

STATE OF TEXAS           §  
  §  
COUNTY OF FORT BEND   §

**AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES**

THIS AGREEMENT is made and entered into by and between Fort Bend County, (hereinafter "County"), a body corporate and politic under the laws of the State of Texas, and Terra Associates, Inc., (hereinafter "Contractor"), a company authorized to conduct business in the State of Texas.

**WITNESSETH**

WHEREAS, County desires that Contractor provide professional engineering services for the construction of a two-lane concrete boulevard from Chimney Rock Road to 2,600 feet east of Mustang Bayou, and a four-lane concrete boulevard from 2,600 feet east of Mustang Bayou to FM 521 for the Lake Olympia Parkway Project, Number 13217x and 17201, under the 2013 and 2017 Mobility Bond Programs (hereinafter "Services") pursuant to SOQ 14-025; and

WHEREAS, Contractor represents that it is qualified and desires to perform such services.

NOW, THEREFORE, in consideration of the mutual covenants and conditions set forth below, the parties agree as follows:

**AGREEMENT**

**Section 1. Scope of Services**

Contractor shall render the professional engineering services, including the surveying, preliminary design services, final design services, geotechnical investigation/report and construction phase services as described Contractor's proposal dated April 17, 2018 attached hereto as Exhibit A, and incorporated herein for all purposes.

**Section 2. Personnel**

2.1 Contractor represents that it presently has, or is able to obtain, adequate qualified personnel in its employment for the timely performance of the Scope of Services required under this Agreement and that Contractor shall furnish and maintain, at its own expense, adequate and sufficient personnel, in the opinion of County, to perform the Scope of Services when and as required and without delays.

2.2 All employees of Contractor shall have such knowledge and experience as will enable them to perform the duties assigned to them. Any employee of Contractor who, in the opinion of County, is incompetent or by his conduct becomes detrimental to the project shall, upon request of County, immediately be removed from association with the project.

### **Section 3. Compensation and Payment**

3.1 The Maximum Compensation for the performance of Services within the Scope of Services described in Exhibit A is one million one hundred forty-four thousand four hundred twenty dollars and no/100 (\$1,144,420.00) as set forth in Exhibit A. In no case shall the amount paid by County under this Agreement exceed the Maximum Compensation without a written agreement executed by the parties.

3.2 All performance of the Scope of Services by Contractor including any changes in the Scope of Services and revision of work satisfactorily performed will be performed only when approved in advance and authorized by County.

3.3 County will pay Contractor based on the following procedures: Upon completion of the tasks identified in the Scope of Services, Contractor shall submit to County staff person designated by the County Engineer, one (1) electronic (pdf) copy of the invoice showing the amounts due for services performed in a form acceptable to County. County shall review such invoices and approve them within 30 calendar days with such modifications as are consistent with this Agreement and forward same to the Auditor for processing. County shall pay each such approved invoice within thirty (30) calendar days. County reserves the right to withhold payment pending verification of satisfactory work performed.

### **Section 4. Limit of Appropriation**

4.1 Contractor clearly understands and agrees, such understanding and agreement being of the absolute essence of this Agreement, that County shall have available the total maximum sum of one million one hundred forty-four thousand four hundred twenty dollars and no/100 (\$1,144,420.00) specifically allocated to fully discharge any and all liabilities County may incur.

4.2 Contractor does further understand and agree, said understanding and agreement also being of the absolute essence of this Agreement, that the total maximum compensation that Contractor may become entitled to and the total maximum sum that County may become liable to pay to Contractor shall not under any conditions, circumstances, or interpretations thereof exceed one million one hundred forty-four thousand four hundred twenty dollars and no/100 (\$1,144,420.00).

### **Section 5. Time of Performance**

Time for performance of the Scope of Services under this Agreement shall begin with receipt of the Notice to Proceed and end no later than December 31, 2022. Contractor shall complete the tasks described in the Scope of Services, within this time or within such additional time as may be extended by the County.

## **Section 6. Modifications and Waivers**

6.1 The parties may not amend or waive this Agreement, except by a written agreement executed by both parties.

6.2 No failure or delay in exercising any right or remedy or requiring the satisfaction of any condition under this Agreement, and no course of dealing between the parties, operates as a waiver or estoppel of any right, remedy, or condition.

