$1,908,817.84

## HARRIS COUNTY FEE CURVE (March 2004)

CALCULATING THE BASIC FEE FOR ENGINEERING SERVICES			
<b>1. ENTER&gt;</b>	Construction Cost of the project		<b>\$1,908,818.00</b>
	Percent From Curve		8.88%
	Total Basic Fee (100%)	\$	169,503.04
<b>2. ENTER&gt;</b>	Sum of percentages for phases in this agreement		<b>100%</b>
	<b>Basic Fee For This Agreement</b>	<b>\$</b>	<b>169,503.04</b>
PHASE	PERCENT	TOTAL	
Preliminary	40%	\$ 67,801.22	
Design	40%	\$ 67,801.22	
Contract	5%	\$ 8,475.15	
Construction	15%	\$ 25,425.46	
<b>Total</b>	<b>100%</b>	<b>\$ 169,503.04</b>	
<b>INSTRUCTIONS</b>			
<b>1. Enter the total construction cost for the project <u>LESS</u> construction cost of items for which the Engineering Fee will be an "Additional Service" (i.e., Traffic Signals, Traffic Control, SWPPP, SWQMP, etc.).</b>			
<b>2. Enter the sum of the percentages for each phase of design that will be included in this agreement (i.e., Preliminary Phase at 40% + Design Phase at 40% + Contract Phase at 5% = <u>85%</u>).</b>			



Consulting Engineers  
& Surveyors

10700 Richmond Ave, Suite 113  
Houston, TX 77042  
Tel: (713) 975-8769  
Fax: (713) 975-0920  
www.kuoassociates.com

September 7, 2018

Jesus M. Olivas, P.E.  
Project Manager  
HR Green, Inc.  
11011 Richmond Ave., Suite 375  
Houston, TX 77042

Re: Asphalt Street Overlay, City of League City  
Re 1704A – [4th Package](#)  
Topographic Surveying, Basemap Plan & Construction Staking

Dear Mr. Olivas:

Kuo & Associates, Inc. is pleased to submit this proposal to perform the following: topographic surveying, preparation of basemap services for the above referenced project.

Item	Description
Item 1	Topographic Surveying
Item 2	Basemap Topo Plan
Item 3	Survey Control Map
Item 4	Establishing Design Center Line

The scope of work and fee will be as follows:

#### SCOPE OF WORK

Survey will be done along the streets as shown in the attached exhibits and table. Estimated length of survey is approximately 18,601feet. To our understanding, survey to exclude any detail survey on the intersections on both end of the limit for each street

Survey shall conform to requirements of City of League City and Category 2 and 6 surveys TSPS Manual of Practice as applicable. In general, the scope for work will be including the following items and tasks:

#### Item 1: Topographic Survey:

- Horizontal and vertical controls will be established and tied to the Texas State Plane Coordinate System, South Central Zone NAD 83 and datum NAVD 88. Survey will be tied to the City of League City monument (if available) or nearby NGS monument.
- Cross sections will be surveyed at more or less 300' c-c including cross sections at each intersection along the project route.
- All planimetric features will be surveyed along the road right-of-way for a width from ROW to ROW. The survey will be extended on all sides of street at least up to ER, unless otherwise warranted for your design. Detail topo survey on the intersecting streets at each end of limited is excluded from the scope
- All visible existing utilities (i.e. manholes, culverts, power poles, etc.) will be located
- Attempt will be made to recover and verify sufficient monumentation along the existing roadway to establish estimated right-of-way lines for topographic surveying scope. Task of establishing estimated ROW may involve some limited abstracting and deed research, however, detail boundary category survey is excluded in determination.
- Signed and sealed field books containing notes as well as ASCII files of point numbers, coordinates, and descriptions will be provided.

Item 1: Basemap Plan

- Prepare a basemap plan with all topo features, elevations and estimated ROW. All deliverables will be as long strip in the AutoCAD format with side text on the top and bottom boundary of the drawing. All texts within the drawing will be "Leroy 80".

Item 3: Survey Control Map

- A survey control map will be prepared showing swing ties to traverse and baseline points as well as TBM's. The survey control map will be signed and sealed by a Registered Professional Land Surveyor in charge of the project.

