

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 HJ Consulting, Inc., (hereinafter "Consultant"), a company authorized to conduct business in the State of Texas.

WITNESSETH

WHEREAS, County desires that Consultant provide professional engineering services for improvements to Koeblen Road, Segment 1 under 2020 Mobility Bond Project No. 20107 (hereinafter "Services") pursuant to SOQ 14-025; and

WHEREAS, County has determined Consultant is the most highly qualified provider of the desired Services on the basis of demonstrated competence and qualifications, and County and Consultant have negotiated to reach a fair and reasonable amount of compensation for the provision of such Services, as required under Chapter 2254 of the Texas Government Code; and

WHEREAS, Consultant 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

Consultant shall render the professional engineering services as described in Consultant's proposal dated June 11, 2021, attached hereto as Exhibit A, and incorporated herein for all purposes.

Section 2. Personnel

2.1 Consultant 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 Consultant 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 Consultant shall have such knowledge and experience as will enable them to perform the duties assigned to them. Any employee of Consultant 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 Consultant's fees shall be calculated at the rates set forth in the attached Exhibit A. The Maximum Compensation for the performance of Services within the Scope of Services described in Exhibit A is eight hundred sixty-four thousand nine hundred ninety-four dollars and 50/100 (\$864,994.50) 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 Consultant 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 Consultant based on the following procedures: Upon completion of the tasks identified in the Scope of Services, Consultant 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 Consultant 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 eight hundred sixty-four thousand nine hundred ninety-four dollars and 50/100 (\$864,994.50) specifically allocated to fully discharge any and all liabilities County may incur.

4.2 Consultant does further understand and agree, said understanding and agreement also being of the absolute essence of this Agreement, that the total maximum compensation that Consultant may become entitled to and the total maximum sum that County may become liable to pay to Consultant shall not under any conditions, circumstances, or interpretations thereof exceed eight hundred sixty-four thousand nine hundred ninety-four dollars and 50/100 (\$864,994.50).

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, 2025. Consultant 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 Consultant 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 Consultant 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 Consultant 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 Consultant 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. Consultant'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 Consultant.

Section 8. Ownership and Reuse of Documents

All documents, data, reports, research, graphic presentation materials, etc., developed by Consultant 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. Consultant shall promptly furnish all such data and material to County on request.

Section 9. Inspection of Books and Records

Consultant will permit County, or any duly authorized agent of County, to inspect and examine the books and records of Consultant 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, Consultant 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. Consultant shall provide certified copies of insurance endorsements and/or policies if requested by County. Consultant 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. Consultant 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.

10.1.2 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.

10.1.3 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.

10.1.4 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.

10.1.5 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 Consultant 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, Consultant 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

CONSULTANT SHALL INDEMNIFY AND HOLD HARMLESS COUNTY AGAINST LOSSES, LIABILITIES, CLAIMS, AND CAUSES OF ACTION, INCLUDING THE REIMBURSEMENT OF COUNTY'S REASONABLE ATTORNEYS FEES IN PROPORTION TO CONSULTANT'S LIABILITY, ARISING FROM ACTIVITIES OF CONSULTANT, ITS AGENTS, SERVANTS OR EMPLOYEES, PERFORMED UNDER THIS AGREEMENT THAT RESULT FROM THE NEGLIGENT ACT, INTENTIONAL TORT, ERROR, OR OMISSION OF CONSULTANT OR ANY OF CONSULTANT'S AGENTS, SERVANTS OR EMPLOYEES.

Section 12. Confidential and Proprietary Information

12.1 Consultant 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 Consultant 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 Consultant 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 Consultant) publicly known or is contained in a publicly available document; (b) is rightfully in Consultant'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 Consultant who can be shown to have had no access to the Confidential Information.

12.2 Consultant agrees to hold Confidential Information in strict confidence, using at least the same degree of care that Consultant 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. Consultant 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, Consultant shall advise County immediately in the event Consultant 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 Consultant will at its expense cooperate with County in seeking injunctive or other equitable relief in the name of County or Consultant against any such person. Consultant agrees that, except as directed by County, Consultant 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, Consultant will promptly turn over to County all documents, papers, and other matter in Consultant's possession which embody Confidential Information.

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

12.5 Consultant 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 Consultant

13.1 In the performance of work or services hereunder, Consultant 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 Consultant 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, 1st Floor
Richmond, Texas 77469

Consultant: HJ Consulting, Inc.
4771 Sweetwater Blvd, Suite 254
Sugar Land, Texas 77479

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

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

Section 16. Standard of Care

Consultant represents shall perform the Services to be provided under this Agreement with the professional skill and care ordinarily provided by competent engineers practicing under the same or similar circumstances and professional license. Further, Consultant shall perform the Services as expeditiously as is prudent considering the ordinary professional skill and care of a competent engineer.

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 Consultant 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 Consultant 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 2271 Texas Government Code: By signature below, Consultant verifies that if Consultant employs ten (10) or more full-time employees and this Agreement has a value of \$100,000 or more, Consultant 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, Consultant represents pursuant to Section 2252.152 of the Texas Government Code, that Consultant 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.

Section 26. Human Trafficking

BY ACCEPTANCE OF AGREEMENT, CONSULTANT ACKNOWLEDGES THAT THE COUNTY IS OPPOSED TO HUMAN TRAFFICKING AND THAT NO COUNTY FUNDS WILL BE USED IN SUPPORT OF SERVICES OR ACTIVITIES THAT VIOLATE HUMAN TRAFFICKING LAWS.

[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

HJ CONSULTING, INC

KP George, County Judge

Harish
Authorized Agent – Signature

Date

HARISH JAJOO, P.E.
Authorized Agent – Printed Name

ATTEST:

PRESIDENT
Title

Laura Richard, County Clerk

6-28-21
Date

APPROVED:

J. Stacy Slawinski
J. Stacy Slawinski, P.E., County Engineer

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

EXHIBIT A



June 11, 2021

“EXHIBIT A” – Scope of Services

Koeblen Road, Segment 1

Spacek (Dog Leg) to FM 2977, Precinct 1

FBC Project # 20107

Fort Bend County has requested a proposal to provide professional engineering services (Preliminary Engineering Phase and Design Phase services) for the design and construction/reconstruction of the existing 2-lane asphalt roadway with roadside ditches to proposed 4-lane concrete curb & gutter boulevard section with raised median, storm sewers, detention, drainage outfalls, modification to existing traffic signal and all necessary appurtenances from Spacek (Dog Leg) to FM 2977, utilizing the latest FBC standards.

PROJECT LIMITS AND DETAILS:

1. Develop existing 2 lane roadway with 4 lane curb and gutter boulevard section. Tie in to proposed Koeblen Road Segment 3 project at west end. The ROW will be increased to 100' to accommodate the project.
2. Tie in to the existing signalized intersection at FM 2977 at east end of project. Signal will be modified as necessary to accommodate the new geometry.
3. The flow from the storm sewers will be directed to proposed detention pond(s), with ultimate outfall to Dry Creek.
4. Traffic analysis will be conducted to check for left turn storage at Sunrise Meadows as well as signal warrant study at that intersection.

ROADWAY ALIGNMENT:

The proposed Koeblen Road will run from East to West with horizontal curve to eliminate Spacek (Dog Leg) at the west end to connect to proposed pavement from Segment 3. Right of way restrictions posed by any structures will be considered for the design. Sight triangles will be developed at all the existing intersections.

We propose to perform the following services as per attached submittal schedule (Exhibit B), for a contract lump sum fee of **\$864,994.50** per attached fee proposal (Exhibit C).

Civil Engineers | Construction Managers

4771 Sweetwater Boulevard, Suite 254, Sugar Land, Texas 77479
832-338-3202 (C) | 832-553-3103 (F) | www.hjconsultinginc.com

BASIC SERVICES:

PRELIMINARY DESIGN PHASE:

The Preliminary Engineering Phase Letter Report shall serve as a summary document that incorporates the recommendations from the supporting investigative reports, results from working meeting with Fort Bend County, necessary approvals, and final recommendations from the Consultant's efforts. The document will serve as the framework for the design phase, having addressed the major issues that affect the roadway design and supporting infrastructure.

The primary goals of Preliminary Engineering Phase are:

1. Establish a typical cross section and cross sections in non-standard areas
2. Determine drainage system needs (Drainage Impact Study)
3. Positively determine right-of-way acquisition needs
4. Determine potential conflicts with existing facilities
5. Identify critical path items
6. Identify problem areas and potential resolution(s)
7. Determine permit and regulatory requirements
8. Prepare a reasonable construction cost estimate
9. Prepare a "30 percent" plan set, consisting of all existing features (seen and unseen) shown in plan and profile, and proposed improvements in plan only with minor annotations.
10. Prepare preliminary design review checklist

The Preliminary Engineering Phase includes, but not limited to the following major tasks:

- Review and Research existing conditions from the field visits and existing record drawings (to be confirmed with the topographic survey)
- Send Utility requests to the Utility companies and prepare Preliminary Utility Conflict Table
- Obtain Record Drawings from other entities as required for the project
- Creating existing Base maps
- Initiate Roadway Geometry
- Approved Geotechnical Reports
- Signed and Sealed Topographic Survey
- Signed and Sealed Signal Warrant Analysis
- Exhibits and Drawings

Koeblen Road, Segment 1, FBC Precinct 1

Proposal for Professional Engineering Services

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- Construction Cost Estimate
- Coordination with sub-consultants
- Drainage Impact Study (Detention Pond Requirements)

We will follow the latest Fort Bend County Design Guidelines and Standards for this project.

The Preliminary Engineering Phase shall include the preparation and approval of reports necessary to support the recommendations and design of the roadway and all appurtenances included, but not limited to Geotechnical Investigations, and Drainage Impact Study including a drainage report.

Environmental Site Assessments, Wetlands Assessments, Delineation, Concurrence/Permitting and associated tasks are not in the scope of this project. FBC will be responsible for these tasks, if deemed necessary.

HJ will coordinate with sub-consultants as necessary throughout the project. HJ will coordinate with adjoining project consultants for proper transitions.

The Proposed Roadway geometry will be evaluated and the preliminary alternatives for the alignment and Proposed Right-of-Way (ROW) Acquisition will be presented to Fort Bend County during the preliminary stages of the PER.

The Preliminary Engineering Phase shall include working meetings with Fort Bend County and other consultants/sub-consultants and a drainage meeting with Fort Bend County Drainage District prior to submitting the draft Drainage Report for the project. During this phase, Topographic Survey will be performed, and the existing conditions will be evaluated including roadway geometrics, soils, traffic, and environmental conditions. In addition, during this phase parcels should be defined.

Utility companies within the project limits will be contacted and coordinated for obtaining the facility maps and record drawings available and a contact list for the utility companies and a Utility Conflict Table will be prepared. Roadway Schematics and Aerial Exhibits will be prepared for review.

The existing water line and sanitary sewer line in front of Sunrise Meadows subdivision, will need to be relocated to accommodate the project. Coordination will be made with Fort Bend County MUD #162 (FBCMUD #162) for relocation and approval process and recommendations/options will be provided in PER.

Koeblen Road, Segment 1, FBC Precinct 1

Proposal for Professional Engineering Services

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Proposed improvements will include Roadway Geometry, Pavement Structure, Storm Sewer system, Detention, Preliminary Phasic of Traffic Control Plans and Traffic Signals. A Preliminary Construction Cost Estimate will be prepared and included in the Preliminary Engineering Report.

At the Client Presentation meeting, the Consultant shall present the working draft of the Preliminary Engineering Phase Letter Report including exhibits, supporting reports, and final recommendations. Any issues identified during the Consultant's work effort to get to this project stage that require decision from Fort Bend County should be presented at this meeting for confirmation prior to finalizing the Preliminary Engineering Report such that approval can be granted upon report submittal.

Exhibits/Attachments shall include:

- **Aerial Exhibit**
 - Provide an exhibit that shows the project limits and surrounding features. Identify notable features of interest, including drainage channels, floodplains, pipelines, roadways, future roadway alignments shown on the Fort Bend County's Major Thoroughfare Plan, latest available aerial photographs, and developments.
- **Schematic Layout of Roadway**
 - Provide a plan view layout with sufficient detail to ensure that the final design can be constructed without any major issues. The schematic layout shall be as a KMZ file and identify ROW parcels to be taken. The schematic should show the pavement marking concept so that traffic movements can be considered and reviewed during the Preliminary Engineering Phase. Provide the proposed typical sections on the schematic. Typical Sections shall be drawn at 1"=20' horizontal and 1"=2' vertical scale on 11"x17" sheets.
- **Cost Estimates**
 - Provide a preliminary construction cost estimate for the final recommendation provided in the Preliminary Engineering Report.
- **Utility Tables**
 - The consultant shall coordinate with utility companies that have existing facilities in or adjacent to project limits. The coordination shall include:
 - Perform records research and field visits to determine the presence of underground or overhead private or public utilities during the

preliminary design phase. 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 utilities.

- **Level D SUE**

- Identify all existing utilities within the existing and proposed rights-of-way. Provide list of existing utilities with owner and contact information. Coordinate with the utility companies and provide information and schematics, as necessary.
- Identify major utilities that will potentially require relocation. Major utilities are defined pipelines, concrete incased conduits, or other utilities of this nature. Overhead power lines, small gas service lines and other lines other line of this nature as not a concern. Provide a table of the existing utilities. The table shall include ID number for the potential conflicts, stations at the left right-of-way, the centerline, and right-of-way, the owner of the utility, contact name, address, phone number, and email address, any notes such as it may be in possible conflict. The table shall also include clearances from overhead or underground utilities to the proposed roadway features noting utility diameters and clearances from the utility to proposed feature (depth top utility to proposed finished grade elevation).
- Identify any utilities that are within dedicated easements that will be within the proposed right-of-way.

- **Sight Distance**

- The consultant shall investigate sight distance restrictions and general operating conditions of all existing and proposed intersections along Koeblen Road within the project limits.
- Sight distance restrictions will be investigated, and Approach and Departure Site Triangles will be developed for the intersections for determining the safe passing distance and stopping sight distance for the traffic.