6.3 The rights and remedies of the parties set forth in this Agreement are not exclusive of, but are cumulative to, any rights or remedies now or subsequently existing at law, in equity, or by statute.

## **Section 7. Termination**

7.1 Termination for Convenience – County may terminate this Agreement at any time upon forty-eight (48) hours written notice.

### **7.2 Termination for Default**

7.2.1 County may terminate the whole or any part of this Agreement for cause in the following circumstances:

7.2.1.1 If Contractor fails to perform services within the time specified in the Scope of Services or any extension thereof granted by the County in writing;

7.2.1.2 If Contractor materially breaches any of the covenants or terms and conditions set forth in this Agreement or fails to perform any of the other provisions of this Agreement or so fails to make progress as to endanger performance of this Agreement in accordance with its terms, and in any of these circumstances does not cure such breach or failure to County's reasonable satisfaction within a period of ten (10) calendar days after receipt of notice from County specifying such breach or failure.

7.2.2 If, after termination, it is determined for any reason whatsoever that Contractor was not in default, or that the default was excusable, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of the County in accordance with Section 7.1 above.

7.3 Upon termination of this Agreement, County shall compensate Contractor in accordance with Section 3, above, for those services which were provided under this Agreement prior to its termination and which have not been previously invoiced to County. Contractor's final invoice for said services will be presented to and paid by County in the same manner set forth in Section 3 above.

7.4 If County terminates this Agreement as provided in this Section, no fees of any type, other than fees due and payable at the Termination Date, shall thereafter be paid to Contractor.

#### **Section 8. Ownership and Reuse of Documents**

All documents, data, reports, research, graphic presentation materials, etc., developed by Contractor as a part of its work under this Agreement, shall become the property of County upon completion of this Agreement, or in the event of termination or cancellation thereof, at the time of payment under Section 3 for work performed. Contractor shall promptly furnish all such data and material to County on request.

#### **Section 9. Inspection of Books and Records**

Contractor will permit County, or any duly authorized agent of County, to inspect and examine the books and records of Contractor for the purpose of verifying the amount of work performed under the Scope of Services. County's right to inspect survives the termination of this Agreement for a period of four years.

#### **Section 10. Insurance**

10.1 Prior to commencement of the Services, Contractor shall furnish County with properly executed certificates of insurance which shall evidence all insurance required and provide that such insurance shall not be canceled, except on 30 days' prior written notice to County. Contractor shall provide certified copies of insurance endorsements and/or policies if requested by County. Contractor shall maintain such insurance coverage from the time Services commence until Services are completed and provide replacement certificates, policies and/or endorsements for any such insurance expiring prior to completion of Services. Contractor shall obtain such insurance written on an Occurrence form (or a Claims Made form for Professional Liability insurance) from such companies having Best's rating of A/VII or better, licensed or approved to transact business in the State of Texas, and shall obtain such Insurance of the following types and minimum limits:

10.1.1 Workers' Compensation insurance. Substitutes to genuine Workers' Compensation Insurance will not be allowed. Employers' Liability insurance with limits of not less than \$1,000,000 per injury by accident, \$1,000,000 per injury by disease, and \$1,000,000 per bodily injury by disease.

10.1.2 Commercial general liability insurance with a limit of not less than \$1,000,000 each occurrence and \$2,000,000 in the annual aggregate. Policy shall cover liability for bodily injury, personal injury, and property damage and products/completed operations arising out of the business operations of the policyholder.

10.1.3 Business Automobile Liability insurance with a combined Bodily Injury/Property Damage limit of not less than \$1,000,000 each accident. The policy shall cover liability arising from the operation of licensed vehicles by policyholder.

10.1.4 Professional Liability insurance may be made on a Claims Made form with limits not less than \$1,000,000.

10.2 County and the members of Commissioners Court shall be named as additional insured to all required coverage except for Workers' Compensation and Professional Liability. All Liability policies including Workers' Compensation written on behalf of Contractor shall contain a waiver of subrogation in favor of County and members of Commissioners Court.

10.3 If required coverage is written on a claims-made basis, Contractor warrants that any retroactive date applicable to coverage under the policy precedes the effective date of the contract; and that continuous coverage will be maintained or an extended discovery period will be exercised for a period of 2 years beginning from the time that work under the Agreement is completed.

