

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 IDS Engineering Group, (hereinafter "Contractor"), a company authorized to conduct business in the State of Texas.

WITNESSETH

WHEREAS, County desires that Contractor provide professional engineering services for the reconstruction of a two lane concrete roadway from Williams Way to west of Hudson Oaks Lane, and a roadway widening to a three-lane concrete roadway from west of Hudson Oaks Lane to the Fort Bend County Municipal Utility District No. 121 levee for the Ransom Road Project, Number 17103, under the 2017 Mobility Bond Program (hereinafter "Services") pursuant to SOQ 14-025; and

WHEREAS, County has determined Contractor is the most highly qualified provider of the desired Services on the basis of demonstrated competence and qualifications, and County and Contractor 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, Contractor represents that it is qualified and desires to perform such services.

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

AGREEMENT

Section 1. Scope of Services

Contractor shall render the professional engineering services, including the preliminary design, utility coordination, final design, and bid and construction phase services for the project as described Contractor's proposal dated April 17, 2018 attached hereto as Exhibit A, and incorporated herein for all purposes.

Section 2. Personnel

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

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

Section 3. Compensation and Payment

3.1 Contractor'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 three hundred seventy-four thousand three hundred fifty-eight dollars and no/100 (\$374,358.00) as set forth in Exhibit A. In no case shall the amount paid by County under this Agreement exceed the Maximum Compensation without a written agreement executed by the parties.

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

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

Section 4. Limit of Appropriation

4.1 Contractor clearly understands and agrees, such understanding and agreement being of the absolute essence of this Agreement, that County shall have available the total maximum sum of three hundred seventy-four thousand three hundred fifty-eight dollars and no/100 (\$374,358.00) specifically allocated to fully discharge any and all liabilities County may incur.

4.2 Contractor does further understand and agree, said understanding and agreement also being of the absolute essence of this Agreement, that the total maximum compensation that Contractor may become entitled to and the total maximum sum that County may become liable to pay to Contractor shall not under any conditions, circumstances, or interpretations thereof exceed three hundred seventy-four thousand three hundred fifty-eight dollars and no/100 (\$374,358.00).

Section 5. Time of Performance

Time for performance of the Scope of Services under this Agreement shall begin with receipt of the Notice to Proceed and end no later than December 31, 2022. Contractor shall

complete the tasks described in the Scope of Services, within this time or within such additional time as may be extended by the County.

Section 6. Modifications and Waivers

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

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

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

Section 7. Termination

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

7.2 Termination for Default

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

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

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

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

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

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

Section 8. Ownership and Reuse of Documents

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

Section 9. Inspection of Books and Records

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

Section 10. Insurance

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

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

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

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

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

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

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

Section 11. Indemnity

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

Section 12. Confidential and Proprietary Information

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

12.2 Contractor agrees to hold Confidential Information in strict confidence, using at least the same degree of care that Contractor uses in maintaining the confidentiality of its own confidential information, and not to copy, reproduce, sell, assign, license, market, transfer or otherwise dispose of, give, or disclose Confidential Information to third parties or use Confidential Information for any purposes whatsoever other than the provision of Services to County hereunder, and to advise each of its employees and agents of their obligations to keep Confidential Information confidential. Contractor shall use its best efforts

to assist County in identifying and preventing any unauthorized use or disclosure of any Confidential Information. Without limitation of the foregoing, Contractor shall advise County immediately in the event Contractor learns or has reason to believe that any person who has had access to Confidential Information has violated or intends to violate the terms of this Agreement and Contractor will at its expense cooperate with County in seeking injunctive or other equitable relief in the name of County or Contractor against any such person. Contractor agrees that, except as directed by County, Contractor will not at any time during or after the term of this Agreement disclose, directly or indirectly, any Confidential Information to any person, and that upon termination of this Agreement or at County's request, Contractor will promptly turn over to County all documents, papers, and other matter in Contractor's possession which embody Confidential Information.