Survey Scope of Services:

The Project limits for which these professional services are to be provided is along Koeblen Road, from Farm Market Road 2977 to approximately 7,000 feet northwest

along existing Koeblen Road and approximately 1,700 feet across the Danzinger tract for the new alignment of Koeblen Road.

A. Topographic Surveying Services:

Research subdivision plats, rights-of-way, easements and other available survey elements, which may affect the physical boundaries of the project; All the easements with volume and page numbers shall be identified and labeled on the survey submittal; Research Fort Bend County Official Records for current deeds and plats for property affected by the Project; Research County records and public utilities record for existing documents of utilities; Office calculations necessary to check location of the right-of-way line in relation to features found during the course of the topographic survey; Establish horizontal and vertical survey control points at spacing of approximately 1,000 feet along the pavement reconstruction alignment; Reference all survey work to state plan coordinate system and to current Fort Bend County elevation control; Prepare survey control data strip map of existing and proposed right-of-way alignment for horizontal and vertical control points; Provide 11" x 17" pdfs of survey control map and control sketches; Identify roadways, driveways, alleys and sidewalks with pavement type; Show centerlines and angles of intersection of the side street(s) with main roadway centerline, as necessary; Show all mailboxes, road signs and signal posts; Locate and describe any trees, bushes or other landscaping plants; Provide tree caliper, type of tree, and drip line location for all trees over 2 inches in diameter; Provide topographic survey of outfall drainage ditch between Lot 7 and 8 of The Meadows on Koeblen Road from existing Koeblen Road to Dry Creek and a second outfall drainage easement to Dry Creek to be determined by project engineer; provide topographic survey for two detention ponds to be determined by the project area; Obtain three cross sections of Dry Creek at various locations established by the design engineer; Show all visible utilities found during the course of obtaining field work; Show on plan view drawings, all underground utilities and utilities within the Project limits from as-built drawings; Show building structures within 50' of road right-of-way; Locate vegetation lines and special landscaping; Survey boring logs and obtain surface elevation; Topographic work will extend 30' beyond the right-of-way; and Deliver files in Civil 3D 2018; Provide a plan view strip map of topographic survey with appropriate labels.

B. Parcel Acquisition: (15 Tracts of Land Assumed) (Optional Additional Services):

Meet with HJ Consulting, Inc. and County Staff to determine the final location of right-of-way acquisition; Prepare individual metes and bounds descriptions of additional right-of-way acquisition; Prepare individual Category 1A Survey Map of right-of-way on 8-1/2" x 11" legible print showing visual representation, as

well as, any other pertinent information that needs to be shown; Set property acquisition monumentation for each individual parcel; and Surveying services for retracement and monumentation of the existing rights-of-way and easement.

C. Abstracting and Title Research: (15 Tracts of Land Assumed) (Optional Additional Services):

Provide professional abstracting and title research for legal documents; Title search will show names of all property owners, lienholders and reference legal documents associated with land; and 15 abstract certificates.

D. Staking Services: (Optional Additional Services):

Construction Surveying Services will be performed once during a single mobilization prior to commencement of construction. These services will not be performed on an ongoing basis during the construction process without additional compensation. Construction Surveying Services do not include construction layout.

1. Recover, verify, and mark control and baseline alignment monumentation established for the project as described in item 1. above.
2. Stake ROW lines every 100 feet, at angle points, and at the beginning and end of curves.

Geotechnical Scope of Services:

The improvement includes conversion of existing 2-lane asphalt roadway into a divided 4-lane concrete boulevard with a median and storm sewers construction. Detention pond(s) may also be constructed during this project. The size, depth and location of the detention pond(s) is unknown at this time.

We understand, client will provide the traffic loading in a form of Equivalent Single Axial Load (ESAL). Furthermore, we understand that 30-year design life will be used for concrete pavement design. The underground utilities will consist of storm sewers. The assumed depth of the underground utilities will be less than 10-ft deep.

The proposed scope is divided into following three sections:

A. Desktop Geologic Fault Study:

B. Geotechnical Exploration Study for the pavement and drainage improvements:

C. Geotechnical Exploration Study for detention pond

Desktop Geology Fault Study:

A desktop fault study will include a study of published data on surface faults in the area of the site from Geotech Engineering and Testing Library. A report of our findings will be provided.

Geotechnical Study:

Site Access: Major portion of the project alignment is along the existing 2-lane asphalt roadway. Therefore, site access can be provided, using a truck-mounted drilling rig. Traffic control will be required. Due to presence of soft subgrade soils and potential access problems, an ATV rig may have to be used to drill some borings proposed for the north portion of the project alignment which is away from existing asphalt paving. Borings for the proposed detention pond(s) may also be drilled using an ATV rig.

Surveying: The client will establish and provide GET the boring coordinates and ground surface elevations. GET will mark the boring locations in the field so that the survey crew can locate them.

Checking for utilities: GET will call Texas 811-Call for the locations of utilities. GET will coordinate these activities. GET will not hire a contractor to conduct subsurface utility studies to find location of any and all utilities. We recommend the scope of our work to include subsurface utility investigations at boring locations to assess that underground utilities are not hit during field exploration.

Traffic Control: Traffic control will be required along the project alignment during our field exploration. The scope of our field work will require a lane closure during drilling and sampling and borehole grouting. Our traffic control will be subcontracted out.

Drilling and Sampling: We will evaluate the soil stratigraphy and groundwater conditions for the proposed paving and storm sewer improvements by conducting fifteen (15) soil borings to a depth of 15-ft from existing grade. It should be noted that spacing between borings is about 500-ft. We will conduct six (6) soil borings at the proposed detention ponds (optional) to a depth of 15-ft from existing grade. The plan of borings does not include the proposed borings for detention pond(s) as the location of the pond(s) are unknown at this time. The borings schedule is as follows:

Koeblen Road, Segment 1, FBC Precinct 1

Proposal for Professional Engineering Services

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Facility	Borings	Depth, ft	Remark
Paving and Underground Utilities	B-1 thru B-15	15	A truck-mounted drilling rig. An ATV rig may be needed, if wet and soft soils are encountered at Borings B-2 through B-4
Detention Pond(s)	B-16 thru B-21	15	A truck-mounted drilling rig. An ATV rig may be needed, if wet and soft soils are encountered.

Soil samples will be obtained continuously from the surface to the completion depth of borings. The cohesive soils will be sampled, using a Shelby Tube sampler. Standard Penetration Tests (SPT) will be performed in sands, if encountered. Shear strengths of the clays will be measured in the field with a hand penetrometer and correlations between this data and laboratory unconfined compression and Torvane tests used to supplement laboratory shear strength data.

Groundwater: Depth to groundwater will be important for design and construction of the proposed facilities. For this reason, borings will be drilled dry and the depth at which groundwater is encountered will be recorded. Twenty-four-hour water levels will not be measured.

Borehole Grouting: All of the geotechnical boreholes except those for the pond will be grouted with cement and bentonite, after drilling and sampling. The boreholes for the detention pond will be backfilled with soil cuttings.

Laboratory Testing:

Laboratory tests will vary with the soils encountered but will be planned to evaluate soils design parameters for the proposed pavements and storm sewers. It is anticipated that the tests will include hand penetrometer, torvane, unconfined compression, unit weight, moisture content, liquid and plastic limit tests, gradation, and hydrometers.

All of the subsoils will be classified in general accordance with the American Society of Testing Materials (ASTM) Soil Classification System. All tests will be performed in general accordance with the ASTM Procedures.

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Engineering Analyses and Reporting:

The field and laboratory data will be summarized in an engineering report. Analyses of these data will be presented, and recommendations made relative to the following:

Facility	Recommendations
General	○ Summary. ○ Project site pictures. ○ Geology. ○ Results of Desktop Fault Study and recommendations for Phase I Study, if warranted. ○ Generalized soils stratigraphy and groundwater levels. ○ Boring logs per GET format.
Road Paving	○ Estimated subgrade properties (based on correlations) including CBR and Resilient Modulus values for natural soils. ○ Concrete pavement design, using AASHTO 1993 pavement design method. The client will provide traffic loading in the form of ESAL. ○ Concrete pavement recommendations. ○ Pavement steel placement and spacing. ○ Soil stabilization requirements for the pavements. ○ Potential construction problems. ○ Recommendations on site drainage.
Storm Sewers	○ In the event that auguring is used, we will provide soil design parameters, ground stability, auger pit excavation stability and dewatering. ○ OSHA soil classification for trench safety.
Detention Pond(s)	○ Recommendations on design of the detention pond, including the recommended slope ratios based on the furnished cross sections. A detailed slope-stability analysis will not be conducted. ○ Recommended slope ratios and erosion protection. ○ Seepage and bottom blow up recommendations. ○ Erosion recommendations, including the use of grass for erosion protection. ○ Recommendations on earthwork, select fill and construction procedures. ○ Constructability considerations.

Traffic Scope of Services:

The basic scope of services for this project is as follows:

Task 1 - Traffic Study:

- Operational analysis for Koeblen Road at Sunrise Meadow Drive, including warrants for turn lanes, storage length for turn lanes, and traffic warrant signal study.

Subtasks will include:

- a. Schedule and conduct scoping meeting with client and Fort Bend County staff; as needed;
- b. Field visit to the site, one during the AM Peak Hour and/or one during the PM Peak Hour to assess existing traffic conditions;
- c. Conduct traffic data collection to include 13-hour video-based turning movement counts at Koeblen Road at Sunrise Meadow Drive.
- d. Conduct level of service analysis of the intersections listed above
- e. Examine warrants for turn lanes, both left turn and right turn, at each intersection;
- f. Conduct traffic signal warrant analysis at Koeblen Road at Sunrise Meadow Drive
- g. Provide recommendations for geometry, including for school buses and larger vehicles, and for pedestrian facilities as applicable; and
- h. Preparation of a technical report, including schematic graphics, for client and agency review.

Task 2 – Traffic Signal Design – Temporary Signal (Koeblen Road at FM 2977):

This task will provide design services for temporary traffic signal during construction, if needed, at the Koeblen Road at FM 2977 intersection. The basic scope of services for this task will require that HJ Consulting supply electronic copies of the survey and design files for the subject intersection to 500' on all approaches. HJ Consulting shall provide topographic survey showing all above-ground features and all existing and/or proposed underground utilities to at least 500' on all intersection approaches. HJ Consulting shall provide temporary pavement marking and traffic control plan layouts for each applicable phase of construction. See attached for traffic signal survey requirements.

If needed for temporary signal design to current TxDOT traffic signal standards, Voigt Associates will:

- a. Work with client, TxDOT and Fort Bend County staff to determine the scope of temporary traffic signal installation;

Koeblen Road, Segment 1, FBC Precinct 1

Proposal for Professional Engineering Services

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- b. Conduct site visit to scope the project with TxDOT and Fort Bend County staff, as necessary, to document existing conditions and confirm scope of modification;
- c. Contact CenterPoint Energy and AT&T for underground utility information at the intersection;
- d. Prepare existing conditions diagram;
- e. Prepare temporary traffic signal plan sheet(s), including as-needed pedestrian treatments for full traffic signal operation during construction;
- f. Prepare applicable notes and general specifications;
- g. Prepare index of standard sheets applicable for temporary signal;
- h. Prepare summary of estimate for materials;
- i. For final drawings, as needed, obtain private utility (CenterPoint Energy and AT&T) signatures to reflect utilities are shown properly on the plans;
- j. Prepare cost estimate; and
- k. Seal and sign final drawings

Task 3 – Traffic Signal Design – Traffic Signal Modification (Koeblen Road at FM 2977) (Optional Additional Services):

This task will provide design services for traffic signal modification (adding a widened fourth leg to the intersection) on FM 2977 at Koeblen Road. The basic scope of services for this task of the project will require electronic copies of the design files for the subject intersection to 500' on all approaches of the intersection. Topographic survey showing all above-ground features and all existing and/or proposed underground utilities to at least 500' on all intersection approaches will also be required.

For signal modification design to current TxDOT traffic signal standards, Voigt Associates will:

- a. Work with client, TxDOT and Fort Bend County staff to determine the scope of traffic signal modification;
- b. Conduct site visit to scope the project with client, TxDOT and Fort Bend County staff, as necessary, to document existing conditions and confirm scope of modification;
- c. Contact CenterPoint Energy and AT&T for underground utility information at the intersection;
- d. Prepare existing conditions diagram;
- e. Prepare plan sheet(s), including as-needed pedestrian treatments for full traffic signal operation for full traffic signal operation;
- f. Prepare applicable notes and general specifications;

- g. Prepare index of standard sheets for signal, pavement markings, traffic control and work zone for traffic signal work;
- h. Prepare summary of estimate for materials for traffic signal modification;
- i. As needed, obtain private utility (CenterPoint Energy and AT&T) signatures to reflect utilities are shown properly on the plans;
- j. Prepare cost estimate; and
- k. Seal and sign final drawings

Drainage (Hydraulic and Hydrologic Analysis):

The consultant shall perform the following Hydraulic and Hydrologic support services during the preliminary design phase:

The scope of services includes the following tasks:

1. Preparation of Drainage Impact and Mitigation Analysis Report for submission and approval of Fort Bend County Drainage District:

- Determine existing and proposed condition discharge rates from the proposed roadway alignment limits. Confirm limits of the analysis with Preliminary layout for the proposed roadway. Discharge rates for proposed conditions will reflect the change in T_c and change of the drainage system from open ditch to storm sewers. Additionally, all new areas of Proposed Right-of-Way (ROW) will be accounted for in the drainage calculations.
- Develop hydrographs for existing and proposed conditions for design storms and determine required detention volume requirements to offset the increase in peak runoff rates for storms up to the 100-year events. Storms to be evaluated for the analysis will include the 2-year and 100-year events using Atlas 14 rainfall data.
- Perform drainage area delineations for the proposed conditions and develop onsite flow calculations for proposed conditions. Perform extreme event sheet flow analysis.
- Identify all mitigation requirements, including measures needed to eliminate impacts on flow rates and floodplain storage. Such measures may include proposed detention pond, floodplain excavation, etc.
- Provide options for detention pond(s) size and location.
- Update calculations and hydrologic modeling data to reflect required mitigation measures and features.