Item 4: Establishing Design Center Line

- Recovery of existing controls and reestablish as necessary
- Stake/set the design center line in the field for construction work

To our understanding the following are excluded from the scope of this proposal

- Boundary level survey for determining of right of way of the street
- Any kind of SUE survey
- Inverting any manholes/inlets
- Utility research and utility plan
- Profile for ground and utilities

FEE AND SCHEDULE:

The fee for the above-described work is estimated to be lump sum amount of **\$55,470.00** as shown itemized in the table below:

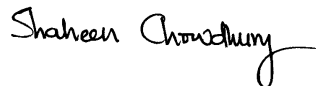
Item	Description	Fee
Item 1	Topographic Surveying	\$38,270.00
Item 2	Basemap Topo Plan	\$8,620.00
Item 3	Survey Control Map	\$3,670.00
Item 4	Establishing Design Center Line	\$4,910.00
<b>Total</b>		<b>\$55,470.00</b>

\* See detail breakdown in the attached page

We estimate to complete the above work in 60 calendar days upon your authorization to proceed.

We appreciate this opportunity to submit this proposal. If you are in agreement with this proposal, please sign as indicated below. If you need further information, please do not hesitate to contact me.

Sincerely,



Shaheen Chowdhury, P.E., R.P.L.S.  
President



Street

17853 LF

Item 1: Level of Efforts for Topographic Survey									
Survey Tasks	sub tasks	Principal \$180.00	RPLS \$130.00	SIT \$75.00	CADD \$75.00	Crew \$145.00	Hrs	Cost	Total
Survey Controls	Setting controls					4	4	\$580.00	\$5,520.00
	Horizontal control work			2		8	10	\$1,310.00	
	Vertical control work			2		24	26	\$3,630.00	
Topo Survey	Limited Abstracting for ROW							\$700.00	\$32,750.00
	ROW estimate for scope of topo survey		4	16			20	\$1,720.00	
	Surveying roadway & topo features					194	194	\$28,130.00	
	QC/QA		8			8	16	\$2,200.00	
Project Management	Proj Management							\$0.00	\$0.00
Total									\$38,270.00
Cost per LF									\$2.14

Item 3: Level of Efforts for Survey Control Maps									
Survey Tasks	sub tasks	Principal \$180.00	RPLS \$130.00	SIT \$75.00	CADD \$75.00	Crew \$145.00	Hrs	Cost	Total
Survey Control Map	Preparing Survey control map		4	12	30		46	\$3,670.00	\$3,670.00

Item 2: Level of Efforts for Basemap Plan									
Tasks	sub tasks	Principal \$180.00	RPLS \$130.00	SIT \$75.00	CADD \$75.00	Crew \$145.00	Hrs	Cost	Total
Plan	Topo Plan			8	100		108	\$8,100.00	\$8,620.00
	QC/QA		4				4	\$520.00	

Item 4: Level of Efforts for Establishing Design Center Line									
Survey Tasks	sub tasks	Principal \$180.00	RPLS \$130.00	SIT \$75.00	CADD \$75.00	Crew \$145.00	Hrs	Cost	Total
Establish design center line	Establish design center line		2	4		30	36	\$4,910.00	\$4,910.00

**PACKAGE #4**  
**ASPHALT OVERLAY**  
**CITY OF LEAGUE CITY**  
**Revised Limits**  
**9-6-2018**

	Street	FROM	TO	Linear Feet
1	W. Wilkins St.	Interurban St.	SH3	1,708
2	W. Saunders St.	Interurban St.	W. Wilkins St.	2,000
3	Interurban	W. Galveston St.	W. Saunders St.	731
4	David Ave.	E. Walker St.	Beaumont St.	1,301
5	<b>N. Michigan</b>	<b>North of Coryell St.</b>	FM518	<b>1,700</b>
6	Colorado	Coryell St.	FM518	1,422
7	<b>Iowa</b>	<b>Walker</b>	<b>Beaumont St.</b>	<b>1,270</b>
8	Illinois	Lewis	Beaumont St.	2,315
9	E. Wilkins	SH3	Butler St.	1,315
10	E. Saunders	SH3	Butler St.	1,315
11	Houston Ave.	FM518	E. Galveston	244
12	E. Galveston	SH3	Butler St.	1,262
13	S. Kansas	Walker	Beaumont	<b>1,270</b>
14	<b>Delaware</b>	<b>Not Applicable</b>		
			<b>Total</b>	<b>17,853</b>