#### **Section 11. Indemnity**

**CONTRACTOR SHALL INDEMNIFY, HOLD HARMLESS, AND DEFEND COUNTY AGAINST ALL LOSSES, LIABILITIES, CLAIMS, CAUSES OF ACTION, AND OTHER EXPENSES, INCLUDING REASONABLE ATTORNEYS FEES, ARISING FROM ACTIVITIES OF CONTRACTOR, ITS AGENTS, SERVANTS OR EMPLOYEES, PERFORMED UNDER THIS AGREEMENT THAT RESULT FROM THE NEGLIGENT ACT, ERROR, OR OMISSION OF CONTRACTOR OR ANY OF CONTRACTOR'S AGENTS, SERVANTS OR EMPLOYEES.**

#### **Section 12. Confidential and Proprietary Information**

12.1 Contractor acknowledges that it and its employees or agents may, in the course of performing their responsibilities under this Agreement, be exposed to or acquire information that is confidential to County. Any and all information of any form obtained by Contractor or its employees or agents from County in the performance of this Agreement shall be deemed to be confidential information of County ("Confidential Information"). Any reports or other documents or items (including software) that result from the use of the Confidential Information by Contractor shall be treated with respect to confidentiality in the same manner as the Confidential Information. Confidential Information shall be deemed not to include information that (a) is or becomes (other than by disclosure by Contractor) publicly known or is contained in a publicly available document; (b) is rightfully in Contractor's possession without the obligation of nondisclosure prior to the time of its disclosure under this Agreement; or (c) is independently developed by employees or agents of Contractor who can be shown to have had no access to the Confidential Information.

12.2 Contractor agrees to hold Confidential Information in strict confidence, using at least the same degree of care that Contractor uses in maintaining the confidentiality of its own confidential information, and not to copy, reproduce, sell, assign, license, market, transfer or otherwise dispose of, give, or disclose Confidential Information to third parties or use Confidential Information for any purposes whatsoever other than the provision of Services to County hereunder, and to advise each of its employees and agents of their obligations to keep Confidential Information confidential. Contractor shall use its best efforts to assist County in identifying and preventing any unauthorized use or disclosure of any Confidential Information. Without limitation of the foregoing, Contractor shall advise County

immediately in the event Contractor learns or has reason to believe that any person who has had access to Confidential Information has violated or intends to violate the terms of this Agreement and Contractor will at its expense cooperate with County in seeking injunctive or other equitable relief in the name of County or Contractor against any such person. Contractor agrees that, except as directed by County, Contractor will not at any time during or after the term of this Agreement disclose, directly or indirectly, any Confidential Information to any person, and that upon termination of this Agreement or at County's request, Contractor will promptly turn over to County all documents, papers, and other matter in Contractor's possession which embody Confidential Information.

12.3 Contractor acknowledges that a breach of this Section, including disclosure of any Confidential Information, or disclosure of other information that, at law or in equity, ought to remain confidential, will give rise to irreparable injury to County that is inadequately compensable in damages. Accordingly, County may seek and obtain injunctive relief against the breach or threatened breach of the foregoing undertakings, in addition to any other legal remedies that may be available. Contractor acknowledges and agrees that the covenants contained herein are necessary for the protection of the legitimate business interest of County and are reasonable in scope and content.

12.4 Contractor in providing all services hereunder agrees to abide by the provisions of any applicable Federal or State Data Privacy Act.

12.5 Contractor expressly acknowledges that County is subject to the Texas Public Information Act, TEX. GOV'T CODE ANN. §§ 552.001 *et seq.*, as amended, and notwithstanding any provision in the Agreement to the contrary, County will make any information related to the Agreement, or otherwise, available to third parties in accordance with the Texas Public Information Act. Any proprietary or confidential information marked as such provided to County by Consultant shall not be disclosed to any third party, except as directed by the Texas Attorney General in response to a request for such under the Texas Public Information Act, which provides for notice to the owner of such marked information and the opportunity for the owner of such information to notify the Attorney General of the reasons why such information should not be disclosed.

### **Section 13. Independent Contractor**

13.1 In the performance of work or services hereunder, Contractor shall be deemed an independent contractor, and any of its agents, employees, officers, or volunteers performing work required hereunder shall be deemed solely as employees of contractor or, where permitted, of its subcontractors.

13.2 Contractor and its agents, employees, officers, or volunteers shall not, by performing work pursuant to this Agreement, be deemed to be employees, agents, or servants of County and shall not be entitled to any of the privileges or benefits of County employment.