2. Preparation of Drainage Report:

- Prepare a written report detailing the assumptions in the drainage study and hydraulic analysis, the obtained results and proposed mitigation recommendations. The report will summarize background information, methodology, and results regarding the existing conditions and proposed improvements. Figures, tables, appendices, etc. will be provided to convey relevant information.

Preparation of Drainage Impact and Mitigation Analysis Report for submission and approval of Fort Bend County Drainage District.

FINAL DESIGN PHASE:

The design phase of the project shall consist of the preparation of completely approved construction documents that reflect the approved Preliminary Engineering Report recommendation accepted by Fort Bend County.

The Design shall build upon the framework identified in the Preliminary Engineering Report and include roadway design, profiles, drainage system and appurtenances, details, and the bid documents necessary for a complete design review. The submittal shall be considered final and ready for construction, barring minor comments from Fort Bend County.

The Design Submittal shall address all comments from the Preliminary Engineering Phase of the project. The Design Submittal shall include the submittal of the construction ready Plans on 11"x17", Specifications, and a Cost Estimate (PS&E) in accordance with FBCED requirements.

The design phase shall also include the coordination of utilities. The coordination shall include, but not limited to:

- Depict utilities to a reasonable degree of accuracy on the plan and profile drawings.
- Utility Conflict Table to be updated during the Final Design Phase as required. Refer to Appendix C, Fort Bend County Utility Conflict Table template.
- Submit milestone level drawings to applicable utility companies for their review.
- TxDOT coordination and permitting for the project at the intersection of FM 2977.

The design submittal includes the following milestones:

- **70% Submittal (1st Submittal):**

- A. A digital copy (PDF) of the drawings, specifications, and estimate shall be submitted to the Program Manager.

- B. The submittal shall consist of:

- Coversheet with a 70 percent interim seal
- Sheet Index
- Typical and Non-standard Cross Sections
- Project Layout Sheet
- Survey Control
- Horizontal Alignment Data
- Plan and Profile Sheets (detailed callouts not required at 70 percent)
- Drainage Area Map with Hydraulic Calculations
- Detention Plan
- Traffic Control Plan
- Storm Water Pollution Prevention Plan
- Traffic Signals & Details (if needed)
- Cross Sections
- Standard Details
- Specifications Table of Contents per Fort Bend County Specification Table of Contents Template (Harris County Specifications, TxDOT Specifications, and others to be used as necessary depending on the jurisdiction).
- Construction Cost Estimate (PDF and Excel Format)
- 70% Plans on 11"x17" Sheets with Electronic PDF files, and KMZ file of existing conditions and current design
- Submit drawings for regulatory permit and utility reviews
- 70% Review Checklist

- **95% Submittal (2nd Submittal):**

- A. A digital copy (PDF) of the drawings, specifications, and estimate shall be submitted to the Program Manager.

Koeblen Road, Segment 1, FBC Precinct 1

Proposal for Professional Engineering Services

June 11, 2021

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- B. The 95 percent submittal should be considered complete with 95 percent interim seal, and shall include all of the 70 percent requirements plus the following:
- General Notes sheet
 - Verify earthwork quantities with cross sections at 100-foot intervals.
 - Signage and Pavement Marking Plans
 - Standard Construction details per Fort Bend County construction details, and others to be used as per necessary depending on the jurisdiction.
 - Construction cost Estimate
 - Special Specifications or Conditions, and Contract Documents Excluded
 - Responses to 70 percent comments
 - 95% Review Checklist

- **Final Submittal:**

- A. A digital copy in PDF of the drawings (signed and sealed)
- B. The 100 percent submittal should be considered ready for project advertisement and shall include the following:
- Construction cost estimate
 - Recommended maximum number of calendar days for construction
 - 100% Review Checklist

The design phase shall also include the design (if needed) of any water line or sanitary sewer relocation (Optional additional services), and the coordination of private utilities. The coordination shall include, but not limited to:

- Perform records research and field visits to determine the presence of underground or overhead private or public utilities during the Preliminary Design phase. 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 (i.e. CenterPoint Energy, AT&T, etc.)
- Send records requests to utility companies and obtain I.D. numbers (CenterPoint and AT&T)
- Depict utilities to a reasonable degree of accuracy on the plan and profile drawing
- Prepare a conflict table during the Preliminary Design phase to highlight conflicts between existing utilities and proposed improvements, to be updated during the

Koeblen Road, Segment 1, FBC Precinct 1

Proposal for Professional Engineering Services

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Final Design phase as required. Refer to Appendix C, Fort Bend County Utility Conflict Table template.

- Submit milestone-level drawings to applicable utility companies for review
- Meet with the utility companies and provide information and plans, as necessary.
- Provide any documentation as necessary and assist Fort Bend County into entering an agreement with the utility companies for the relocation of the facility.
- Obtain approval from the Fort Bend County for all requests made by utility companies prior to implementing changes.

Additional Considerations for the Design Phase are:

1. These services shall be performed in accordance with the latest Fort Bend County Design Guidelines.
2. The pavement elevation shall be set in accordance with the Fort Bend County Guidelines, or from coordination with FBCED if there are any special circumstances.
3. The pavement section shall be designed in accordance with the Guidelines. The results of the coring tests will be utilized to verify that the existing concrete pavement meets the Fort Bend County guidelines.
4. The drainage design shall be designed in accordance with FBCDD Drainage Criteria Design Manual and TxDOT (if required).
5. All the CAD work will follow Fort Bend County design standards.
6. Plan and profile sheets will be created for a scale of 1" = 40' for horizontal and 1" = 4' for vertical with all the references attached and shown as per the Fort Bend County design requirements for all submittals and the Final Submittal will be a Standard 11" x 17".
7. Standard Sheets per Fort Bend County as provided on the website.
8. Driveway width and location should match existing when feasible. Also, driveways should meet Fort Bend County Regulations for Subdivisions, Section 7 requirements. The centerline station and percent grade shall be indicated on the drawings for all driveways.
9. Any public utilities in conflict with the road construction will be adjusted/relocated in this phase.

Traffic Control Plans (TCP):

The Traffic Control Plans will be prepared per Fort Bend County Standards and per the latest Texas Manual on Uniform Traffic Control Devices.

As the project anticipates for construction of the new concrete pavement over existing pavement, the Traffic control plan can be phased to use the existing pavement for one-way traffic.

Signing and Pavement Marking Plans (SPM):

The Signing and Pavement Marking Plans will be prepared per Fort Bend County Engineering Department Standards and per the TxDOT Standards, if applicable.

Storm Water Pollution Prevention Plans (SWPPP):

The Storm Water Pollution Prevention Plans will be prepared per Fort Bend County Standards and will follow TPDES General Permit # TXR150000 requirements. The drawings will be prepared based on Fort Bend County Criteria.



**Preliminary Design Schedule
Koeblen Road, Segment 1
FBC Project #20107**

HJ Consulting, Inc.
"Exhibit B"

KOEBLER ROAD, SEGMENT 1

Project Start:

Mon, 7/5/2021

Display Week:

1

Display Week:					
1					
ID	TASK	PROGRESS	DURATION	START	END
Preliminary Design Phase					
1	Notice to Proceed		133	5-Jul-21	15-Nov-21
2	Project Coordination and Meetings		4	5-Jul-21	5-Jul-21
3	Data Collection/Meetings/NTP (Subconsultants)		5	6-Jul-21	9-Jul-21
4	Topographic Survey & Existing ROW Maps (Signed and Sealed)		41	6-Jul-21	13-Jul-21
5	FBC Review and Field Topo Survey Verification Site Visit		4	7-Sep-21	1-Sep-21
6	Key Maps, Vicinity Maps and Other Maps		5	14-Sep-21	21-Sep-21
7	Develop Proposed Alignment		4	7-Sep-21	13-Sep-21
8	Geotechnical Investigation		50	6-Jul-21	15-Sep-21
9	Evaluate Existing Pavement		5	1-Sep-21	9-Sep-21
10	Evaluate Existing Conditions/Geometry		10	1-Sep-21	16-Sep-21
11	30% Plans		30	2-Sep-21	18-Oct-21
12	Drainage Study		50	13-Jul-21	22-Sep-21
13	Preliminary Utility Information Table		30	2-Sep-21	18-Oct-21
14	Preliminary Utility Conflict List		30	2-Sep-21	18-Oct-21
15	Preliminary ROW Acquisition Table		5	18-Oct-21	25-Oct-21
16	Preliminary ROW Map		5	25-Oct-21	1-Nov-21
17	Preliminary Construction Cost Estimate		5	18-Oct-21	25-Oct-21
18	Identify Problem Areas and Potential Resolution		5	18-Oct-21	25-Oct-21
19	Identify Permit and Regulatory Requirements		5	18-Oct-21	25-Oct-21
20	Engineer QA/QC and Incorporate Comments		5	18-Oct-21	25-Oct-21
21	Submit Draft Preliminary Engineering Report			26-Oct-21	26-Oct-21
22	Client Presentation Meeting with Fort Bend County			9-Nov-21	9-Nov-21
23	Fort Bend County Review (Review of Exhibits Presented)			9-Nov-21	9-Nov-21
24	Incorporate Fort Bend County Comments		4	10-Nov-21	17-Nov-21
25	Finalize Pending Items/Issues		2	10-Nov-21	15-Nov-21
26	Submit Final Preliminary Engineering Report			15-Nov-21	15-Nov-21
27	Study Phase Duration		92	5-Jul-21	15-Nov-21
28	Acceptance of Study Phase Report by Fort Bend County		10	15-Nov-21	1-Dec-21

KOEBLER ROAD, SEGMENT 1

Project Start:

Mon, 12/27/2021

Display Week:

1

Display Week:						
1						
ID	TASK	PROGRESS	DURATION	START	END	
Final Design Phase						
1	Notice to Proceed		239	27-Dec-21	23-Aug-22	
2	Project Coordination and Meetings		2	27-Dec-21	29-Dec-21	
3	Address 30% Comments		9	29-Dec-21	11-Jan-22	
4	Proposed ROW Maps (Metes and Bounds)		20	29-Dec-21	27-Jan-22	
5	Traffic Control Schematics (Develop Phases and Steps)		15	29-Dec-21	20-Jan-22	
6	Drainage Area Maps & Hydraulic Calculations		5	11-Jan-22	19-Jan-22	
7	Detention Plans and Calculations		5	19-Jan-22	26-Jan-22	
8	Horizontal Alignment Data Sheet		2	11-Jan-22	13-Jan-22	
9	Plan and Profile Sheets		25	11-Jan-22	16-Feb-22	
10	Demolition Plans		25	11-Jan-22	16-Feb-22	
11	Traffic Control Phasing Presentation/Review Meeting (if reqd)			21-Jan-22	21-Jan-22	
12	Traffic Control Plans		15	21-Jan-22	11-Feb-22	
13	Project Layout Sheet		5	16-Feb-22	23-Feb-22	
14	Typical Sections		10	16-Feb-22	2-Mar-22	
15	Cover Sheet		2	16-Feb-22	18-Feb-22	
16	Index of Sheets		2	18-Feb-22	22-Feb-22	
17	Fort Bend County Standard Sheets		2	16-Feb-22	18-Feb-22	
18	Storm Water Pollution Prevention Plan		5	23-Feb-22	2-Mar-22	
19	Cross Sections and Earthwork Calculations		10	16-Feb-22	2-Mar-22	
20	Specification Table of Contents		3	23-Feb-22	28-Feb-22	
21	Bid Form with Estimated Unit and Total Costs		5	23-Feb-22	2-Mar-22	
22	Engineer QA/QC and Incorporate Comments		5	2-Mar-22	9-Mar-22	
23	1st submittal to Fort Bend County (70% Submittal)			10-Mar-22	10-Mar-22	
24	1st submittal to TxDOT			10-Mar-22	10-Mar-22	
25	Fort Bend County Review		15	11-Mar-22	1-Apr-22	
26	TxDOT Review		20	11-Mar-22	11-Apr-22	
27	Update Drawings for 2nd Submittal		20	12-Apr-22	10-May-22	
28	Signing and Pavement Marking Plans		10	12-Apr-22	26-Apr-22	
29	General Notes		2	10-May-22	12-May-22	
30	Update Construction Cost Estimate		2	10-May-22	12-May-22	
31	Assemble and Update Project Manual		2	12-May-22	16-May-22	
32	Engineer QA/QC and Incorporate Comments		5	12-May-22	19-May-22	
33	2nd submittal to Fort Bend County (95% Submittal)			20-May-22	20-May-22	
34	2nd submittal to TxDOT			20-May-22	20-May-22	
35	Fort Bend County Review		15	23-May-22	14-Jun-22	
36	TxDOT Review		20	23-May-22	21-Jun-22	
37	Update Drawings and Project Manual for Final Submittal		20	22-Jun-22	21-Jul-22	
38	3rd submittal to TxDOT			22-Jul-22	22-Jul-22	
39	Approval from TxDOT		20	25-Jul-22	22-Aug-22	
40	Final Signed and Sealed Submittal to Fort Bend County			23-Aug-22	23-Aug-22	
41	Final Design Phase Duration		Work Days 168	27-Dec-21	23-Aug-22	



"EXHIBIT C" - Compensation for Professional Services

Project Name: Koeblen Road Segment 1

Project Limits: Spacek (Dog Leg) to FM 2977

FBC Project # 20107

BASIC SERVICES

1 Preliminary Design Phase (Lumpsum)	\$ 216,400.00
Preliminary Design Subtotal	\$ 173,175.00
Project Management Subtotal	\$ 42,225.00
Other Expenses Subtotal	\$ 1,000.00

2 Final Design Phase (Lumpsum)	\$ 356,370.00
Drawings & Documents Subtotal	\$ 300,150.00
Project Management Subtotal	\$ 54,470.00
Other Expenses Subtotal	\$ 1,750.00

3 Drainage Impact Study (Lumpsum)	\$ 90,570.00
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4 Survey	\$ 47,800.00
Topographic Surveying and Mapping	\$ 47,800.00

5 Geotechnical	\$ 57,639.50
Geotechnical Investigation for Paving and Storm Sewer	\$ 40,226.00
Geotechnical Investigation for Detention Pond	\$ 17,413.50