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

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

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

Section 13. Independent Contractor

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

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

Section 14. Notices

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

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

County:	Fort Bend County Engineering Department Attn: County Engineer 301 Jackson Street Richmond, Texas 77469
With a copy to:	Fort Bend County Attn: County Judge 401 Jackson Street, 1 st Floor Richmond, Texas 77469
Contractor:	IDS Engineering Group Attn: Travis S. Sellers 13430 Northwest Freeway, Suite 700 Houston, Texas 77040

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

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

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

Section 15. Compliance with Laws

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

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

Section 16. Standard of Care

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

Section 17. Assignment

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

17.2 Neither party may delegate any performance under this Agreement.

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

Section 18. Applicable Law

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

Section 19. Successors and Assigns

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

Section 20. Third Party Beneficiaries

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

Section 21. Severability

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

Section 22. Publicity

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

Section 23. Captions

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

Section 24. Conflict

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

Section 25. Certain State Law Requirements for Contracts

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

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

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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

IDS ENGINEERING GROUP

Robert E. Hebert, County Judge



Travis S. Sellers, Senior Vice President

Date

4/26/18

Date

ATTEST:

Laura Richard, County Clerk

APPROVED:



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

APPROVED AS TO LEGAL FORM:

Marcus D. Spencer, First Assistant County Attorney

AUDITOR'S CERTIFICATE

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

Robert Ed Sturdivant, County Auditor

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EXHIBIT A



April 17, 2018

Fort Bend County Engineering
c/o Mr. Kevin Mineo, PE, MBA
Binkley & Barfield Consulting Engineers
1710 Seamist Drive
Houston, Texas 77008

Reference: Revised Proposal to Perform Professional Engineering and Surveying Services for
Fort Bend County 2017 Mobility Bond Program
Ransom Road, Project No. 1-03
IDS Project Number 0570-007-00

Dear Mr. Mineo:

IDS Engineering Group Inc. respectfully submits this revised proposal for the above referenced project to include the professional engineering and surveying services for the preparation of construction documents. The project scope includes reconstruction of a 2-lane concrete roadway from Williams Way to west of Hudson Oaks Lane and a roadway widening to a 3-lane concrete roadway from west of Hudson Oaks Lane to FBCMUD #121 Levee. The approximate length of the project is 5300 linear feet with an estimated construction cost of \$2,395,500 as provided by Fort Bend County.

For reconstruction of the 2-lane concrete roadway from Williams Way to west of Hudson Oaks Lane, we will assess the existing storm sewer to determine if it is sized in accordance with current criteria. If the storm sewer does not meet current criteria, we will design a new storm sewer system meeting the current criteria. If no sizing upgrades are required, we will assess the condition of the existing storm sewer via TV Inspection to see if replacement or rehabilitation is needed.

The project will be prepared in accordance with the following documents provided by the Program Manager:

Attachment A – 2017 Mobility Bond Program Summary of Design Process
Attachment B – Mobility Design Standards
Attachment C – Fort Bend County Checklist and Design Issues, Revised 2-2017

This proposal assumes that any changes to the design and design approvals will be provided during the PER phase (30% submittal). Any changes to the design requested after the PER phase will result in additional services. An estimate of additional services will be provided upon request.

Compensation:

IDS proposes to perform the services described in Attachments A, B, and C for the fees indicated below. A detailed fee breakdown is provided in Attachment D.

Base Services

Design, Project Management, and Coordination	\$ 219,807.00	Fee
Drainage Impact Analysis & Drainage Design	\$ 57,590.00	Fee
Geotechnical Engineering Services (Paradigm)	\$ 20,200.00	Fee
Surveying Services (CivilCorp)		
Topographic Survey, including Control Survey	\$ 24,955.00	Fee
Abstracting	\$ 8,347.00	Fee
Parcel Acquisition (Assume 2 parcels @ \$2,376 per parcel)	\$ 4,752.00	Fee
Control Staking	\$ 1,598.00	Fee
Flag ROW after Land is Acquired prior to Construction	\$ 3,281.00	Fee
Subtotal	\$ 340,530.00	Fee