#### **Section 14. Notices**

14.1 Each party giving any notice or making any request, demand, or other communication (each, a "Notice") pursuant to this Agreement shall do so in writing and shall use one of the following methods of delivery, each of which, for purposes of this Agreement, is a writing: personal delivery, registered or certified mail (in each case, return receipt requested and postage prepaid), or nationally recognized overnight courier (with all fees prepaid).

14.2 Each party giving a Notice shall address the Notice to the receiving party at the address listed below or to another address designated by a party in a Notice pursuant to this Section:

County:	Fort Bend County Engineering Department Attn: County Engineer 301 Jackson Street Richmond, Texas 77469
With a copy to:	Fort Bend County Attn: County Judge 401 Jackson Street, 1 <sup>st</sup> Floor Richmond, Texas 77469
Contractor:	Terra Associates, Inc. Attn: David Sepulveda, P.E. 1445 North Loop West, Suite 450 Houston, Texas 77008

14.3 A Notice is effective only if the party giving or making the Notice has complied with subsections 14.1 and 14.2 and if the addressee has received the Notice. A Notice is deemed received as follows:

14.3.1 If the Notice is delivered in person, or sent by registered or certified mail or a nationally recognized overnight courier, upon receipt as indicated by the date on the signed receipt.

14.3.2 If the addressee rejects or otherwise refuses to accept the Notice, or if the Notice cannot be delivered because of a change in address for which no Notice was given, then upon the rejection, refusal, or inability to deliver.

#### **Section 15. Compliance with Laws**

Contractor shall comply with all federal, state, and local laws, statutes, ordinances, rules and regulations, and the orders and decrees of any courts or administrative bodies or tribunals in any matter affecting the performance of this Agreement, including, without limitation, Worker's Compensation laws, minimum and maximum salary and wage statutes and regulations, licensing laws and regulations. When required by County, Contractor shall furnish County with

certification of compliance with said laws, statutes, ordinances, rules, regulations, orders, and decrees above specified.

**Section 16. Standard of Care**

Contractor represents to County that Contractor has the skill and knowledge ordinarily possessed by well-informed members of its trade or profession practicing in the greater Houston metropolitan area and Contractor will apply that skill and knowledge with care and diligence to ensure that the Services provided hereunder will be performed and delivered in accordance with the highest professional standards.

**Section 17. Assignment**

17.1 Neither party may assign any of its rights under this Agreement, except with the prior written consent of the other party. That party shall not unreasonably withhold its consent. All assignments of rights are prohibited under this subsection, whether they are voluntarily or involuntarily, by merger, consolidation, dissolution, operation of law, or any other manner.

17.2 Neither party may delegate any performance under this Agreement.

17.3 Any purported assignment of rights or delegation of performance in violation of this Section is void.

**Section 18. Applicable Law**

The laws of the State of Texas govern all disputes arising out of or relating to this Agreement. The parties hereto acknowledge that venue is proper in Fort Bend County, Texas, for all legal actions or proceedings arising out of or relating to this Agreement and waive the right to sue or be sued elsewhere. Nothing in the Agreement shall be construed to waive the County's sovereign immunity.

**Section 19. Successors and Assigns**

County and Contractor bind themselves and their successors, executors, administrators and assigns to the other party of this Agreement and to the successors, executors, administrators and assigns of the other party, in respect to all covenants of this Agreement.

**Section 20. Third Party Beneficiaries**

This Agreement does not confer any enforceable rights or remedies upon any person other than the parties.

**Section 21. Severability**

If any provision of this Agreement is determined to be invalid, illegal, or unenforceable, the remaining provisions remain in full force, if the essential terms and conditions of this Agreement for each party remain valid, binding, and enforceable.



## **Section 22. Publicity**

Contact with citizens of Fort Bend County, media outlets, or governmental agencies shall be the sole responsibility of County. Under no circumstances whatsoever, shall Contractor release any material or information developed or received in the performance of the Services hereunder without the express written permission of County, except where required to do so by law.

## **Section 23. Captions**

The section captions used in this Agreement are for convenience of reference only and do not affect the interpretation or construction of this Agreement.

## **Section 24. Conflict**

In the event there is a conflict between this Agreement and the attached exhibits, this Agreement controls.