6 Traffic	\$ 16,080.00
Traffic Study (Sunrise Meadows)	\$ 6,480.00
Temporary Traffic Signal (FM 2977)	\$ 9,600.00

Sub-Total Basic Services (1-6): \$ 784,859.50



"EXHIBIT C" - Compensation for Professional Services

Project Name: Koeblen Road Segment 1

Project Limits: Spacek (Dog Leg) to FM 2977

FBC Project # 20107

OPTIONAL ADDITIONAL SERVICES

7 Right of Way Acquisition (Approximate)		\$ 31,125.00
Parcel Meets & Bounds with Abstracting and Title Research (15		
Parcels (Approx) @ \$2075/Parcel)	\$ 31,125.00	
8 Survey Staking		\$ 6,180.00
Re-establish control staking	\$ 1,700.00	
Construction staking	\$ 4,480.00	
9 Traffic		\$ 16,500.00
Traffic Signal Modification (FM 2977)	\$ 16,500.00	
10 Public Utilities Relocation Design		\$ 26,330.00
Water Line Relocation	\$ 16,955.00	
Sanitary Sewer Relocation	\$ 9,375.00	
Sub-Total Optional Additional Services (7-10)		\$ 80,135.00
TOTAL SERVICES (BASIC & OPTIONAL ADDITIONAL):		\$ 864,994.50

KOEBLEN ROAD SEGMENT 1
(DOG LEG TO FM 2977)
FBC PROJECT# 20107
HJ CONSULTING, INC.
LEVEL OF EFFORT FOR PRELIMINARY DESIGN, JUNE 2021

6/11/2021

Employee Classification		No. of Sheets	Principal	Project Manager	QA/QC Engineer	Project Engineer	Graduate Engineer	CAD Technician	Admin	Subtotal Hours	Total
Labor Rate Per Hour			\$225.00	\$175.00	\$150.00	\$130.00	\$105.00	\$90.00	\$75.00		
TASK	TASK DESCRIPTION	ESTIMATED HOURS									
PRELIMINARY DESIGN											
1	Maps										
1.1	Project Location Map	1					1	4		5	\$ 465.00
1.2	Alignment Exhibit with Aerial Map	2		2	2	6	12	20		42	\$ 4,490.00
1.3	Drainage Area Map	2		2	2	8	16	24		52	\$ 5,530.00
1.4	Sight Triangle Exhibit	2		2	2	8	16	24		52	\$ 5,530.00
1.5	Right of Way Exhibit	2		2	2	8	16	24		52	\$ 5,530.00
1.6	FEMA FIRM Map	1		1	1		2	4		8	\$ 895.00
2	Narrative			2	4	8	20		12	46	\$ 4,990.00
2.1	Introduction, Limits, Purpose and Scope			1	1	6	8			16	\$ 1,945.00
2.2	Existing Conditions			2	2	8	10			22	\$ 2,740.00
2.3	Proposed Improvements			4	4	16	16			40	\$ 5,060.00
3	Right of Way Acquisition Needs			8	4	48	16			76	\$ 9,920.00
4	Identify Potential Conflicts with Facilities and Utilities			2	2	8	16			28	\$ 3,370.00
5	Utility Conflicts List			1	2	4	8			15	\$ 1,835.00
5.1	Public water and sewer Private utilities and pipelines				2		16			18	\$ 1,980.00
6	Identify Critical Path Items										
6.1	Level 1 schedule with Design, ROW, Bidding, and Construction			4	2	4	8			18	\$ 2,360.00

KOEBLER ROAD SEGMENT 1
(DOG LEG TO FM 2977)
FBC PROJECT# 20107
HJ CONSULTING, INC.
LEVEL OF EFFORT FOR PRELIMINARY DESIGN, JUNE 2021

6/11/2021

Employee Classification		No. of Sheets	Principal	Project Manager	QA/QC Engineer	Project Engineer	Graduate Engineer	CAD Technician	Admin	Subtotal Hours	Total
Labor Rate Per Hour			\$225.00	\$175.00	\$150.00	\$130.00	\$105.00	\$90.00	\$75.00		
TASK	TASK DESCRIPTION	ESTIMATED HOURS									
7	Identify Problem Areas and Potential Resolution			4	4	8	16			32	\$ 4,020.00
8	Identify Permit and Regulatory Requirements			4	2	16	24			46	\$ 5,600.00
9	Preliminary Construction Cost Estimate			4	4	4	16	24		52	\$ 5,660.00
10	Preliminary Drainage Design		2	6	6	48	96			158	\$ 18,720.00
11	Preliminary Roadway Design		4	30	12	120	32			198	\$ 26,910.00
12	30% Plans (11"x17" Sheets)										
12.1	Existing Typical Section	1		1	1	4		8		14	\$ 1,565.00
12.2	Proposed Typical Section	1		2	2	8		12		24	\$ 2,770.00
12.3	Plan & Profile (Roadway)	15									
12.3.1	Existing Features in Plan & Profile			2	4	30	30	60		126	\$ 13,400.00
12.3.2	Minor Annotations		4	8	4	15	30	30		91	\$ 10,700.00
12.4	Plan & Profile (Drainage)	10									
12.3.1	Existing Features in Plan & Profile			2	4	6	10	80		102	\$ 9,980.00
12.3.2	Minor Annotations			2	4	6	10	40		62	\$ 6,380.00
13	Incorporate review comments (Draft to Final)		2	8	8	16	24	32	4	94	\$ 10,830.00
PRELIMINARY DESIGN SUBTOTAL		37	12	106	87	413	469	386	16	1489	\$ 173,175.00



KOEBLEN ROAD SEGMENT 1
(DOG LEG TO FM 2977)
FBC PROJECT# 20107
HJ CONSULTING, INC.
LEVEL OF EFFORT FOR PRELIMINARY DESIGN, JUNE 2021

6/11/2021

Employee Classification		No. of Sheets	Principal	Project Manager	QA/QC Engineer	Project Engineer	Graduate Engineer	CAD Technician	Admin	Subtotal Hours	Total
Labor Rate Per Hour			\$225.00	\$175.00	\$150.00	\$130.00	\$105.00	\$90.00	\$75.00		
TASK	TASK DESCRIPTION	ESTIMATED HOURS									
PROJECT MANAGEMENT											
14	Field Visit (Investigations and Findings)		4	4		8	12			24	\$ 3,000.00
15	Coordination with TxDOT		4	24		48				76	\$ 11,340.00
16	Coordination for Topographic Survey		2	10		20				32	\$ 4,800.00
17	Coordination for Geotechnical		4	8		12	18			42	\$ 5,750.00
18	Coordination for Traffic Study		1	1		3				5	\$ 790.00
19	Coordination with Public Utilities		2	16		16				34	\$ 5,330.00
20	Coordination with Centerpoint Energy, AT&T, Comcast and Other (Private Utilities)		1	4		8	16		4	33	\$ 3,945.00
21	Project Management and Meetings (Includes Study Phase Meetings)		4	16		24			6	50	\$ 7,270.00
PROJECT MANAGEMENT SUBTOTAL			18	83		139	46		10	296	\$ 42,225.00
OTHER EXPENSES											
22	Printing/Plotting/Copying										\$ 400.00
23	Mileage/Postage/Courier										\$ 600.00
OTHER EXPENSES SUBTOTAL											\$ 1,000.00
TOTAL HOURS			30	189	87	552	515	386	26	1785	
TOTAL ESTIMATE			\$6,750	\$33,075	\$13,050	\$71,760	\$54,075	\$34,740	\$1,950		\$ 216,400.00

KOEBLEN ROAD SEGMENT 1
(DOG LEG TO FM 2977)
FBC PROJECT# 20107
HJ CONSULTING, INC.
LEVEL OF EFFORT FOR FINAL DESIGN, JUNE 2021

6/11/2021

Employee Classification		No. of Sheets	Principal	Project Manager	QA/QC Engineer	Project Engineer	Graduate Engineer	CAD Technician	Admin	Subtotal Hours	Total	
Labor Rate Per Hour			\$225.00	\$175.00	\$150.00	\$130.00	\$105.00	\$90.00	\$75.00			
TASK	TASK DESCRIPTION	ESTIMATED HOURS										
FINAL DESIGN												
DRAWINGS & DOCUMENTS												
1	Cover Sheet	1		1	1	1		4		7	\$ 815.00	
2	Sheet Index	1		1	1	2	4	12		20	\$ 2,085.00	
3	General Notes	2		1	2	4	4	12		23	\$ 2,495.00	
4	Typical Sections	4		4	4	6	12	24		50	\$ 5,500.00	
5	Drainage Area Maps	4		2	2	4	8	16		32	\$ 3,450.00	
6	Plan and Profile Sheets (Roadway)	15		4	4	8	30	75		121	\$ 12,240.00	
6.1	Roadway Design			4	4	32	48	64		152	\$ 16,260.00	
6.2	Intersection Details/Layouts	2		4	4	12	24	36		80	\$ 8,620.00	
6.2	Street/Driveway Connection Details and Calculations	1		2	2	4	24	24		56	\$ 5,850.00	
7	Plan and Profile Sheets (Drainage)	10		6	6	12	25	50		99	\$ 10,635.00	
7.1	Drainage Design & Calculations	4		4	4	32	64	96		200	\$ 20,820.00	
8	Detention Pond Plans & Cross Sections											
8.1	Detention Pond Design and Layout per FBC Standards			4	12	16	30	48		110	\$ 12,050.00	
8.2	Detention Pond Design Calculations	1		4	4	12	24			44	\$ 5,380.00	
8.3	Proposed Cross Sections for Detention Pond	2		2	2	4	8	24		40	\$ 4,170.00	
8.4	Floatable Collection Screen Design and Details	2		1	1	4	6	8		20	\$ 2,195.00	
8.5	Standard Details / Drawings	3		2	2	4	8	16		32	\$ 3,450.00	
8.6	Specifications and Construction Cost Estimate			2	2	4	4			12	\$ 1,590.00	
9	Demolition Plans	6		3	3	18	36	72		132	\$ 13,575.00	

KOELEN ROAD SEGMENT 1
(DOG LEG TO FM 2977)
FBC PROJECT# 20107
HJ CONSULTING, INC.
LEVEL OF EFFORT FOR FINAL DESIGN, JUNE 2021

6/11/2021

Employee Classification		No. of Sheets	Principal	Project Manager	QA/QC Engineer	Project Engineer	Graduate Engineer	CAD Technician	Admin	Subtotal Hours	Total
Labor Rate Per Hour			\$225.00	\$175.00	\$150.00	\$130.00	\$105.00	\$90.00	\$75.00		
TASK	TASK DESCRIPTION		ESTIMATED HOURS								
10	Traffic Control Plans & Details										
10.1	Project Approach Signing and Notes	1		1	1	4	4	8		18	\$ 1,985.00
10.2	Phasing Layout	2		2	2	4	12	24		44	\$ 4,590.00
10.3	Phasing Description and Typical Sections	3		3	3	9	18	36		69	\$ 7,275.00
10.4	TCP Phase I (Proposed EB Lanes)	4		4	4	16	32	48		104	\$ 11,060.00
10.5	TCP Phase II (Proposed WB Lanes)	4		4	4	16	32	48		104	\$ 11,060.00
10.6	TCP Phase II Step 2 Tie-ins	1		2	1	3	7	12		25	\$ 2,705.00
10.7	TCP FM2977 Intersection	4		4	4	12	24	48		92	\$ 9,700.00
10.8	TCP Construction Cost Estimate			1	1	4	4			10	\$ 1,265.00
10.9	TCP Details/Standards	8		2	2		8	16		28	\$ 2,930.00
11.1	TCP Project Management and Meetings		2	12		8				22	\$ 3,590.00
11	Storm Water Pollution Prevention Plans & Details										
11.1	Storm Water Pollution Prevention Plans	8		2	4	12	24	64		106	\$ 10,790.00
11.2	SWPPP Specifications and Construction Cost Estimate			1	1	4	8			14	\$ 1,685.00
11.3	SWPPP Details	1				1		2		3	\$ 310.00
12	Signing and Pavement Marking Plans & Details										
12.1	Signing and Striping Plans	6		2	4	24	36	72		138	\$ 14,330.00
12.2	Summary of Small Signs	1		1	2	4	8	16		31	\$ 3,275.00
12.3	SPM Construction Cost Estimate			1	2	4	8			15	\$ 1,835.00
12.4	SPM Details	2		1	1	2	4	8		16	\$ 1,725.00
13	Cross Sections & Earthwork Calculations	30		2	8	30	50	210		300	\$ 29,600.00
14	Engineers Estimate and Special Specs										
14.1	Engineers Estimate			2	2	16	32	16		68	\$ 7,530.00
14.2	Special Specifications or Conditions			2	2	4	8			16	\$ 2,010.00
15	Fort Bend County Standard Sheets	4		2	2	4	8	12		28	\$ 3,090.00
16	Incorporate review comments (70% to 95%)		2	16	8	32	64	96	4	222	\$ 24,270.00
17	Incorporate review comments (95% to Final)		2	8	4	16	32	48	2	112	\$ 12,360.00
DRAWINGS & DOCUMENTS SUBTOTAL		137	6	126	122	408	782	1365	6	2815	\$ 300,150.00

KOEBLEN ROAD SEGMENT 1
(DOG LEG TO FM 2977)
FBC PROJECT# 20107
HJ CONSULTING, INC.
LEVEL OF EFFORT FOR FINAL DESIGN, JUNE 2021