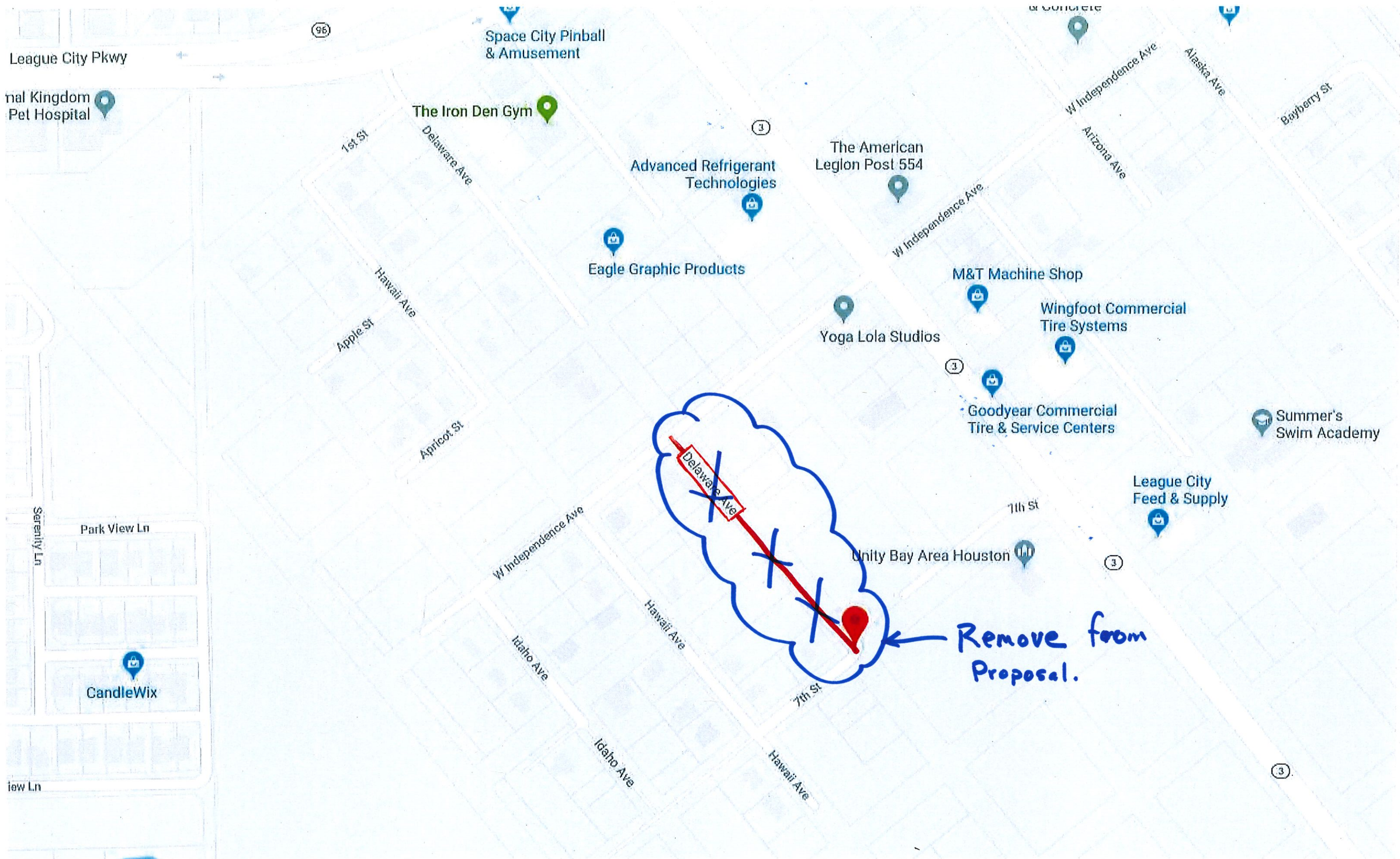


Extend to end.