## **Section 25. Certain State Law Requirements for Contracts**

25.1 Agreement to Not Boycott Israel Chapter 2270 Texas Government Code: By signature below, Contractor verifies Contractor does not boycott Israel and will not boycott Israel during the term of this Agreement.

25.2 Texas Government Code Section 2251.152 Acknowledgment: By signature below, Contractor represents pursuant to Section 2252.152 of the Texas Government Code, that Contractor is not listed on the website of the Comptroller of the State of Texas concerning the listing of companies that are identified under Section 806.051, Section 807.051 or Section 2253.153.

[THE REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK.]

IN WITNESS WHEREOF, the parties hereto have signed or have caused their respective names to be signed to multiple counterparts to be effective on the date signed by the last party hereto.

FORT BEND COUNTY

TERRA ASSOCIATES, INC

\_\_\_\_\_  
Robert E. Hebert, County Judge

\_\_\_\_\_  
David Sepulveda, P.E., Vice President

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

ATTEST:

\_\_\_\_\_  
Laura Richard, County Clerk

APPROVED:

\_\_\_\_\_  
Richard W. Stolleis, P.E., County Engineer

APPROVED AS TO LEGAL FORM:

\_\_\_\_\_  
Marcus D. Spencer, First Assistant County Attorney

#### AUDITOR'S CERTIFICATE

I hereby certify that funds are available in the amount of \$ \_\_\_\_\_ to accomplish and pay the obligation of Fort Bend County under this contract.

\_\_\_\_\_  
Robert Ed Sturdivant, County Auditor

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April 17, 2018

Mr. Richard Stolleis, PE  
Fort Bend County Engineering  
301 Jackson Street  
Richmond, Texas 77469

Re: **Lake Olympia Boulevard Segment 2  
Chimney Rock Road to FM521  
Fort Bend County, Texas**

**TBPE Registration # F-003832  
TAI Project Number: 0522-1802**

Mr. Stolleis,

Terra Associates appreciates this opportunity to submit this proposal for surveying, preliminary design services, final design services, geotechnical investigation/report and construction phase services as required for the aforementioned project. The project will include the design and construction of 2.5 miles of new roadway extending Lake Olympia from Chimney Rock to FM 521. The roadway will consist of a half-boulevard with curb & gutter for approximately 10,100 LF going east from Chimney Rock. It will also include an open ditch on the north side for detention and conveyance along with underground storm sewer for the south half of the ROW. The remaining 3,100 LF of roadway will be a full 4 lane boulevard with curb & gutter to FM521 with underground storm sewer and no open ditch. Additionally, there will be two structural bridge crossings at American Canal and Mustang Bayou. Our understanding of the scope of services is as follows:

**1. Preliminary Design**

The primary goals of preliminary design are to:

- A. Establish a typical cross section and cross sections in non-standard areas
- B. Determine drainage system needs
- C. Determine right-of-way acquisition needs
- D. Determine potential conflicts with existing facilities & utilities
- E. Identify critical path items
- F. Identify problem areas and potential resolutions
- G. Determine permit and regulatory requirements
- H. Prepare a reasonable construction cost estimate
- I. Prepare 30% plans



### ***Preliminary Design Report***

A Preliminary Engineering Report will be prepared for preliminary design, and the purpose of the report is to document the nine goals stated above. The report should also include as applicable: a narrative, applicable plans, drainage report, a geotechnical report, preliminary cost estimate, and an environmental report. Three copies of the report will be submitted for review. No technical presentations are required and the report is for staff review only. It will not be of presentation quality.

### ***30% Plans***

30% plan sets will be prepared, consisting of all existing features (seen and unseen) shown in plan and profile, and proposed improvements in plan only with minor annotation. These plans, along with a typical section sheet, are the only drawings that are necessary at this point. 30% plans will be prepared on 11" by 17" paper. The plans will include the preliminary design for the extension of Lake Olympia and schematic design of the drainage improvements along with the schematic bridge design.