6/11/2021

Employee Classification		No. of Sheets	Principal	Project Manager	QA/QC Engineer	Project Engineer	Graduate Engineer	CAD Technician	Admin	Subtotal Hours	Total
Labor Rate Per Hour			\$225.00	\$175.00	\$150.00	\$130.00	\$105.00	\$90.00	\$75.00		
TASK	TASK DESCRIPTION	ESTIMATED HOURS									
PROJECT MANAGEMENT											
1	Field Visit (Investigations and Findings)			8		24	24		8	64	\$ 7,640.00
2	Coordination for Survey ROW acquisition			2		8	12		6	28	\$ 3,100.00
3	Coordination for Traffic Signals		2	2		4	8		6	22	\$ 2,610.00
4	Coordination and Permitting with TxDOT		2	48		48			4	102	\$ 15,390.00
5	Coordination with Public Entities		2	16		48			4	70	\$ 9,790.00
6	Coordination with Centerpoint Energy, AT&T, Comcast and Other Private Utilities			8		16			4	28	\$ 3,780.00
7	Project Management and Meetings		8	32		32			8	80	\$ 12,160.00
PROJECT MANAGEMENT SUBTOTAL			14	116		180	44		40	394	\$ 54,470.00
OTHER EXPENSES											
1	Printing/Plotting/Copying										\$ 750.00
2	Mileage/Postage/Courier										\$ 1,000.00
OTHER EXPENSES SUBTOTAL											\$ 1,750.00
TOTAL HOURS			20	242	122	588	826	1365	46	3209	
TOTAL ESTIMATE			\$4,500	\$42,350	\$18,300	\$76,440	\$86,730	\$122,850	\$3,450		\$ 356,370.00

KOEBLER ROAD SEGMENT 1
(DOG LEG TO FM 2977)
FBC PROJECT# 20107
HJ CONSULTING, INC.
LEVEL OF EFFORT FOR DRAINAGE IMPACT STUDY, JUNE 2021

Employee Classification	No. of Sheets	Principal	Project Manager	QA/QC Engineer	Project Engineer	Graduate Engineer	CAD Technician	Admin	Subtotal Hours	Total	
Labor Rate Per Hour		\$225.00	\$175.00	\$150.00	\$130.00	\$105.00	\$90.00	\$75.00			
TASK	TASK DESCRIPTION	ESTIMATED HOURS									
DRAINAGE IMPACT STUDY											
1	Review of data including survey, record drawings, site visits and other information			4	4	6	12			26	\$ 3,340.00
2	Delineate all sub-drainage areas contributing to project limits			2	4	8	32			46	\$ 5,350.00
3	Perform Hydrologic calculations for Existing Conditions based on Atlas 14 data			4	4	16	48			72	\$ 8,420.00
4	Develop Hydraulic model for Existing Conditions based on Atlas 14 data			2	2	12	36			52	\$ 5,990.00
5	Determine Change in 2-yr and 100-yr flows for change in Tc and New Imperviousness Outside Existing ROW, Validate Drainage Boundaries and hydrologic calculations			4	4	8	36	12		64	\$ 7,200.00
6	Determine Detention Volume based on ROW, hydrographs and physical constraints			4	4	12	24			44	\$ 5,380.00
7	Develop Preliminary Proposed Alternatives and Hydraulic models			4	8	32	96			140	\$ 16,140.00
8	Perform Mitigation Analysis and Finalize models			2	4	16	48			70	\$ 8,070.00
9	Prepare Opinion of Probable Construction Cost			1	1	4	8			14	\$ 1,685.00
10	Prepare and Present Preliminary Findings to Fort Bend County Engineering Department/Drainage District			2	2	8	8			20	\$ 2,530.00
11	Prepare Exhibits and Appendices required for the Drainage Report			1	2	4	8	32		47	\$ 4,715.00
12	Prepare Drainage Impact and Mitigation Analysis Report for Fort Bend County Engineering Department/Drainage District Submittal		1	2	4	16	24		6	53	\$ 6,225.00
13	Submit the Drainage Report with Roadway to Fort Bend County Engineering Department and Fort Bend County Drainage District		1	2	2	4	4			13	\$ 1,815.00
14	Finalize Drainage Report after review from FBC & FBDD		2	4	4	32	64	12		118	\$ 13,710.00
TOTAL HOURS			4	38	49	178	448	56	6	779	
TOTAL ESTIMATE			\$900	\$6,650	\$7,350	\$23,140	\$47,040	\$5,040	\$450	\$0	\$ 90,570.00

KOELEN ROAD SEGMENT 1
(DOG LEG TO FM 2977)
FBC PROJECT# 20107
HJ CONSULTING, INC.
LEVEL OF EFFORT FOR PUBLIC UTILITIES RELOCATION DESIGN, JUNE 2021

Employee Classification		No. of Sheets	Principal	Project Manager	QA/QC Engineer	Project Engineer	Graduate Engineer	CAD Technician	Admin	Subtotal Hours	Total	
Labor Rate Per Hour			\$225.00	\$175.00	\$150.00	\$130.00	\$105.00	\$90.00	\$75.00			
TASK	TASK DESCRIPTION	ESTIMATED HOURS										
PUBLIC UTILITIES RELOCATION DESIGN												
EXISTING WATER LINE RELOCATION												
1	Existing Water Line Relocation (Included with Roadway Plan & Profile Sheets)			4	4	16	32	80	4	140	\$ 14,240.00	
2	Standard Details/Drawings	2		1	1	2	4	6		14	\$ 1,545.00	
3	Specifications and Construction Cost Estimate			1	1	2	3	3		10	\$ 1,170.00	
EXISTING WATER LINE RELOCATION SUBTOTAL			0	6	6	20	39	89	4	164	\$ 16,955.00	
EXISTING SANITARY SEWER RELOCATION												
1	Existing Sanitary Sewer Relocation (Included with Roadway Plan & Profile Sheets)			2	2	8	16	40	4	72	\$ 7,270.00	
2	Standard Details/Drawings	1		1	1	1	2	3		8	\$ 935.00	
3	Specifications and Construction Cost Estimate			1	1	2	3	3		10	\$ 1,170.00	
EXISTING SANITARY SEWER RELOCATION SUBTOTAL			0	4	4	11	21	46	4	90	\$ 9,375.00	
TOTAL HOURS			0	10	10	31	60	135	8	254		
TOTAL ESTIMATE			\$0	\$1,750	\$1,500	\$4,030	\$6,300	\$12,150	\$600	\$0	\$ 26,330.00	

KALUZA
INC
Consulting Engineers & Surveyors
Engineering Firm No. F-1339
Texas Licensed Surveying Firm No. 10010000
3014 Avenue I, Rosenberg, Texas 77471
(281) 341-0808 ■ FAX (281) 341-6333

March 19, 2021

Mr. Harish Jajoo, P.E., CFM
HJ Consulting, Inc.
4471 Sweetwater Blvd. #254
Sugar Land, Texas 77479

RE: Surveying Proposal for Topographic Survey along Koeblen Road, City of Rosenberg, Fort Bend County, Texas

Dear Mr. Jajoo:

We propose to render professional surveying services in connection with the above-referenced project (hereinafter referred to as the "Project"). It is our understanding that you will furnish us with full information as to your requirements of land use, including any special services needed, and also to make available pertinent existing data.

Kaluza, Inc., hereinafter called "SURVEYOR", proposes to render professional surveying services to HL Consulting, Inc, hereinafter called "CLIENT", to complete the below scope of work on the Project. The Project limits for which these professional services are to be provided is along Koeblen Road, from Farm Market Road 2977 to approximately 7,000 feet northwest along existing Koeblen Road and approximately 1,700 feet across the Danziger tract for the new alignment of Koeblen Road.

I. Scope of Work (Basic Surveying Services)

A. Topographic Surveying Services

Research subdivision plats, right-of-ways, easements and other available survey elements, which may affect the physical boundaries of the project; All the easements with volume and page numbers shall be identified and labeled on the survey submittal; Research Fort Bend County Official Records for current deeds and plats for property affected by the Project; Research County records and public utilities record for existing documents of utilities; Office calculations necessary to check location of the right-of-way line in relation to features found during the course of the topographic survey; Establish horizontal and vertical survey control points at spacing of approximately 1,000 feet along the pavement reconstruction alignment; Reference all survey work to state plane coordinate system and to current Fort Bend County elevation control; Prepare survey control data strip map of existing and proposed right-of-way alignment for horizontal and vertical control points; Provide 24" x 36" .pdfs of survey control map and control sketches; Identify roadways, driveways, alleys and sidewalks with pavement type; Show centerlines and angles of intersection of the side street(s) with main roadway centerline, as necessary; Show all mailboxes, road signs and signal posts; Locate and describe any trees, bushes or other landscaping plants; Provide tree caliper, type of tree, and drip line location for all trees over 2 inches in diameter; Provide topographic survey of outfall drainage ditch between Lot 7 and 8 of The Meadows on Koeblen Road from existing Koeblen

Road to Dry Creek and a second outfall drainage easement to Dry Creek to be determined by project engineer; provide topographic survey for two detention ponds to be determined by the project area; Obtain three cross sections of Dry Creek at various locations established by the design engineer; Show all visible utilities found during the course of obtaining field work; Show on plan view drawings, all underground features and utilities within the Project limits from as-built drawings; Show building structures within 50' of road right-of-way; Locate vegetation lines and special landscaping; Survey boring logs and obtain surface elevation; Topographic work will extend 30' beyond the right-of-way; and Deliver files in Civil 3D 2018; Provide a plan view strip map of topographic survey with appropriate labels.

Fee Amount = \$ 47,800.00

B. Parcel Acquisition: (15 Tracts of Land Assumed)

Meet with HJ Consulting, Inc. and County Staff to determine final location of right-of-way acquisition; Prepare individual metes and bounds descriptions of additional right-of-way acquisition; Prepare individual Category 1A Survey Map of right-of-way on 8-1/2" x 11" legible print showing visual representation, as well as, any other pertinent information that needs to be shown; Set property acquisition monumentation for each individual parcel; and Surveying services for retracement and monumentation of the existing rights-of-way and easement. (15 Parcels @ \$1,500.00 each)

Fee Amount = \$ 22,500.00

C. Abstracting and Title Research: (15 Tracts of Land Assumed)

Provide professional abstracting and title research for legal documents; Title search will show names of all property owners, lienholders and reference legal documents associated with land; and 15 abstract certificates @\$575.00 per certificate.

Fee Amount = \$ 8,625.00

Additional Services

If authorized by CLIENT, SURVEYOR will furnish the following Additional Services that are not considered part of the Basic Surveying Services Scope of Work. Additional Services beyond anticipated Basic Services shall be paid for on an hourly basis at the rate shown in the Schedule of Hourly Rates by Personnel Classification (Exhibit "A").

II. Additional Surveying Services Anticipated for this Project:

A. Prepare Temporary Construction Easement

Fee Amount = \$ 1,500.00 per Easement

B. Re-establish control staking –

Fee Amount = \$ 1,700.00

C. Construction Staking –

Construction Surveying Services will be performed once during a single mobilization prior to commencement of construction. These services will not be performed on an ongoing basis during the construction process without additional compensation. Construction Surveying Services do not include construction layout.

1. Recover, verify and mark control and baseline alignment monumentation established for the project.
2. Stake ROW line every 100 feet, at angle points and at the beginning and end of curves.

Fee Amount = \$ 4,480.00

It is understood that this proposal and fees do not include the following:

1. Services resulting from significant changes in the general scope of the project.
2. Revisions to previously approved plans, reports, studies or other project documents.
3. New and/or additional acquisition activities resulting from unknown needs prior to project initiation, site changes and/or condemnation proceedings.
4. Assistance to CLIENT as an expert witness in any litigation with third parties, arising from the development or construction of the project, including preparation of engineering data and reports.
5. Services after issuance of Certificate of Completion, and any other special or miscellaneous assignments specifically authorized by the CLIENT.
6. Topographic survey for detention pond or offsite drainage facilities outside the immediate right of way area.

Schedule

Professional Services for the project can commence within ten (10) days of the receipt of a copy of this proposal signed by the CLIENT. It is anticipated that completion of the Project can be completed within sixty (60) days from the proposal signed date.

Summary of Compensation

Surveying services to be provided under this contract shall be compensated as outlined below:

I. Basic Surveying Services:

- | | |
|--|--------------------|
| A. Topographic Surveying Services = | \$ 47,800.00 |
| B. Parcel Acquisition: (15 Tracts of Land Assumed) = | \$ 22,500.00 |
| C. Abstracting & Title Research: (15 Tracts of Land Assumed) = | \$ <u>8,625.00</u> |

**Total Surveying Fees for
Basic Surveying Services =** **\$ 78,925.00**

Mr. Harish Jajoo, P.E., CFM
HJ Consulting, Inc.
March 19, 2021
Page Four (4)

SURVEYOR will invoice CLIENT on a monthly basis for services rendered during the preceding month. Invoices will be based on the ENGINEER'S estimate of percentage completion to date of invoice.

CLIENT agrees to remit SURVEYOR'S invoices in full within thirty (30) days of receipt of billing.

Total fees are based on time for completion of all work described above for the specified amounts, provided that the Owner does not change or increase the scope of work. Additional services beyond those items described will be based and billed on actual hours of work that have been completed at the hourly rates as shown on the attached Exhibit "A."

Kaluza, Inc. makes no warranty, either express or implied, as to its services, including preparation of surveys, or professional advice, except that they are prepared, issued, and performed in accordance with generally accepted professional engineering and surveying practices. Additionally, it is the desire of our firm to comply with other applicable Federal, State, County and local laws during the execution of this contract.

This proposal and Exhibit "A" attached, represent the entire understanding between you and this firm in respect to the Project, and may only be modified in writing signed by both of us. If this proposal satisfactorily sets forth your understanding of the arrangement between us, we would appreciate your signing this proposal in the space provided below and returning the signed copy to us.

Thank you for this opportunity to be of assistance to you. We look forward to working with you on this project.

Cordially,

KALUZA, INC.