Remove from Proposal

Add to Proposal





Remove from  
Proposal.



September 10, 2018



HR Green, Inc.  
11011 Richmond Avenue, Suite 375  
Houston, Texas 77042

Attn: Mr. Jesus M. Olivas, P.E.  
Project Manager  
P: (713) 338-8004  
E: jolivas@hrgreen.com

Re: Cost Estimate for Geotechnical Engineering Services  
Asphalt Replacement/Repair - Package No. 4  
League City, Texas  
Terracon Document No. P91185070.Revision1

Dear Mr. Olivas:

Terracon Consultants, Inc. (Terracon) understands we have been selected based upon qualifications to provide Geotechnical Engineering services for the above referenced project in League City, Texas. This document outlines our understanding of the scope of services to be performed by Terracon for this project and provides an estimate of the cost of our services.

Exhibit A	Project Understanding
Exhibit B	Scope of Services
Exhibit C	Compensation and Project Schedule

Our base fee to perform the scope of services described in this document is **\$13,650**. See **Exhibit C** for more details of our fees and consideration of additional services.

The work will be performed under a mutually agreed upon client's Agreement for Services which will be signed once the budget estimate is accepted, and upon completion of review by our legal department. We will provide you with our comments, once our review is completed.



**Cost Estimate for Geotechnical Engineering Services**  
**Asphalt Replacement/Repair - Package No. 4 ■ League City, Texas**  
**September 10, 2018 ■ Terracon Document No. P91185070.Revision1**

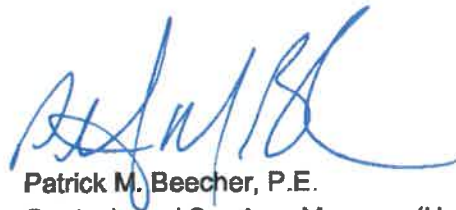
**Terracon**

We appreciate the opportunity to provide this document and look forward to the opportunity of working with you.

Sincerely,  
**Terracon Consultants, Inc.**  
(Texas Firm Registration No. F3272)



**Alireza (Ali) Ahmadi, P.E.**  
**Project Manager (League City)**



**Patrick M. Beecher, P.E.**  
**Geotechnical Services Manager (Houston)**

## EXHIBIT A - PROJECT UNDERSTANDING

Our scope of work is based on our understanding of the project as described to us by the client, the expected subsurface conditions as described below. We have not visited the site yet and aspects of the project that are undefined or assumed are highlighted as shown below. We request the design team provide input to verify this information prior to our initiation of field exploration activities.

### Site Location

Item	Description
Project site information	The project site consists of 13 streets located in the southeast quadrant of West NASA Parkway and Interstate Highway 45 in League City, Texas. The streets are between approximately 200 to 2,400 feet long with a total length of about 17,900 feet. The location and length of each street which are planned to be repaired/reconstructed are provided in Exhibit B.
Existing improvements	Asphaltic concrete pavement, roadside ditches, culverts, signs, overhead powerlines and underground utilities.
Current ground cover	Asphaltic concrete.
Existing topography	Relatively level at each location.
Site access	We expect that the site and exploration locations are accessible with our truck-mounted drilling and coring equipment.

### Planned Construction

Item	Description
Project improvements	<ul style="list-style-type: none"><li>■ Approximately 17,900 linear feet of pavement repair. We understand that the pavement repair is planned to consist of milling the existing asphaltic concrete wearing surface and then overlying the existing base material with a new hot mix asphaltic concrete (HMAC) surface course. We understand no utility improvements are planned.</li><li>■ Base repair in some distressed areas. We understand the base repair is planned to consist of 10 inches of HMAC black base in addition to asphaltic concrete overlay in soft areas identified by proofrolling.</li></ul> <p>If the existing crushed stone materials underlying the surface asphaltic concrete are visually observed to be similar to the base materials types described in Item 604 of the "2013 City of League City General Design and Construction Standards" (e.g., if it does not have shell fragments, debris, etc.), then laboratory tests such as Atterberg tests and sieve analyses will be performed on the collected crushed stone samples to verify, if their plasticity and particles size are in acceptable ranges required by this standard.</p>

**Cost Estimate for Geotechnical Engineering Services**

Asphalt Replacement/Repair - Package No. 4 ■ League City, Texas

September 10, 2018 ■ Terracon Document No. P91185070.Revision1



Item	Description
Final grade	We assume the reconstructed pavement will match the existing grade elevation.