### ***Utility Coordination***

Research to determine the presence and location of underground utilities (pipelines, duct banks, etc.) is the design consultant's responsibility. A reasonable amount of research should be conducted, including but not limited to contact with companies identified on above-ground markers, Railroad Commission website research, and map requests from prominent companies (CenterPoint, AT&T, etc.). We will depict utilities to a reasonable degree of accuracy on the plan and profile drawings. We will prepare a conflict table during the Preliminary Design phase to highlight conflicts between existing utilities and proposed improvements, to be updated during the Final Design phase as required. We will submit milestone-level drawings to applicable utility companies for their review. An appropriate attempt will be made to depict underground utilities accurately in the plan and profile drawings, and potential conflicts between existing utilities and proposed features should be identified. Contact with utility companies (both overhead and underground) to coordinate the adjustment of existing utilities will be made by the County and/or its project management consultant.

### ***Topographic Survey***

Topographic survey will be completed during preliminary design, unless the project includes a completely new roadway alignment that needs to be approved. The topographic survey will determine ROW acquisition needs during the Preliminary Design Phase.



The survey along the proposed alignment of Lake Olympia Boulevard will be 200 feet wide (100-foot left & right of the project baseline). The Survey at FM 521 and Broadway will be extended 50 feet east of the Easterly Right-of-Way line of FM 521.

The survey at UPRR Right-of-Way and along FM 521 will include top of rail shots every 100' along the rail in each direction for a distance of 1,000 LF (40 shots total).

Survey along the Fresh Water Canal and the Drainage Channel will be extended an additional 150-foot upstream and downstream. Also obtain cross sections of channel perpendicular to the channel.

Surveys along Right-of-Ways of intersecting side streets and alleys will not be extended outward past the 200-foot wide topographic survey limits

The survey will establish the horizontal control along the routes main alignment utilizing GPS VRS/RTK methods and or conventional survey methods. We will set a TBM at each end of the project limits and we will set additional TBM's to meet the requirement for the maximum distance between two TBM's shall not exceed 1,000-foot separation. The horizontal control points may be used for TBM control points. The control will be based on the same datum established for horizontal and vertical for Segment 1. Prior to construction, we will re-establish control of any previously surveyed markers.

### ***Geotechnical Investigation***

Geotechnical investigations and reporting should be completed during preliminary design, in accordance with Ft. Bend County criteria. The scope of services will include 27 bore holes at 10' deep and 4 bore holes at 80' deep. The 80' deep bore holes are for the bridge crossings at Mustang Bayou and American Water Canal. We will provide laboratory testing of the soil samples and provide formal recommendations in a geotechnical report. The proposed paving section will be based on an 8-inch thick concrete pavement section.

### ***Environmental Investigations***

The County will perform all environmental investigations. We will coordinate with the County and its Environmental Consultant as needed on the project.

### ***Bridge Design***

The bridge structures crossing Mustang Bayou and American Canal will be designed for HL-93 loading or greater. The design will include all supporting calculations for the structure including geometry, structural design, sidewalk, layout sheets and details. The bridges will be 2 lanes (one lane in each direction). The bridge for American Canal is expected to be approximately 120' in



length. The bridge across Mustang Bayou is expected to be approximately 350' in length. This bridge will not span the entire floodway limits at Mustang Bayou and will require a drainage analysis and CLOMR.

### ***Compensation & Schedule***

Except as noted, all preliminary design efforts will be paid in a single lump-sum fee, to be billed monthly on a percent complete basis by task. Major tasks of preliminary design (design, survey, geotechnical, etc.) will be itemized in invoices. Total engineering fee for these services is \$434,450 and will be completed 12 weeks after Notice to Proceed.

### ***Additional Services***

If requested or required by the County, we will provide additional services to include the following:

#### ***ROW Parcel Maps***

A parcel map and legal description of proposed ROW takings for each parcel will be prepared. These documents will be submitted separately from other design documents, and will be paid for on a per-parcel basis based on small, medium and large parcels. For purposes of this proposal, tracts 1-acre or less are considered small parcels; tracts larger than 1-acre, but less than 5-acres are considered medium parcels; and tracts 5-acres and larger are considered large parcels. For this proposal, the number of small parcels is estimated to be 7 and the number of large parcels is estimated to be 3. There are no medium sized parcels included in the proposal at this time. Draft ROW documents will be completed at the time of the PER and final ROW documents will be delivered one month after the PER submittal.

The fee for this additional service item is on a per parcel basis and is estimated to be \$38,600 based on 7 small parcels at a cost of \$2,600 per parcel and 3 large parcels at a cost of \$6,800 per parcel.