Llarance L. Turner

Llarance L. Turner, R.P.L.S.
President

Attachment

Accepted - Title

Date

Exhibit "A"

SCHEDULE OF HOURLY CHARGES BY PERSONNEL CLASSIFICATION

Effective June, 2013

**KALUZA, INC.
CONSULTING ENGINEERS, SURVEYORS, AND PLANNERS**

The charges for professional Engineering, Surveying, and Drafting services are based on the following daily or hourly rates:

ENGINEERING, SURVEYING, AND DRAFTING

Principal.....	\$ 175.00/Hour
Sr. Project Manager.....	\$ 150.00/Hour
Project Manager.....	\$ 145.00/Hour
Survey Manager.....	\$ 140.00/Hour
Project Engineer.....	\$ 110.00/Hour
Project Surveyor.....	\$ 90.00/Hour
Sr. Designer.....	\$ 90.00/Hour
Designer.....	\$ 80.00/Hour
CAD Technician.....	\$ 70.00/Hour
Contract Coordinator.....	\$ 65.00/Hour
Secretarial.....	\$ 60.00/Hour
Field Party (2 Men).....	\$ 120.00/Hour
Field Party (3 Men).....	\$ 140.00/Hour
Field Party (4 Men).....	\$ 150.00/Hour
Construction Observation.....	\$ 750.00/Day

ADDITIONAL EXPENSES

1. Reproduction Work - At prevailing commercial rate.
2. Field Note Descriptions - \$70.00/Set.
3. ATV Rental - \$115.00/Day.
4. Other Consultants - At cost plus 10% for handling.
5. All Other Expenses - At cost plus 10% for handling.
6. Global Positioning System (GPS) Surveying an additional charge of \$25.00 per hour will be charged for equipment.

**Charges are due and payable within thirty (30) days after receipt of invoice.
Interest will be charged at the rate of 1.5% per month for late payments.**



Consulting Engineers & Surveyors

Engineering Firm No. F-1339 Surveying Firm No. 10010000

3014 Avenue I, Rosenberg, Texas 77471

Phone: (281) 341-0808

Fax: (281) 341-6333

Rates Subject to Change

06/13
Rev.01/02/19

**REVISED
PROPOSAL FOR
DESKTOP GEOLOGIC FAULT STUDY AND GEOTECHNICAL STUDY
KOEBLER ROAD – SEGMENT 1 BETWEEN SPACEK ROAD AND FM 2977
PAVING AND DRAINAGE IMPROVEMENTS
FORT BEND COUNTY PROJECT NO. 20107
FORT BEND COUNTY, TEXAS
REVISION II**

PROPOSAL NO. P21-063



TO

**HJ CONSULTING, INC.
SUGAR LAND, TEXAS**

BY

GEOTECH ENGINEERING AND TESTING

www.geotecheng.com

APRIL 2021

HJ Consulting, Inc.
4471 Sweetwater Blvd. #254
Sugar Land, Texas 77479

Proposal No. P21-063
April 1, 2021
Tel.: 832-338-3202

E-mail: harish@hjconsultinginc.com

Attention: Mr. Harish Jajoo, P.E., CFM
President

**REVISED
PROPOSAL FOR
DESKTOP GEOLOGIC FAULT STUDY AND GEOTECHNICAL STUDY
KOEBLER ROAD – SEGMENT 1 BETWEEN SPACEK ROAD AND FM 2977
PAVING AND DRAINAGE IMPROVEMENTS
FORT BEND COUNTY PROJECT NO. 20107
FORT BEND COUNTY, TEXAS
REVISION II**

Gentlemen:

At your request, we are pleased to submit this proposal for the Koebler Road Paving/Drainage Improvement project. The roadway improvement will be about 6,624-ft, from Spacek Road to FM 2977, Fort Bend County, Texas. The improvement includes conversion of existing 2-lane asphalt roadway into a divided 4-lane concrete boulevard with a median and storm sewers construction. We understand that one or two detention ponds may also be constructed during this project. The size, depth and location of the detention ponds are unknown at this time. The construction of detention ponds is considered optional here. The planned paving improvements were discussed in detail with Mr. Harish Jajoo, P.E., CFM in order to plan a study that would provide the necessary design and construction data.



INTRODUCTION

It is planned to improve approximately 6,624-ft linear feet of Koebler Road from Spacek Road to FM 2977, Fort Bend County, Texas. We understand that the proposed improvement will consist of concrete pavement, storm sewers and a detention pond (optional). The specific improvement will consist of the following:

Facility	Remarks
Paving	The roadway will be about 6,624-ft long, concrete paving. We understand, client will provide the traffic loading in a form of Equivalent Single Axial Load (ESAL). Furthermore, we understand that 30-year design life will be used for concrete pavement design.

Facility	Remarks
Storm Sewers	The underground utilities will consist of storm sewers. We assumed that the depth of the underground utilities will be less than 10-ft deep.
Detention Pond (Optional)	We understand one or two detention ponds may be constructed during this project. The size, depth and location of detention ponds are unknown at this time. At the request by the client, it is considered optional. We assumed a pond depth of 8-ft for the purpose of this proposal.

This proposal is divided into three sections. Each section will be discussed and estimated separately. These sections are as follows:

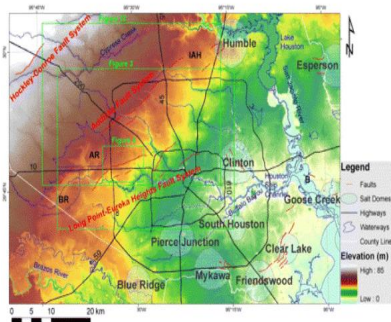
- o Desktop Geologic Fault Study.
- o Geotechnical Exploration Study for the pavement and drainage improvements.
- o Geotechnical Exploration Study for detention pond (Optional).



The scope of our work will be in general accordance with the City of Houston Geotechnical Guidelines. We will not perform the geotechnical exploration for the road in accordance with the Harris County or TxDOT Guidelines. We will not perform the geotechnical exploration for the detention pond in accordance with the HCFCF Guidelines. We understand that the scope of our work will not include review of plans and specifications prior to the final design.

DESKTOP GEOLOGIC FAULTING

The project site is located in Fort Bend County, Texas. Geologic faults are scattered throughout Houston. In general, faults are caused by groundwater and oil removal from the underlying surface. Faults originate several thousand feet below the ground surface and can often cause displacement of the ground surface, causing broken pavement, water lines, and damage to residential and commercial structures.



A Desktop Geologic Fault Study will be conducted. A desktop fault study will include a study of published data on surface faults in the area of the site from the Geotech Engineering and Testing Library. A report of our findings will be provided.

GEOTECHNICAL STUDY

Field Exploration

Site Access. Major portion of the project alignment is along the existing 2-lane asphalt roadway. Therefore, site access can be provided, using a truck-mounted drilling rig. Traffic control will be required.

Due to presence of soft subgrade soils and potential access problems, an ATV rig may have to be used to drill some borings proposed for the north portion of the project alignment which is away from existing asphalt paving. Borings for the proposed detention pond (optional) may also be drilled using an ATV rig.

Surveying. The client will establish and provide GET the boring coordinates and ground surface elevations. GET will mark the boring locations in the field so that the survey crew can locate them.

Checking for Utilities. GET will call Texas 811-Call for the locations of utilities. GET will coordinate these activities. GET will not hire a contractor to conduct subsurface utility studies to find location of any and all utilities. This is not the scope of GET work. We recommend the scope of our work to include subsurface utility investigation at boring locations to assess that underground utilities are not hit during field exploration.

Traffic Control. Traffic control will be required along the project alignment during our field exploration. The scope of our field work will require a lane closure during drilling and sampling and borehole grouting. Our traffic control will be subcontracted out.

Drilling and Sampling. We will evaluate the soil stratigraphy and groundwater conditions for the proposed paving and storm sewer improvements by conducting fifteen (15) soil borings to a depth of 15-ft from existing grade. It should be noted that spacing between borings is about 500-ft. We will conduct six (6) soil borings at the proposed detention ponds (optional) to a depth of 15-ft from existing grade. The Plan of Borings for the proposed paving and utilities is shown on Plate 2. The plan of borings does not include the proposed borings for detention pond as the location of the pond is unknown at this time. The borings schedule is as follows:



Facility	Borings	Depth, ft	Remark
Paving and Underground Utilities	B-1 thru B-15	15	A truck-mounted drilling rig. An ATV rig may be needed, if wet and soft soils are encountered at Borings B-2 through B-4.
Detention Ponds (Optional)	B-16 through B-21	15	A truck-mounted drilling rig. An ATV rig may be needed, if wet and soft soils are encountered.

Soil samples will be obtained continuously from the surface to the completion depth of borings. The cohesive soils will be sampled, using a Shelby Tube sampler. Standard Penetration Tests (SPT) will be performed in sands, if encountered. Shear strengths of the clays will be measured in the field with a hand penetrometer and correlations between this data and laboratory unconfined compression and Torvane tests used to supplement laboratory shear strength data.

Groundwater. Depth to groundwater will be important for design and construction of the proposed facilities. For this reason, borings will be drilled dry and the depth at which groundwater is encountered will be recorded. Twenty-four hour water levels will not be measured.

Borehole Grouting. All of the geotechnical boreholes except those for the pond will be grouted with cement and bentonite, after drilling and sampling. The boreholes for the detention pond will be backfilled with soil cuttings.



LABORATORY TESTING

Laboratory tests will vary with the soils encountered but will be planned to evaluate soils design parameters for the proposed pavements and storm sewers.



It is anticipated that the tests will include hand penetrometer, torvane, unconfined compression, unit weight, moisture content, liquid and plastic limit tests, gradation and hydrometers.

All of the subsoils will be classified in general accordance with the American Society of Testing

Materials (ASTM) Soil Classification System. All tests will be performed in general accordance with the ASTM Procedures.



ENGINEERING ANALYSES AND REPORTING

The field and laboratory data will be summarized in an engineering report. Analyses of these data will be presented and recommendations made relative to the following:

Facility	Recommendations
General	○ Summary. ○ Project site pictures. ○ Geology. ○ Results of the Desktop Fault Study and recommendations for Phase I Study, if warranted. ○ Generalized soils stratigraphy and groundwater levels. ○ Boring logs per GET format.

Facility	Recommendations	
Road Paving	- Estimated subgrade properties (based on correlations) including CBR and Resilient Modulus values for natural soils. - Concrete pavement design, using AASHTO 1993 pavement design method. The client will provide traffic loading in the form of ESAL. - Concrete pavement recommendations. - Pavement steel placement and spacing. - Soil stabilization requirements for the pavements. - Potential construction problems. - Recommendations on site drainage.	 
Storm Sewers	- In the event that augering is used, we will provide, soil design parameters, ground stability, auger pit excavation stability and dewatering. - OSHA soil classification for trench safety	
Detention Pond (Optional)	- Recommendations on design of the detention pond, including the recommended slope ratios based on the furnished cross sections. A detailed slope-stability analysis will not be conducted. - Recommended slope ratios and erosion protection. - Seepage and bottom blow up recommendations. - Erosion recommendations, including the use of grass for erosion protection. - Recommendations on earthwork, select fill and construction procedures. - Constructability considerations.	 

COST ESTIMATE

General

Based on the scope of work outlined above, we estimate the cost for field, laboratory, and engineering services based on the Harris County Fee Schedule as shown on Plates 3 through 6. This estimate assumes underground obstructions will not be encountered that require boring relocations. GET is not responsible for damages to underground utilities, man-made utilities, etc. In the event that concrete, rock/rubble is encountered, the boring(s) will be terminated. We understand that all of the boring elevations will be provided by the client prior to completion of GET report. Our cost estimate includes one draft report copy and one final report copy. A digital copy of the report will also be provided. Additional report copies will be provided at a separate charge.



Underground Utilities

The cost estimate for geotechnical services assumes that underground obstructions will not be encountered during boring that requires boring relocation(s). GET will contact Texas 811 for the presence of underground utilities. However, Texas 811 does not have information regarding the presence of underground utilities inside the properties. GET is not responsible for damage to underground utilities, man-made objects, etc., that are not identified by Texas 811. The scope of our work does not include subsurface utility engineering. We recommend the scope of our work to include subsurface utility investigation at boring locations to assess that underground utilities are not hit during field exploration.



Traffic Control Allowance

The cost estimate for traffic control is only an allowance. The actual cost may be lower or higher, depending on access, pavement thickness, concrete strength and daily production. GET is prepared to use any qualified traffic control subcontractor specified by the client. **Our estimated traffic control schedule is as follow:**

	<u>Day</u>	<u>Services</u>
	<u>3.0</u>	Drilling and Sampling, Borehole Grouting
Total:	<u>3.0</u>	

Cost Summary

A summary of estimated cost is presented below:

<u>Scope of Work</u>	<u>Estimated Cost</u>	<u>Cost Breakdown Plate(s)</u>
Desktop Geologic Fault Study	\$ 677.50	3
Geotechnical Exploration for Paving and Storm Sewer	36,687.00	3 – 4
Traffic Control (allowance)	2,161.50	4
ATV Rig (allowance)	<u>700.00</u>	4
Subtotal	\$ <u>40,226.00</u>	
Geotechnical Exploration for detention pond (optional)	\$16,413.50	5 – 6
ATV Rig (allowance)	<u>1,000.00</u>	6
Subtotal	\$ <u>17,413.50</u>	
Grand Total	\$ <u>57,639.50</u>	

REPORT REVIEWS AND COMMENTS

Our report will be submitted to HJ Consulting, Inc. in a draft form for comments. Once these reviews are completed, a final report will be issued. All of these comments will be incorporated in the final report. The client agrees that all reviews are complete once a notice for a final report is issued. Any changes to the final report will be outside the scope of our study. We will incorporate any future comments after the final report is issued on a time and materials basis per the applicable fee schedule.

TIME SCHEDULES

We estimate that the field work can be started about one (1) week after authorization is received. The project schedule will be as follows:

<u>Facility</u>	<u>Right of Way/Utility Clearance</u>	<u>Field Exploration</u>	<u>Laboratory Testing</u>	<u>Engineering</u>	<u>Total</u>
Paving and Utilities	10	10	20	30	70

Preliminary recommendations will be submitted during the course of the exploration, if required to expedite design.

We appreciate the opportunity to submit this proposal and look forward to being of service to you on this project. Formal acceptance of this proposal and our general conditions can be acknowledged by signing below and returning one copy for our files.