## Cost Estimate for Geotechnical Engineering Services

Asphalt Replacement/Repair - Package No. 4 ■ League City, Texas  
September 10, 2018 ■ Terracon Document No. P91185070.Revision1



### EXHIBIT B - SCOPE OF SERVICES

Our proposed scope of services consists of field exploration, laboratory testing, and engineering/project delivery. These services are described in the following sections.

#### Field Exploration

The field exploration program is planned to consist of the following:

Roadway Description	Approximate Length <sup>1</sup> (feet)	No. of Borings	Boring Depth <sup>5</sup> (feet)	Drilling Footage (feet)
<b>West Wilkins Street:</b> from Interurban Street to State Highway 3	1,708	3	5	15
<b>West Saunders Street:</b> from Interurban Street to West Wilkins Street	2,000	3	5	15
<b>Interurban Street:</b> from West Galveston Street to West Saunders Street	731	1	5	5
<b>David Avenue:</b> from East Walker Street to Beaumont Street	1,301	3	5	15
<b>North Michigan Avenue<sup>2</sup>:</b> from Farm to Market Road 518 to the dead-end of Coryell Street	1,700	3	5	15
<b>Colorado Avenue:</b> from Coryell Street to Farm to Market Road 518	1,422	3	5	15
<b>Illinois Avenue:</b> from Lewis Avenue to Beaumont Street Highway 3 to Houston Avenue	2,315	4	5	20
<b>East Wilkins Street:</b> from State Highway 3 to Butler Street	1,315	3	5	15
<b>East Saunders Street:</b> from State Highway 3 to Butler Street	1,315	3	5	15
<b>Houston Avenue:</b> from Farm to Market Road 518 to East Galveston Street	244	1	5	5
<b>East Galveston Street:</b> from State Highway 3 to Butler Street	1,262	3	5	15
<b>South Kansas Avenue:</b> from East Walker Street to Beaumont Street	1,270	3	5	15
<b>South Iowa Avenue<sup>2</sup>:</b> from East Walker Street to Beaumont Street	1,270	3	5	15
<b>Total Amount</b>	<b>17,853</b>	<b>36</b>		<b>180</b>

1. Street length provided by HR Green.

2. This street was either added or the length of the street was changed in this revision.

3. Based on the client request, the North Iowa Avenue and Delaware Avenue were removed from Package No. 4, in this revision.

4. Below existing grade.

## Cost Estimate for Geotechnical Engineering Services

Asphalt Replacement/Repair - Package No. 4 ■ League City, Texas  
September 10, 2018 ■ Terracon Document No. P91185070.Revision1



**Boring Layout and Elevations:** We use handheld GPS equipment to locate borings with an estimated horizontal accuracy of +/-25 feet. Field measurements from existing site features are sometimes utilized. If available, approximate elevations are obtained by interpolation from a site specific, surveyed topographic map.

**Subsurface Exploration Procedures:** We advance soil borings with a truck-mounted drill rig using continuous flight augers (solid stem and/or hollow stem, as necessary depending on soil conditions). During drilling, we plan to measure the approximate thicknesses of the pavement components at each boring location. Three samples are planned to be obtained in each 5-foot boring. Soil sampling is typically performed using open tube and/or split-barrel sampling procedures. In the open tube sampling procedure, an open, seamless steel tube with a sharp cutting edge is pushed hydraulically into the soil to obtain a relatively undisturbed sample. In the split barrel sampling procedure, a standard 2-inch outer diameter split barrel sampling spoon is driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. The samples are placed in appropriate containers, taken to our soil laboratory for testing, and classified by a geotechnical engineer. In addition, we observe and record groundwater levels during drilling and sampling.