Bid and Construction Phase Services **\$ 18,384.00** Hourly

Additional Services

TV Inspection of Storm Sewer (Chief Solutions, Inc.) \$ 15,444.00 Fee

Exclusions

- Any submittals other than those stated in Attachments A, B and C. Should additional submittals be requested, it will be billed as an additional service. An estimate of additional services will be provided upon request.
- Environmental services, including but not limited to, preliminary wetlands investigations and Phase 1 Environmental Site Assessment.
- Traffic Impact Study or collection of Traffic Count Data.
- Subsurface utility exploration to determine exact location and depths. Utility coordination is included in our fee proposal and utility locations will be determined be based on 811 call, record drawings, and communication with utility companies.
- Utility company signatures on completed drawings.
- Construction Staking.
- Fee Proposal includes 2 parcel acquisitions. Additional parcel acquisitions can be provided at a cost of \$2,376 per parcel.
- TV Inspection of the Storm Sewer is not included in the Base Services. If needed, it will be an additional service at the cost shown above.
- Materials Testing during Construction.
- Review of the Contractor's means and methods of construction or safety procedures, which shall remain the sole responsibility of the Contractor.
- Construction inspection services.

12. Construction management services, including processing of pay applications, change orders, etc.
13. Monthly status meetings and site visits during construction. IDS will only attend meetings during construction on an as-needed basis.

Basic Services will be performed for the lump sum fee amount shown above, billed monthly based on the percentage of work completed and milestone schedule. A project schedule is included as Attachment E.

Reimbursable expenses for reproduction and deliveries are included in our basic services fee. Our fee does not include reimbursable expenses such as agency review fees, application fees, and permit fees which will be billed at cost.

We appreciate the opportunity to submit this proposal to you and look forward to working with you on this project. Should you have any questions, please do not hesitate to contact us.

Respectfully submitted,



Carol D. Harrison, P.E.
Senior Project Manager



Travis S. Sellers, P.E.
Senior Vice President

Attachments

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2017 Mobility Bond Program Summary of Design Process

The design process will be a collaborative effort between the Design Consultant (one per project under contract with the County, with subconsultants under contract with the Design Consultant), the Project Manager (one per Precinct under contract with the County) and County staff.

Preliminary Design

The primary goals are to (1) establish a typical cross section and cross sections in non-standard areas, (2) determine drainage system needs (drainage report and/or preliminary roadway drainage design), (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, and (8) prepare a reasonable construction cost estimate. Normally, a “30 percent” plan set will be prepared, consisting of all existing features (seen and unseen) shown in plan and profile, and proposed improvements in plan only with minor annotation. These plans, along with a typical section sheet, are the only drawings that are necessary at this point.

Topographic survey should be completed during preliminary design, unless the project includes a completely new roadway alignment that needs to be approved. Normally, right-of-way acquisition will be required for road expansions, and part of preliminary design includes determining where to expand. To cover all options, topographic survey should be taken within existing right-of-way and then at least 20 feet beyond the right-of-way on each side, or as determined in a scoping meeting. Temporary benchmarks and baseline control should be set, both with 1,000-foot maximum spacing between points. Abstracting should be performed to gain a preliminary determination of property ownership and existing right-of-way widths. During topographic survey, found property corners should be documented so that the approximate location of the right-of-way can be determined. Structures in clear view and within 100 feet of the existing right-of-way should be surveyed.

Once right-of-way needs have been determined and approved by the County, a Category 1A survey must be performed to produce (1) an overall project map showing existing and proposed right-of-way, (2) a parcel map and metes-and-bounds description for each parcel to be acquired in the project, and (3) a KMZ file (used by Google Earth) showing existing right-of-way with ownership information, proposed takings with parcel numbers, and a preliminary roadway layout. Right-of-way documents will be submitted separately from other design documents, and will be paid for on a per-parcel basis.

Except for new alignment roadways, geotechnical investigations and reporting should be completed during preliminary design, in accordance with Harris County criteria. For water crossing structures, use standard TxDOT criteria with boring depths based on the depth of the outfall channel. The geotechnical engineer should calculate the equivalent single axle load (ESAL) for the County’s standard pavement design (8-inches of concrete with 8-inches of lime stabilized subgrade).