Very truly yours,

GEOTECH ENGINEERING AND TESTING

TBPE Registration Number F-001183



David A. Eastwood, P.E., D.GE, DFE, C.A.P.M., F.FPA, F. ASCE
Principal Engineer

ACCEPTED BY: _____

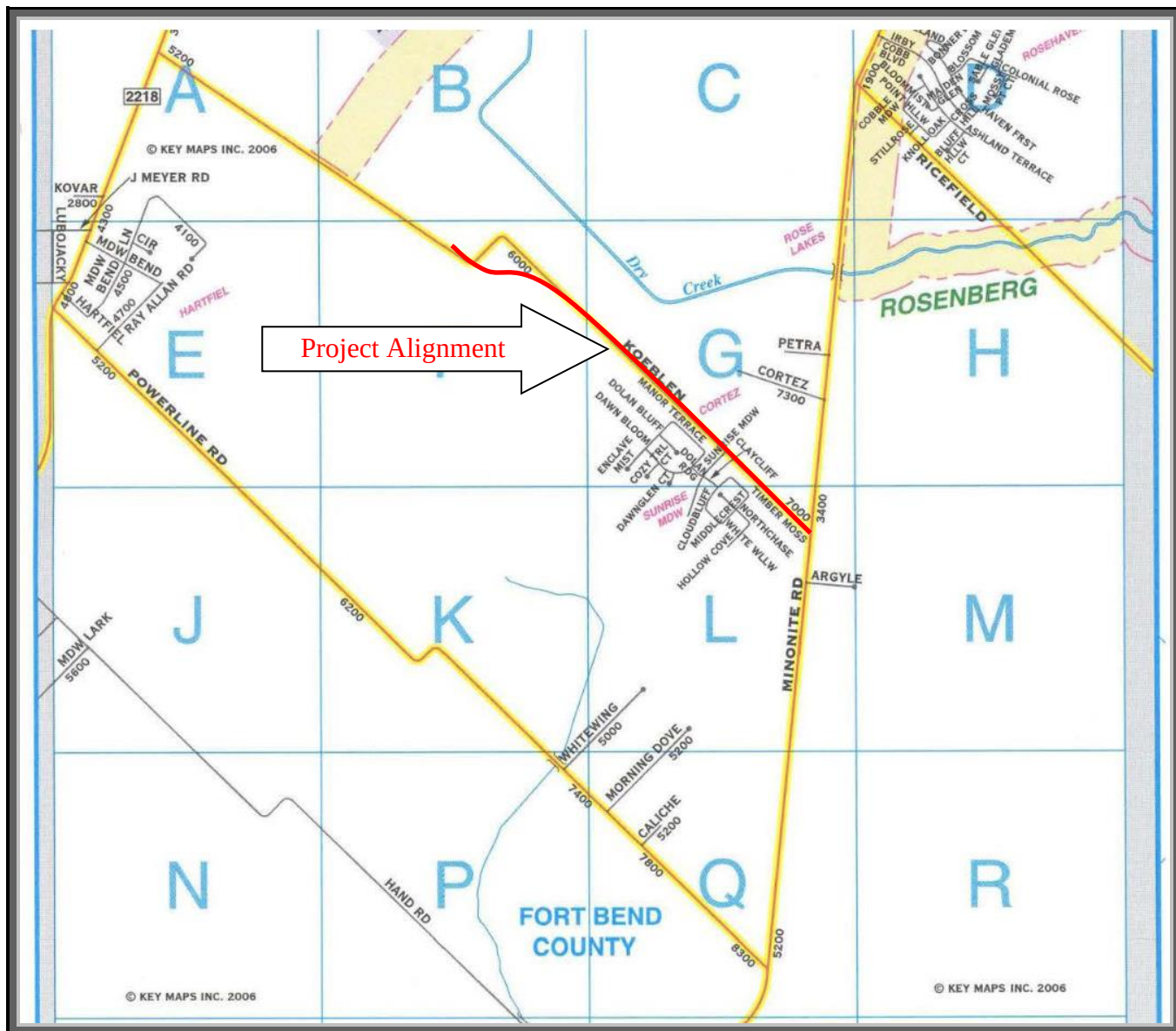
COMAPANY NAME: _____

PRINTED NAME: _____

DATE: _____

Enclosures: Site Vicinity Map – Plate 1
Plan of Borings – Plate 2
Cost Estimate – Plates 3 through 6
General Conditions
Harris County Fee Schedule

Copies Submitted: (1) Mr. Harish Jajoo, P.E., CFM
(1) DAE



SITE VICINITY MAP

PROJECT: Desktop Geologic Fault Study and Geotechnical Exploration for Koeblen Road- Seg 1 Paving and Drainage Improvements
FBC Project No. 20107, Fort Bend County, Texas

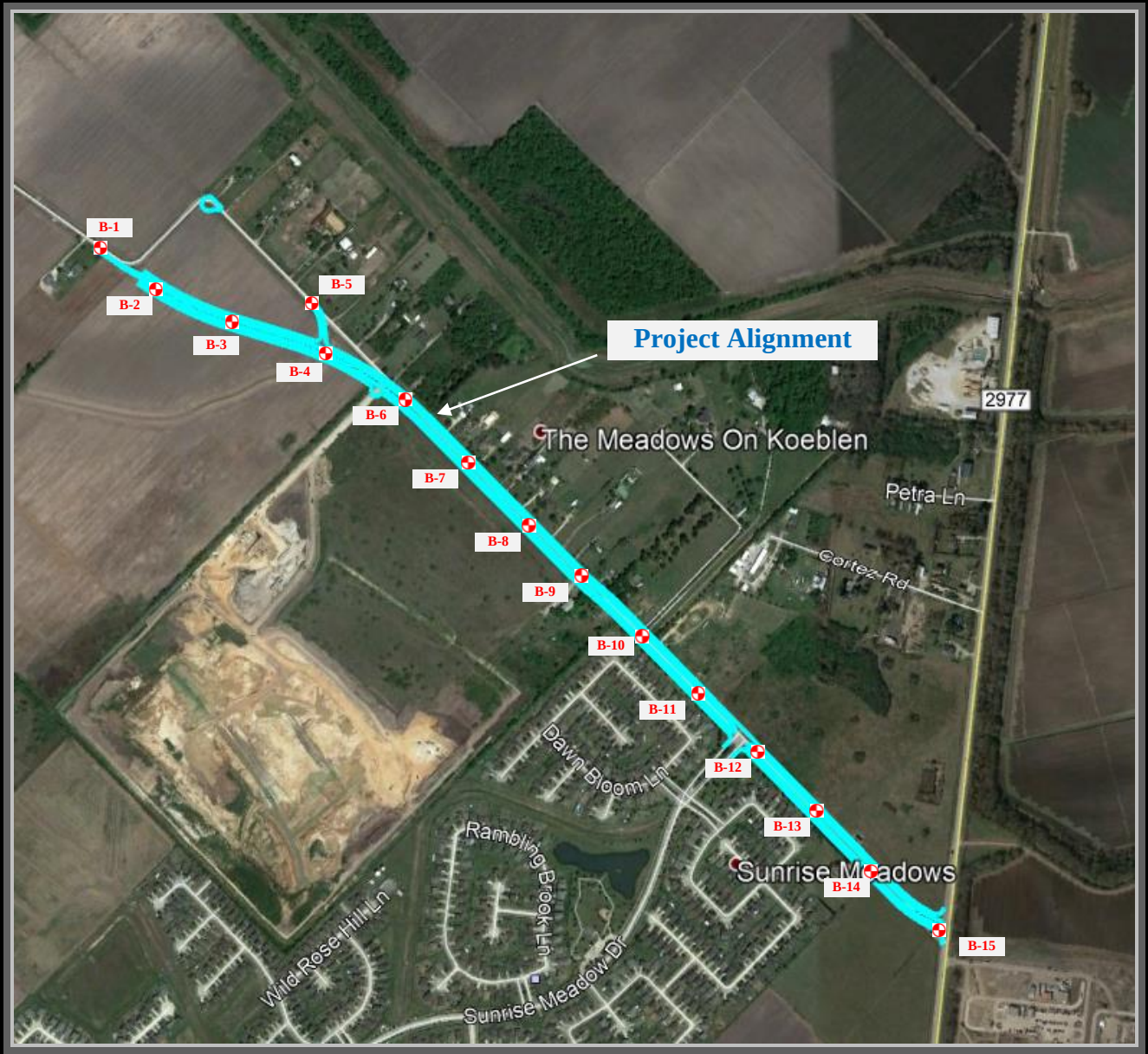
SCALE: NOT TO SCALE

DATE: APRIL 2021

PROPOSAL NO.: 21-063E

NORTH





PLAN OF BORINGS (Boring locations are approximate)

PROJECT: Desktop Geologic Fault Study and Geotechnical Exploration for Koeblen Road- Seg 1 Paving and Drainage Improvements
 FBC Project No. 20107, Fort Bend County, Texas

SCALE: NOT TO SCALE

DATE: APRIL 2021

PROPOSAL NO.: 21-063E

NORTH



Estimated Cost Summary (Optional Detention Pond)
Desktop Geologic Fault Study and Geotechnical Study
Koeblen Road Paving and Drainage Improvements
Fort Bend County, Texas

P21-063

Consultant Proposal Breakdown

GEOTECH ENGINEERING AND TESTING										Principal Engineer	Senior Engineer	Graduate Engineer	Field Technician	Typing/ Drafting	Unit of Measure	Estimated Quantity	Rate	Subtotal (Cost \$)	
Date:		April 1, 2021																	
		PER HARRIS COUNTY FEE SCHEDULE		Billing Rate per Hour															
Task No.		Task Description		* LEVEL OF EFFORT															
Geotechnical Exploration Study for Detention Pond, Five Borings to 15-ft Depth																			
Project Initiation upon Receiving NTP																			
1	Review of the scope of the work (Scope meetings)			1	1													\$320.00	
2	Coordinate with Client, in obtaining the updated information of the project			1														\$205.00	
																		Subtotal	\$525.00
* LEVEL OF EFFORT																			
Field Investigation																			
3	Develop a Drilling Plan				0.5	1												\$217.50	
4	Staking the Six (6) Boring in the Field					5												\$575.00	
5	Coordinate with Surveyors to Locate & Tie in Borings at Site					1												\$115.00	
6	Field Coordination during Drilling Including Utility Clearance.				1	4												\$665.00	
7	Mobilization / Demobilization															LS	1	\$700.00	
8	Drilling and Sampling Six (6) Boring to 15-ft Depth																	\$700.00	
9	Technician, Borehole Logging, Clearing, Borehole Grouting							16										\$880.00	
10	Continuous (0' - 15')															LF	90	\$25.00	
																			\$2,250.00
Vehicle Charge (Boring staking, site visits during field coordination during drilling including utility clearance, Texas One Call etc., and borehole logging)																			
11	One Call etc., and borehole logging)															HR	24	\$12.00	
12	Borehole Grouting															FT	90	\$12.00	
																		Subtotal	\$1,080.00
																		Subtotal	\$6,770.50
Laboratory Testing																			
13	Assign Laboratory Tests, Looking at Soil Samples				1	2												\$435.00	
14	Water Content (all samples)																	\$495.00	
15	Liquid and Plastic Limits																	\$639.00	
16	Percent Passing #200 Sieve																	\$330.00	
17	Sieve Analysis with Hydrometer																	\$435.00	
18	Torvane																	\$135.00	
19	Hand Penetrometer																	\$180.00	
20	Unconfined Compression																	\$459.00	

GENERAL CONDITIONS

PAYMENT TERMS - The entire payment is due upon receipt of our invoice. Any retainers are for the sole purpose of the securing part of the expenses. Upon completion of the project, any overpayment will be issued back to client, including the retainer paid (if applicable). If payment is not received within ten (10) days from the invoice date, Client agrees to pay a finance charge on the principal amount of the past due account of one and one-half percent per month (18% per annum). If one and one-half percent per month exceeds the maximum allowed by law, the charge shall automatically be reduced to the maximum legally allowable. Reasonable attorney fees, David Eastwood's hourly charges spent on collections, or any other cost incurred in collecting delinquent counts will be charged to the client. All sums are due and payable in Harris County, Texas. In the event of any dispute concerning this contract, venue for such dispute shall be in the County and State of GET's principal office location, Harris County, Texas, and shall be determined by binding arbitration conducted by the American Arbitration Association, if and only if, the amount in controversy exceeds the jurisdictional limits of the Small Claims Courts of Harris County, Texas. All disputes not exceeding the Small Claims Court's jurisdictional limit shall be litigated in the Small Claims Courts Precinct 2, located at 101 S. Richey, Suite B, Pasadena, Harris County, Texas 77506. By signing this document, the client agrees this will be the venue for the litigation and it will override any other venues.

In the event Client requests termination of the services prior to completion, a termination charge in an amount equal to all charges incurred through the date services are stopped plus any shutdown costs may, at the discretion of GEOTECH ENGINEERING AND TESTING ("GET"), be made. If during the execution of the services, GET is required to stop operations as a result of changes in the scope of services, such as requests by the Client or requirements of third parties, additional charges will be applicable.

INSURANCE - GET maintains Worker's Compensation and Employer's Liability Insurance in conformance with applicable state law. In addition, we maintain Comprehensive General Liability Insurance and Automobile Liability Insurance with bodily injury and property damage. A certificate of insurance can be supplied evidencing such coverage upon written request. The certificate contains a clause providing fifteen days written notice is given prior to cancellation by the Insurer. Cost of providing such certificate is included in our quoted fees.

STANDARD OF CARE - The only warranty or guarantee made by GET in connection with the services requested or performed hereunder is that we will use that degree of care and skill ordinarily exercised under similar conditions by reputable members of our profession practicing in the same or similar locality. No other warranty, expressed or implied, is made or intended by our proposal for consulting services or by our furnishing oral or written reports.

LIMITATION OF LIABILITY - Client agrees that GET's liability for any damage on account of any error, omission or other professional negligence will be limited to a sum not to exceed GET's fee. If Client prefers to have higher limits on professional liability, GET agrees to increase the limits up to a maximum of \$250,000 (Annual claims made) upon Client's written request at the time of accepting our proposal provided that Client agrees to pay an additional consideration of five percent of our total fee, or \$100.00, whichever is greater. The additional charge for the higher liability limits is because of the greater risk assumed and is not strictly a charge for additional professional liability insurance.

SAMPLING OR TESTING LOCATION - The fees included in this proposal do not include costs associated with surveying of the site or the accurate horizontal and vertical locations of tests. Field tests or boring locations described in GET's report, or shown on sketches, are based on specific information furnished by others or estimates made in the field by our technicians. Such dimensions, depths, or elevations should be considered as approximations unless otherwise specified in our report.