Since the borings will be located on existing pavements we anticipate that some form of traffic control will be required during our field activities. We understand the City of League City will provide traffic control during our field activities.

Our exploration team prepares field boring logs as part of standard drilling operations including sampling depths, penetration distances, and other relevant sampling information. Field logs include visual classifications of materials observed during drilling, and our interpretation of subsurface conditions between samples. Final boring logs, prepared from field logs, represent the geotechnical engineer's interpretation and include modifications based on observations and laboratory tests.

**Property Disturbance:** We backfill borings with auger cuttings after completion and patch the surface with ready-mix asphaltic concrete products. Our services do not include repair of the site beyond backfilling our boreholes. Excess auger cuttings are dispersed in the general vicinity of the borehole. Because backfill material often settles below the surface after a period, we recommend boreholes are checked periodically and backfilled, if necessary. We can provide this service, or grout the boreholes for additional fees, at your request.

## **Laboratory Testing**

The project engineer reviews field data and assigns various laboratory tests to better understand the engineering properties of various soil strata. Procedural standards noted below are for reference to methodology in general. In some cases, variations to methods are applied as a result of local practices and professional judgement. Standards noted below include reference to other related standards. Such references are not necessarily applicable to describe the specific test performed.

- ASTM D2216 Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
- ASTM D4318 Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
- ASTM D1140 Standard Test Methods for Amount of Materials in Soils Finer than the No. 200 Sieve
- ASTM D422 Standard Test Method for Particle-Size Analysis of Soils
- ASTM D2166/D2166M Standard Test Method for Unconfined Compressive Strength of Cohesive Soil
- ASTM D7263 Standard Test Method for Laboratory Determination of Density (Unit Weight) of Soil Specimens

Our laboratory testing program includes examination of soil samples by an engineer. Based on the results of our field and laboratory testing programs, we describe and classify soil samples in accordance with the Unified Soil Classification System (USCS).

## **Safety**

Terracon is currently not aware of environmental concerns at this project site that would create health or safety hazards associated with our exploration program; thus, our scope considers standard OSHA Level D Personal Protection Equipment (PPE) appropriate. Our scope of services does not include environmental site assessment services, but identification of unusual or unnatural materials encountered while drilling will be noted on our logs and discussed in our report.

Exploration efforts require borings (and possibly excavations) into the subsurface, therefore Terracon complies with local regulations to request a utility location service, Texas811, to help locate public utilities within the vicinity of the site. We consult with the owner/client regarding potential utilities or other unmarked underground hazards. Based upon the results of this consultation, we consider the need for alternative subsurface exploration methods, as the safety of our field crew is a priority.

All private utilities should be marked by the owner/client prior to commencement of field exploration. Terracon will not be responsible for damage to private utilities that are not made

## Cost Estimate for Geotechnical Engineering Services

Asphalt Replacement/Repair - Package No. 4 ■ League City, Texas  
September 10, 2018 ■ Terracon Document No. P91185070.Revision1



aware to us. If the owner/client is not able to accurately locate private utilities, Terracon can assist the owner/client by coordinating or subcontracting with a private utility locating services. Fees associated with the additional services are not included in our current scope of services. The detection of underground utilities is dependent upon the composition and construction of the utility line; some utilities are comprised of non-electrically conductive materials and may not be readily detected. The use of a private utility locate service would not relieve the owner of their responsibilities in identifying private underground utilities.

**Site Access:** Terracon must be granted access to the site by the property owner. By acceptance of this proposal, without information to the contrary, we consider this as authorization to access the property for conducting field exploration in accordance with the scope of services.

## Engineering and Project Delivery

Results of our field and laboratory programs are evaluated by a professional engineer. The engineer develops a geotechnical site characterization, performs the engineering calculations necessary to evaluate foundation alternatives, and develops appropriate geotechnical engineering design criteria for earth-related phases of the project.