Preliminary wetlands investigations and project notification to the Texas Historical Commission will be performed by the County on a program-wide basis, so these efforts should not be needed on a project level. The Design Consultant will be notified in a scoping meeting if further efforts are needed for a particular project. The Design Consultant will also be notified if a Phase 1 Environmental Site Assessment is needed for the project, which can be performed by the geotechnical consultant.

A Preliminary Engineering Report (PER) will be prepared for preliminary design, and the purpose of the report is to document the eight goals stated above. It is not necessary to prepare a presentation-quality document, as the report will remain internal to Engineering staff. The report should include a narrative, applicable plans, a drainage report, and a construction cost estimate. A geotechnical report, if prepared during the Preliminary Design phase, may be submitted subsequent to the PER. Any further requirements can be discussed in a scoping meeting. Unless other agencies are involved in the project, no more than three copies of the report should be required. Upon preliminary review and approval of the PER, the Design Consultant and Project Manager will conduct a review meeting to include key County staff. It is intended that all approvals or change requirements are given at this meeting.

The typical completion period for the Preliminary Design is 90-120 days. Proposals will include an hourly level of effort. The preliminary design efforts will be paid in a single lump-sum fee, to be billed monthly on a percent complete basis by task. Major tasks of preliminary design (design, survey, geotechnical, etc.) should be itemized in invoices.

Utility Coordination

Research to determine the existence and location of underground utilities (pipelines, duct banks, etc.) is the Design Consultant's responsibility. Any subsurface utility investigation (SUI) should be at the expense of the utility company. Utility company signatures will not be required on completed drawings.

The Design Consultant will:

- Perform records research and field visits to determine the presence of underground or overhead private or public utilities during the Preliminary Design phase
- 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 drawings
- Prepare a conflict table during the Preliminary Design phase to highlight conflicts between existing utilities and proposed improvements, to be updated during the Final Design phase as required
- Submit milestone-level drawings to applicable utility companies for their review

The Project Manager will:

- Assist the Design Consultant in identifying major utilities, and providing contact information for various utilities as needed
- Coordinate directly with utility companies to facilitate utility adjustments required by the proposed improvements
- Coordinate with utility companies during the Construction phase as required

Final Design

The goal is to prepare construction drawings and specifications accurately and efficiently. Interim submittals will normally be made at 70 percent and 95 percent completion, and should include drawings, a specification table of contents (and/or special specifications, as applicable), and a construction cost estimate.

Applicable design criteria include, in order of priority, (1) Any Fort Bend County Engineering or Drainage District criteria/standards, including the Fort Bend County Drainage Criteria Manual (Fort Bend County Drainage District, November 1987, revised April 1999), (2) municipal design criteria if the project is located within the limits of a municipality and/or ETJ that has design criteria, (3) Guidelines for Engineers Having Contracts with Harris County, Texas (Harris County Public Infrastructure Department, 1987), (4) applicable Texas Department of Transportation design criteria (all County-maintained traffic signals, other items as applicable), and (5) the Infrastructure Design Manual (City of Houston Department of Public Works and Engineering, current version, used for infrastructure for which design criteria do not exist in the preceding criteria documents). Municipalities contributing funds to the project may review the submittals.

The 70 percent submittal should include the following:

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

- Specification table of contents (use Harris County Specifications)
- Bid form with estimated unit and total costs (spreadsheet based)

Three copies of the 70 percent submittal will be required for County review, and drawings can be submitted on 11-inch by 17-inch sheets. A digital copy in Adobe Acrobat format (PDF) of the drawings, specifications and estimate will also be required.

The 95 percent submittal should be considered complete with 95% 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 (only non-standard sections should be included in plans)
- Signage and pavement marking plans (signs may be shown on plan and profile sheets and use of pavement marking standards is encouraged)
- Standard construction details
- Project manual (bid form, specification table of contents, any special specifications or conditions; contract documents excluded)
- Responses to 70 percent comments

Physical submittal requirements are the same as for the 70 percent submittal.