## **2. Final Design**

Based on comments received from the 30% plan submittal, we will prepare final design plans for permitting and construction. We will make interim submittals at 70 percent and 95 percent completion, and it will include drawings, a specification table of contents (and/or special specifications, as applicable), and a construction cost estimate. The plans will include the final design of the Lake Olympia extension from Chimney Rock to FM521 including final drainage design and the final design plans for the structural bridges at American Canal and Mustang Bayou.

### ***Bridge Hydrologic and Hydraulic Design and Drainage Impact Study***



We will prepare a HEC-RAS analysis for the drainage impact associated with the bridge design. The analysis will determine the impacts on Mustang Bayou in the 10, 50, 100 and 500-year storm events. Based on the results of the analysis, we will provide mitigation recommendations and rerun the analysis to confirm there is no impact to Mustang Bayou and coordinate with Fort Bend County Drainage District.

Applicable design criteria to be reviewed include, in order of priority, (1) Fort Bend County Drainage Criteria Manual (Fort Bend County Drainage District, November 1987, revised April 1999), (2) municipal design criteria if the project is located within the limits of a municipality that has design criteria, (3) Guidelines for Engineers Having Contracts with Harris County, Texas (Harris County Public Infrastructure Department, 1988), (4) applicable Texas Department of Transportation design criteria (all County-maintained traffic signals, other items as applicable), and (5) the Infrastructure Design Manual (City of Houston Department of Public Works and Engineering, current version, preceding criteria documents).

*The 70 percent submittal will include the following:*

- Cover sheet (Fort Bend County name and seal, project name with limits, vicinity and location maps, names of County Judge and Commissioners, signature line for County Engineer, design firm name and registration number)
- Typical sections (not-to-scale proposed sections with station limits for each section; show pavement/subgrade material and thickness, right-of-way and roadway width, applicable dimensions, profile grade line, and general location of existing and proposed utilities)
- Overall project layout (scale as appropriate with sheet references left blank since they are subject to change in subsequent submittals)
- Survey control map
- Drainage area map with hydraulic calculations (display calculations clearly for future use by area developers)
- Plan and profile sheets (1" = 20' plan scale but printed half-size for a 1" = 40' scale; all existing and proposed facilities correctly shown in plan and profile; separate drawings for roadway and storm sewer are not necessary; detailed callouts not required at 70%)
- Traffic control plan (phasing and traffic control; avoid detours unless approved by the County; use of construction zone standards is encouraged)
- Storm Water Pollution Prevention Plan (drawings and text; drawings may consist of a layout and details)
- Bridge layout and details (if applicable)
- Specification table of contents
- Bid form with estimated unit and total costs (spreadsheet based)

Three copies of the 70 percent submittal will be required for County review, and drawings will be submitted on 11-inch by 17-inch sheets. Additionally, KMZ and PDF files will be submitted at the 70% review stage. The 70% plan submittal will be completed 12 weeks after the submittal of the 30% design plans.

*The 95 percent submittal will include the following:*

The plans will be considered bid-ready but not sealed, and shall include all of the 70 percent requirements plus the following:

- General notes sheet
- Cross sections (100-foot intervals with earthwork calculations)
- Signage and pavement marking plans (signs may be shown on plan and profile sheets and use of pavement marking standards is encouraged)
- Standard construction details
- Project manual (bid form, specification table of contents, any special specifications or conditions; contract documents excluded)
- Responses to 70 percent comments

Three copies of the 95 percent submittal will be required for County review, and drawings will be submitted on 11-inch by 17-inch sheets. A PDF set of the plans will be submitted at the 95% review stage as well.

The 100 percent design submittal shall consist of one sealed and signed set of drawings delivered to the County, along with a PDF submittal of the drawings, specifications and estimate sent to the Project Manager. Final design efforts will be considered complete when the County has approved the documents as evidenced by the County Engineer's signature on the drawings.

Final design efforts will be considered complete when comments to the 95 percent submittal have been addressed.

### ***Compensation & Schedule***

All final design efforts will be paid in a single lump-sum fee, to be billed monthly on a percent complete basis. Total engineering fee for 95% submittal phase is \$531,800 and will be completed 12 weeks after submittal of the 70% design plans and 24 weeks after submittal of the 30% design plans.