RIGHT-OF-ENTRY - Unless otherwise agreed, Client will furnish right-of-entry on the property for GET to make the planned borings, surveys, tests, and/or explorations. We will take reasonable precautions to minimize damage to the property caused by our operations but have not included in our fee the cost of restoration of damage which may result. If client desires restoration of the property to its former condition, an additional fee will be required and notice of such desire must be provided in writing to GET, prior to our completion of services under this contract.

DAMAGE TO EXISTING MAN-MADE OBJECTS - It shall be the responsibility of the Client or his duly authorized representative, to disclose the presence and accurate location of all hidden or obscure man-made objects on the property where the field tests or boring will be performed. GET's field personnel are trained to recognize clearly identifiable stakes or markings in the field, and without special written instructions, to initiate field testing, drilling and/or sampling within a reasonable distance of each designated location. If GET is cautioned, advised, or given data, in writing, revealing the presence or potential presence of underground or overground obstructions, such as utilities, GET will give special instructions to its field personnel. As evidenced by Client's acceptance of this proposal, Client agrees to indemnify and hold GET harmless from all claims, suits, losses, personal injury, death and property liability resulting from unusual subsurface conditions or damages to subsurface structures, owned by Client or third parties, occurring in the performance of the proposed services, whose presence and exact locations were not revealed to GET in writing, or to reimburse GET for expenses incurred defending any such claims or suits, including reasonable attorneys' fees.

SAMPLE DISPOSAL AGREEMENT - Unless otherwise requested, test specimens or samples will be disposed of immediately upon completion of tests. Drilling samples or other specimens will be disposed of 14 days after submission of our report. Upon written request, GET will retain test specimens or drilling samples for a specified period of time, to be determined at the time of the writing. An acceptable storage charge will be determined prior to such storage.

OWNERSHIP OF DOCUMENTS - All documents, including, but not limited to, drawings, specifications, reports, boring logs, field notes, laboratory data, calculations and estimates, prepared by GET as instruments of service pursuant to this Agreement, shall be the sole property of GET. Client agrees that all documents of any nature furnished to Client or Client's agents or designees, if not paid for, will be returned upon demand and will not be used by Client for any purpose whatsoever. Client further agrees that under no circumstances shall any documents produced by GET, pursuant to this Agreement be used at any location or for any project not expressly provided for in this Agreement without the written permission of GET. At the request and expense of Client, GET will provide copies of documents created in the performance of the work for a period not exceeding five years following submission of the report contemplated by this Agreement.

SAFETY - Should GET provide periodic observations or monitoring services at the job site during construction, Client agrees that, in accordance with generally accepted construction practices, the contractor will be solely and completely responsible for working conditions on the job site, including safety of all persons and property during the performance of the work and compliance with OSHA regulations, and that these requirements will apply continuously and not be limited to normal working hours. Any monitoring of the contractor's procedures conducted by GET is not intended to include review of the adequacy of the contractor's safety measures in, on, adjacent to, or near the construction site.

SITE VISIT - Client agrees that GET will not be expected to make exhaustive or continuous on-site inspections but that periodic observations appropriate to the construction stage shall be performed. It is further agreed that GET will not assume responsibility for the contractor's means, methods, techniques, sequences, or procedures of construction, and it is understood that field services provided by GET will not relieve the contractor of his responsibilities for performing the work in accordance with the plans and specifications. The words "supervision", "inspection", or "control" are used to mean periodic observation of the work and the conducting of tests by GET to verify substantial compliance with the plans, specifications and design concepts. Continuous inspections by our employees do not mean that GET is observing placement of all materials. Full-time inspections mean that an employee of GET has been assigned for eight-hour days during regular business hours. Any alteration of plans, including but not limited to; alteration of blueprints, specifications, recommendations, etc. by the Client or a third party, shall relieve GET of all liability for damages incurred, directly or indirectly, from such changes.

CORPORATE STRUCTURE - The company is a partnership, DAE and Associates, LTD doing business as Geotech Engineering and Testing.

Initial _____

Voigt Associates, Inc.

Professional Traffic Engineers
Texas Registered Firm F-5333

2631 Lakecrest Drive
Pearland, Texas 77584
832.264.0429
tony@voigtassociates.com

May 5, 2021

Mr. Harish Jajoo, P.E., CFM
President
HJ Consulting, Inc.
4771 Sweetwater Boulevard, Suite 254
Sugar Land, Texas 77479

**RE: Proposal for Traffic Engineering Services
Fort Bend County Koeblen Road Segment 1**

Dear Mr. Jajoo,

Per your request, Voigt Associates is pleased to present this proposal for traffic engineering services for the above referenced project. This proposal presents the basic scope of services and accompanying fee and schedule that we anticipate satisfying requirements for this project and meet Fort Bend County requirements for traffic study and signal design, as needed. If this scope needs revision, please contact me at your convenience.

BASIC SCOPE OF SERVICES

The basic scope of services for this project is as follows:

Task 1. Traffic Study.

In this task, Voigt Associates will conduct the following traffic studies:

- Operational analysis for Koeblen Road at Sunrise Meadow Drive, including warrants for turn lanes, storage length for turn lanes, and traffic signal warrant study.

Subtasks will include:

- a) Schedule and conduct scoping meeting with client and Fort Bend County staff; as needed;
- b) Field visit to the site, one during the AM Peak Hour and/or one during the PM Peak Hour to assess existing traffic conditions;
- c) Conduct traffic data collection to include 13-hour video-based turning movement counts at Koeblen Road at Sunrise Meadow Drive.
- d) Conduct level of service analysis of the intersections listed in Subtask 3;
- e) Examine warrants for turn lanes, both left turn and right turn, at each intersection;
- f) Conduct traffic signal warrant analysis at Koeblen Road at Sunrise Meadow Drive
- g) Provide recommendations for geometry, including for school buses and larger vehicles, and for pedestrian facilities as applicable; and
- h) Preparation of a technical report, including schematic graphics, for client and agency review.

Voigt Associates, Inc.

Professional Traffic Engineers
Texas Registered Firm F-5333

Mr. Harish Jajoo, P.E., CFM

May 5, 2021

Page 2 of 5

Task 2. Traffic Signal Design – Temporary Signal (Koeblen Road at FM 2977)

This task will provide design services for temporary traffic signal during construction, if needed, at the Koeblen Road at FM 2977 intersection. The basic scope of services for this task will require that HJ Consulting supply electronic copies of the survey and design files for the subject intersection to 500' on all approaches. HJ Consulting shall provide topographic survey showing all above-ground features and all existing and/or proposed underground utilities to at least 500' on all intersection approaches. HJ Consulting shall provide temporary pavement marking and traffic control plan layouts for each applicable phase of construction. See attached for traffic signal survey requirements.

If needed for temporary signal design to current TxDOT traffic signal standards, Voigt Associates will:

- a) Work with client, TxDOT and Fort Bend County staff to determine the scope of temporary traffic signal installation;
- b) Conduct site visit to scope the project with TxDOT and Fort Bend County staff, as necessary, to document existing conditions and confirm scope of modification;
- c) Contact CenterPoint Energy and AT&T for underground utility information at the intersection;
- d) Prepare existing conditions diagram;
- e) Prepare temporary traffic signal plan sheet(s), including as-needed pedestrian treatments for full traffic signal operation during construction;
- f) Prepare applicable notes and general specifications;
- g) Prepare index of standard sheets applicable for temporary signal;
- h) Prepare summary of estimate for materials;
- i) For final drawings, as needed, obtain private utility (CenterPoint Energy and AT&T) signatures to reflect utilities are shown properly on the plans;
- j) Prepare cost estimate; and
- k) Seal and sign final drawings.

Task 3. Traffic Signal Design – Traffic Signal Modification (Koeblen Road at FM 2977)

This task will provide design services for traffic signal modification (adding a widened fourth leg to the intersection) on FM 2977 at Koeblen Road. The basic scope of services for this task of the project will require that HJ Consulting supply electronic copies of the design files for the subject intersection to 500' on all approaches of the intersection. HJ Consulting shall also provide topographic survey showing all above-ground features and all existing and/or proposed underground utilities to at least 500' on all intersection approaches. See attached for traffic signal survey requirements.

For signal modification design to current TxDOT traffic signal standards, Voigt Associates will:

- a) Work with client, TxDOT and Fort Bend County staff to determine the scope of traffic signal modification;

Voigt Associates, Inc.

Professional Traffic Engineers
Texas Registered Firm F-5333

Mr. Harish Jajoo, P.E., CFM

May 5, 2021

Page 3 of 5

- b) Conduct site visit to scope the project with client, TxDOT and Fort Bend County staff, as necessary, to document existing conditions and confirm scope of modification;
- c) Contact CenterPoint Energy and AT&T for underground utility information at the intersection;
- d) Prepare existing conditions diagram;
- e) Prepare plan sheet(s), including as needed pedestrian treatments and traffic signal related pavement markings and signing for full traffic signal operation;
- f) Prepare applicable notes and general specifications;
- g) Prepare index of standard sheets for signal, pavement markings, traffic control and work zone for traffic signal work;
- h) Prepare summary of estimate for materials for traffic signal modification;
- i) As needed, obtain private utility (CenterPoint Energy and AT&T) signatures to reflect utilities are shown properly on the plans;
- j) Prepare cost estimate; and
- k) Seal and sign final drawings.

Voigt Associates reserves the right to negotiate for additional services. Possible additional services may include additional CADD drafting, additional signal or stop warrant studies, other traffic engineering studies, signal design or design tasks not covered in the basic scope above. Other additional services for this project could include, but are not limited to, intersection modifications, including geometric roadway or drainage design and meetings with any agency or group.

Schedule and Proposed Fees

The estimated schedule and proposed fee, by task, is listed below. Voigt Associates, Inc. requests that any additional services be negotiated upon request.

- Task 1. Traffic Study. Six weeks to complete, \$6,480 (lump sum).
- Task 2. Traffic Signal Design – Temporary Signal (Koeblen Road at FM 2977). Four weeks to complete once survey and design files received. Review comments will be addressed and returned within two weeks of receipt. \$9,600 (lump sum) per phase.
- Task 3. Traffic Signal Design – Traffic Signal Modification (Koeblen Road at FM 2977). Eight weeks to complete once survey and design files received. Review comments will be addressed and returned within two weeks of receipt. \$16,500 (lump sum).

If you approve of this scope of services, please send back a signed contract for our files. Receipt of an executed contract will serve as our written notice to proceed.

Voigt Associates, Inc.

Professional Traffic Engineers
Texas Registered Firm F-5333

Mr. Harish Jajoo, P.E., CFM

May 5, 2021

Page 4 of 5

We look forward to working with you on this project and are ready to begin work immediately upon written notice to proceed. If you have any questions about this proposal, please call me at your convenience at 832-264-0429.

Sincerely,

A handwritten signature in blue ink, appearing to read 'A. Voigt', is positioned below the word 'Sincerely,'.

Anthony Voigt, P.E., PTOE
Principal

Via email transmittal

Voigt Associates, Inc.

Professional Traffic Engineers
Texas Registered Firm F-5333

Mr. Harish Jajoo, P.E., CFM
May 5, 2021
Page 5 of 5

LETTER OF AGREEMENT FOR CONSULTING SERVICES

This agreement is made and entered into on the _____ day of _____, 20____, by and between Voigt Associates, Inc. (hereinafter called the "Engineer"), and HJ Consulting, hereinafter called the "Client") whereas the Client has requested services of the Engineer in relation to:

Traffic Engineering Services, Fort Bend County Koeblen Road Segment 1 (See Attached Proposal Letter Dated May 5, 2021) herein called the "Project"

The Client and Engineer, in consideration of the mutual covenants hereinafter set forth, agree as follows:

PROJECT WORK AND DISCLOSURE. Upon receipt of the executed copy of this Agreement, the Engineer will perform services to provide the Client with the data, information, or opinion requested, proceed with the work as expeditiously as practical, inform the Client of any delays and provide the Client with a minimum of two copies of the final product or findings. The Client will place at the Engineer's disposal all available information pertinent to the Project including previous reports and any other relative data and will arrange for and provide access to the Engineer, without any liability of any nature to the Engineer except for the Engineer's own negligence, to enter upon public and private lands as required for the Engineer to perform work under this Agreement.

PAYMENT. Payment for engineering services will be based on a not-to-exceed price of Thirty-two thousand, five-hundred eighty dollars (\$32,580.00). Invoices will be billed monthly based on percent complete. Reimbursable direct expenses shall mean the Engineer's actual expense of transportation and subsistence of principals, employees, and consultants when traveling in connection with the Project, consultant's fees, field office expenses, toll telephone calls and facsimiles, report or plan reproduction and related Project items. The Client shall make payments for services, additional services, and reimbursable expenses within thirty (30) days after receipt of Engineer's invoice. All payments not received by the Engineer when due shall bear interest at 1.5% per month, calculated daily, on the unpaid balance. Client understands that work product is subject to agency review and payment in full is not subject to agency approval of reported recommendations but is subject to work product delivery to the client as outlined in this agreement.

TERMINATION OF AGREEMENT. Either the Client or Engineer may terminate this agreement prior to completion of work by written notice. If the agreement is terminated by either party, the Engineer shall be paid for services performed up to and including the date of termination.

ENGINEER'S LIABILITY. Client hereby agrees that Engineer's total liability to Client for injuries, claims, losses, expenses or damages arising out of or related to the Project or this Agreement shall not exceed the total compensation received by Engineer under this agreement.

WORK PRODUCT. All documents, including original drawings, estimates, specifications, field notes, and data are and shall remain the property of the Engineer as instruments of service. The Client may obtain a set of reproductions.

ENTIRETY OF AGREEMENT. This Agreement represents the entire agreement between Voigt Associates, Inc. and the Client and may be amended only by written instrument signed by both parties. The laws of the State of Texas shall govern this Agreement.

CLIENT:

ENGINEER:

Voigt Associates, Inc.



5/5/2021

Name Date

Anthony Voigt, P.E., PTOE Date
President