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

All final design efforts will be paid in a single lump-sum fee, to be billed monthly on a percent complete basis.

Bid and Construction Phase Services

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

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

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

The Design Consultant will prepare 27 compact discs, each with one project manual file and one drawing file. Of these, 25 compact discs will be delivered to the County Purchasing Agent for advertising, and two discs will be provided to the Project Manager. Printed documents are not required.

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

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

After the bid, the Project Manager will prepare a bid tabulation and provide a copy to the Design Consultant for filing.

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

The Design Consultant will be responsible for reviewing contractor submittals and responding to Requests for Information.

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

The Design Consultant will participate in a substantial completion walkthrough.

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

All bid and construction phase services will be paid on a time-and-materials basis. The not-to-exceed fee for these services will be determined by the County and/or its Project Manager and the Design Consultant. Monthly billing will include a breakdown of hours spent by personnel in the various employee categories, at billing rates agreed to by the County and the Design Consultant.

Invoicing

The Design Consultant may prepare invoices in the format of its accounting system. However, the following will apply for invoices:

- When the first invoice is prepared, all major billing tasks anticipated for the project duration (Preliminary Design, Final Design, Survey, etc.) should be listed with budgets included. The sum of the task budgets must equal the amount in the Design Consultant's agreement. If tasks must be added or revised during the

course of the project, budgets must be revised to ensure that the total budget remains the same (unless the budget is revised by amendment). Columns should be included, for each task, to show percent complete, amount earned, previously billed and current billing.

- A sequential numbering must be included with each invoice, i.e. Invoice 1 followed by Invoice 2, etc. Another invoice number may be included for internal purposes, but the sequential numbering should be included as well.
- The Purchase Order number must be included on the invoice.
- Markups for subconsultant services or reimbursable expenses are not allowed. A line item may be included in the fee proposal for subconsultant coordination.
- The County is tax-exempt and will not reimburse tax expenses. The Project Manager can provide a tax exemption form to the Design Consultant to ensure that tax is not charged.
- For lump sum tasks, subconsultant invoices do not need to be included in the Design Consultant's invoice.
- A brief progress report must be submitted with each invoice, to include efforts reflected in the invoice. Employee hourly breakdowns are not required for lump sum tasks, but are required for time-and-materials tasks. Although employee timesheets are not required for time-and-materials tasks, the County reserves the right to request them in an audit.
- Invoices shall be submitted in PDF format to the County Engineering Department with copy to the Project Manager. The Project Manager will approve or require revisions within five days of invoice submission or revision, as applicable. The Project Manager will provide the email addresses of all to be included in the invoice submittals.

Mobility Design Standards

General

Unless otherwise discussed, curb & gutter major thoroughfares (MT) are to be constructed within 100' ROW. Additional ROW at intersections with MT and collector are also necessary. For example, a MT-MT intersection requires 132' to allow for 3 through lanes, dual left, and a single right turn. (reference layout sheet from Rick)

Major thoroughfares with open ditches and bridges/grade separations will require more than 100' of ROW. Projects within developed areas will be studied to determine what ROW acquisition is feasible.

Order of plan sheets

1. Coversheet (standardize with Title, Project No., Elected Officials, Seal, Vicinity Map, Location Map, County Engineer Signature/date, Consultant seal & company logo)
2. Sheet Index
3. General Notes
4. Typical Sections
5. Project Layout Sheet
6. Survey Control
7. ROW (Existing & Proposed)
8. Roadway Plan & Profile
9. Bridge Design & Details
10. Traffic Signals & Details
11. Drainage Area Maps & Computations
12. Traffic Control Plan
13. Signing & Striping Plan
14. Storm Water Pollution Prevention Plan (SWPPP)
15. Details
 - Roadway, Pavement, Curb
 - Driveway (schedule & details), Sidewalks, Ramps
 - Drainage, Manholes, Inlets, Outfalls
 - Signing & Striping
 - Bridge, Railing, Retaining Wall, Slope Paving
 - Project Sign
16. Cross Sections

Specification

1. Front end documents provided by FBC Purchasing
2. Bid Form
3. Specifications Table of Contents (include link to website)
4. Special specifications
5. Summary of Work (phasing, entities to coordinate with)

6. Permits by TxDOT, USACE, City, etc.
7. Geotechnical Report
8. Storm Water Pollution Prevention Plan (SWPPP)

Roadway Geometry

- Evaluate future 6-lane configuration for major thoroughfares
- Driveway slope, maximum 8%. Detail a TCE where the driveway extends beyond ROW line

Survey

- Include visible structures within 100' of future ROW.