Your project is delivered using our **GeoReport** system. Upon initiation, we provide you and your design team the necessary link and password to access the website (if not previously registered). Each project includes a calendar to track the schedule, an interactive site map, a listing of team members, access to the project documents as they are uploaded to the site, and a collaboration portal. A typical delivery process includes three basic stages:

- Stage 1: Project Planning
- Stage 2: Site Characterization
- Stage 3: Geotechnical Engineering

When utilized, a collaboration portal documents communication, eliminating the need for long email threads. This collaborative effort allows prompt evaluation and discussion of options related to the design and associated benefits and risks of each option. With the ability to inform all parties as the work progresses, decisions and consensus can be reached faster. In some cases, only minimal uploads and collaboration will be required, because options for design and construction are limited or unnecessary. This is typically the case for uncomplicated projects with no anomalies found at the site.

When services are complete, we upload a printable version of our completed final geotechnical engineering report, including the professional engineer's seal and signature, which documents our services. Previous submittals, collaboration, and final report are maintained in our system indefinitely. This allows future reference and integration into subsequent aspects of our services, as the project goes through final design and construction.

## **Cost Estimate for Geotechnical Engineering Services**

Asphalt Replacement/Repair - Package No. 4 ■ League City, Texas  
September 10, 2018 ■ Terracon Document No. P91185070.Revision1



The geotechnical engineering report provides the following:

- Boring logs with field and laboratory data;
- Stratification based on visual soil classification;
- Groundwater levels observed during and after completion drilling;
- Site and Boring location plans;
- Subsurface exploration procedures;
- Description of subsurface conditions;
- Subgrade preparation/earthwork recommendations;
- Pavement repair or design and reconstruction guidelines.

## **EXHIBIT C - COMPENSATION AND PROJECT SCHEDULE**

### **Compensation**

Based upon our understanding of the site, the project as summarized in **Exhibit A** and our planned scope of services outlined in **Exhibit B**, our base fee is shown in the following table:

<b>Task</b>	<b>Cost</b>
Field Program	\$8,650
Laboratory Testing	\$2,300
Geotechnical Consulting and Reporting	\$2,700
<b>Total Estimate</b>	<b>\$13,650</b>

Our scope of services does not include services associated with surveying of boring locations or repair of damage to existing landscape. If such services are desired by the owner/client, we should be notified so we can adjust our scope of services.

Additional consultation (such as attendance on a project conference call, engineering analysis, review of project documents, etc.) requested will be performed on a time-and-materials basis. A Senior Engineer billing rate of \$180 per hour and Project Engineer billing rate of \$130 per hour will apply. The fee to provide additional consultation services will be in excess of the above provided fee to complete the geotechnical services and will not be incurred without prior approval of the client.

Unless instructed otherwise, we will submit our invoice(s) to the address shown at the beginning of this proposal. If conditions are encountered that require scope of work revisions and/or result in higher fees, we will contact you for approval prior to initiating these services. A supplemental proposal stating the modified scope of services as well as its effect on our fee will be prepared. We will not proceed without your authorization, as evidenced by your signature on a Supplemental Agreement for Services form or Change Order.

### **Project Schedule**

We developed a schedule to complete the scope of services based upon our existing availability and understanding of your project schedule. This schedule does not account for any delays in field exploration beyond our control, such as weather conditions, permit delays, or lack of permission to access the boring locations. In the event the schedule provided is inconsistent with your needs, please contact us so we may consider alternatives.

## Cost Estimate for Geotechnical Engineering Services

Asphalt Replacement/Repair - Package No. 4 ■ League City, Texas

September 10, 2018 ■ Terracon Document No. P91185070.Revision1



<b>GeoReport Stage</b>	<b>Posting Date from Notice to Proceed <sup>1, 2</sup></b>
Project Planning	5 working days
Site Characterization	16 working days
Geotechnical Engineering	22 working days

1. Upon receipt of your notice to proceed we will activate the schedule component of our **GeoReport** website with specific, anticipated calendar dates for the three delivery points noted above as well as other pertinent events such as field exploration crews on-site, etc.
2. We will maintain a current calendar of activities within our **GeoReport** website. In the event of a need to modify the schedule, the schedule will be updated to maintain a current awareness of our plans for delivery.