### **Additional Services**

#### ***Signal Modification at FM521 and Lake Olympia***

We will prepare plans for the signal modification as required for plan approval and permit. The scope will include additional topo survey at the intersection of FM521 and Lake Olympia as well as the design of the signal modifications. We will submit plans for review and obtain approval from Ft. Bend County and TxDOT. Total fee for this additional service item is \$29,730.



***Conditional Letter of Map Revision (CLOMR)***

We will prepare a CLOMR for the bridge encroachment into Mustang Bayou. Using the analysis prepared in the Hydrologic and Hydraulic study described above, we will prepare a revised effective base model from the FEMA effective HEC-RAS model. We will utilize the analysis and recommendations in the study and compare to the effective FIS flows for the 10, 50, 100 and 500-year events. The results will be compared to the effective FIS base flood elevation. We will iterate and review the floodway boundary as needed to confirm the water surface elevations along Mustang Bayou have not increased and drainage conditions downstream are unchanged. We will prepare revised floodplain and floodway maps for submittal to FEMA and FBCDD. Total fee for this additional service item is \$67,440.

**3. Bid and Construction Phase Services**

Upon completion of final design services, the County will determine an advertisement and bid opening schedule. All administrative project manual documents (cover page, Notice to Bidders, etc.) will be prepared by the County and provided to the design consultant in Adobe Acrobat (pdf) format. The design consultant will prepare a single project manual file in Adobe Acrobat format, consisting of:

- Administrative documents
- The bid form (prepared by the design consultant)
- A sealed specification table of contents
- Applicable specifications and documents

The design consultant will prepare a single file in Adobe Acrobat format for the entire drawing set. Except for the cover sheet, which contains approval signature(s), all drawings may be printed directly to Adobe Acrobat format with electronic seal and signature.

The design consultant will prepare 27 compact discs, each with one project manual file and one drawing file. Of these, 25 compact discs will be delivered to the County Purchasing Agent for advertising, and two discs will be provided to the County's project management consultant. Printed documents are not required.

The design consultant will attend a pre-bid meeting at the County Purchasing Office. It is not necessary to prepare for the meeting, other than to be able to briefly describe the project.

The Purchasing Agent will forward bidder questions to the design consultant. Answers to questions, as well as any other required changes, will be included in an addendum, prepared by the design consultant if necessary. The Purchasing Agent will distribute the addendum.

After the bid, the County's project management consultant will prepare a bid tabulation and provide a copy to the design consultant for filing.



The design consultant will attend a pre-construction meeting with the County, project management consultant, general contractor, and construction materials testing contractor. Prior to the meeting, the project management consultant will inform the design consultant of how many drawing and project manual sets are required, and the design consultant will provide these documents at the pre-construction meeting.

The design consultant will re-establish control of the previously surveyed markers.

The design consultant will be responsible for reviewing contractor submittals and responding to Requests for Information.

Field visits and progress meetings will not be required unless requested by the County.

The design consultant will participate in a substantial completion walkthrough.

After project completion, the design consultant will prepare record drawings based on contractor as-built markups. The record drawings may be printed on paper and delivered to the County.

All bid and construction phase services will be paid on a time-and-materials basis. The not-to-exceed fee for these services will be determined by the County and/or its project management consultant and the design consultant. Monthly billing will include a breakdown of hours spent by personnel in the various employee categories, at billing rates agreed to by the County and the design consultant. Reimbursable expenses, such as scanning and reproduction, will be billed at actual cost (no markup). The County is tax-exempt and will not reimburse tax expenses. The project management consultant can provide a tax exemption form to the design consultant to ensure that tax is not charged.

#### *Compensation & Schedule.*

All Bid & Construction Phase efforts will be paid on a time and materials basis for a fee Not-To-Exceed \$42,400 (including reimbursable expenses). All work associated with this task will be completed in a timely manner such that the bidding and construction phase schedule is not impacted.

Best regards,

A handwritten signature in black ink, appearing to read "David A. Sepulveda", is written over a horizontal line.

David A. Sepulveda, P.E.

Vice President

**TERRA ASSOCIATES, INC.**

1445 North Loop West, Suite 450

Houston, Texas 77008

**TERRA ASSOCIATES, INC.**

Compensation Schedule – February 2018

<b><u>Position</u></b>	<b><u>Hourly Rate</u></b>
Principal	\$225
Director	\$175
Project Manager	\$140
Project Engineer	\$130
CAD Technician	\$100
Engineer-in-Training	\$ 95
Clerical	\$ 70