Right-of-Way

- Number parcels consecutively
- Corner clips (not radius)
- Additional ROW needed for bridge embankments and swales along back-of-curb
- PMs should review ROW maps before forwarding to FBC. Consolidate same owner tracts and identify parcels to be donated.
- Surveyor to provide an overall map with parcels labeled and shaded. Include project stationing.

Bridge

- TxDOT Standard C223 concrete bridge rail with a 6" median curb, 3' wide below rail.
- Include 7' sidewalk on the sidewalk side of bridge with the C223 rail occupying the outside 1'-3.5".

Accessibility

- Driveways to include 4' wide crossing at 2% max cross slope for future sidewalk connections
- Include pedestrian ramps at all cross streets and intersections (Two Type 7 ramps at each corner are preferred)

Storm Water Pollution Prevention Plan (SWPPP)

- Filter fencing is NOT needed along ROW line, unless storm water flows from ROW to private property (which it should not)
- Sod strip (size and type?) behind back-of-curb and each side of sidewalk. Hydromulch elsewhere. Filter fencing is NOT needed behind back of curb once area is graded and sod is installed. (Cut grade 2" below top-of-curb so that sod is flush)
- The project manual must contain a narrative describing the SWPPP and provide the information for Section 4 of the TCEQ Notice of Intent (NOI). There must also be a statement designating the contractor as the Primary Operator and the County as the Secondary Operator.



Attachment C
FBC Checklist and Design Issues

Project: _____

PM _____

Design Firm _____

Preliminary Design Review

- ☐ Right of Way Acquisition Needs
Provide proposed ROW map
- ☐ Identify Potential Conflicts with Facilities & Utilities
- ☐ Utility Conflicts List
 - Public water and sewer
 - Private utilities and pipelines
- ☐ Identify Critical Paths Items
 - Level 1 schedule with design, ROW, bidding, and construction
- ☐ Identify Problem Areas and Potential Resolutions
- ☐ Identify Permit and Regulatory Requirements
 - TXDOT permitting
 - Environmental, FEMA, others as needed
- ☐ Construction Cost Estimate
- ☐ Drainage Analysis
 - In accordance with Fort Bend County Drainage District
- ☐ Geotechnical Report
- ☐ Topographic Survey Complete
 - Signed and sealed survey and existing ROW map
- ☐ 30% Plans (11"x17" Sheets)
 - _____ Existing Typical Section
 - _____ Proposed Typical Section
 - _____ Plan & Profile
 - _____ Existing Features in Plan & Profile
 - _____ Proposed Features in plan view only
 - _____ Minor Annotation



Project: _____

PM _____

Design Firm _____

70% Submittal Review

☐ 30% Comments Addressed

☐ Coversheet

☐ Proposed Typical Sections

_____ Station Limits

_____ Payment/subgrade material and thickness

_____ Right-of-Way and Roadway Width

_____ Dimensions

_____ Profile Grade Line

☐ Overall Project Layout

☐ Survey Control Map

☐ Drainage Area Map

☐ Hydraulic Calculations

☐ Plan & Profile

_____ 1"=20' Plan Sheets (Half-Size) for 1"=40'

_____ Existing Facilities shown correctly

_____ Proposed Facilities shown correctly

_____ Check for Design Issues

☐ Traffic Control Plan

_____ Phasing & Traffic Control

_____ Avoid detours unless approved by the County

_____ Construction Zone Standards (Encouraged)

☐ Storm Water Pollution Prevention Plan

_____ Drawings with Text

_____ Layout & details

☐ Bridge Layout & Details (If applicable)

☐ Specification table of contents



- ☐ Bid Form with estimated unit and total costs
_____ Spreadsheet Based
- ☐ Three copies of 70% plans on 11"x17" Sheets



Project:

PM

Design Firm

95% Submittal

- ☐ 70% Comments Addressed
- ☐ Bid Ready (Not Sealed)
- ☐ General Notes
- ☐ Cross Sections (100 foot intervals w/ earthwork calcs)
- ☐ Signage & pavement marking plans (signs may be shown on plan & profile sheets. Pavement Markings Standards are encouraged)
- ☐ Project Manual
- ☐ Bid Form
 - ☐ Specification Table of Contents
 - ☐ Special Specifications or Conditions
 - ☐ Contract Documents Excluded
- ☐ Three copies of 95% plans on 11"x17" Sheets
- ☐ 1 copy to FBC, 1 copy to FBCDD, 1 copy to PM consultant
 - ☐ Electronic PDF files
 - ☐ Include KMZ file of existing conditions and current design



Project: _____
PM _____
Design Firm _____

Final Submittal

- ☐ 95% Comments Addressed
- ☐ Project Manual prepared in Adobe Acrobat
_____ Administrative Documents
_____ Bid Form
_____ Sealed Specification Table of Contents
_____ Applicable Specifications and Documents
- ☐ 28 compact discs each with one project manual file and one drawing file
- ☐ Completed plans delivered to County
_____ Plans signed and sealed
_____ Approved and signed by County engineer
_____ Signed by utilities as applicable
_____ TXDOT permit approved as applicable

Bid process

1. Design engineer sends final drawings (11x17), list of bid item/estimate, and summary of specifications.
2. Deputy county engineer performs final review of the bid documents and provides is comments or approval.
3. County engineer signs mylar cover sheet
4. Signed cover sheet is scanned and sent to Project Manager
5. Request permission to advertise (cc: Debbie, Rick, Jillian & PM)
6. County engineer will reply to all with approval/comments.
7. Purchasing places "request to advertise" on court agenda.
8. Project manager provides Purchasing with project title, construction cost estimate, duration, and proposed agenda date.
9. Purchasing prepares front end documents and forwards them to project manager.
Engineer consolidates the front end documents with the bid items, summary of specifications, special specifications, SWPPP, geotech report, etc.
10. Court approves "request to advertise"
11. Engineer delivers 25 CDs to Purchasing and 2 CDs to project manager on the Thursday before the Monday advertisement date.
All CDs must be labeled with project number, project name with limits, etc. The CDs should contain only two pdf files; construction drawings and bid documents.
Project manager will send CD to material testing lab (CMT).



Items	Comments
Earthwork & Grading	
	Identify grade issues if crossing another major thoroughfare. Reduce cross slopes to prevent "jump" across the intersection and to reduce the valley gutter look. Elevate the intersection if it does not adversely impact intersection. Pay special attention at existing "T" intersections or where a street is being upgraded to a major thoroughfare.
	Consider driveway reconstruction and the need for temporary construction easements to make the grading work. If extending on private property, check for existing obstructions including gates.
	Identify areas where high fill is used between existing and proposed grades and target for increased inspection and/or compaction testing.
	Watch for grade differences that will require walls to meet ADA on sidewalks.
Traffic Signals	
	Include signal construction in mobility project if needed. If Mobility project includes major intersections coordinate with the County even if the potential signal is out of the program budget.
	Place traffic signal foundations for ultimate intersection buildout including future right turn lanes.
	All R1-1 stop signs shall be 30"x30" with diamond grade sheeting. Street name signs shall be upper and lower case letters with diamond grade sheeting.
	Include message boards for major traffic control changes.
	Traffic signals shall be mast arms unless otherwise specified; span wire may be used for temporary or interim signals. Traffic standards shall follow TXDOT standards for intersections with TXDOT ROW. Signal design should include a basis of estimate with quantities of materials that match with bid form.
	For Fort Bend maintained signals, pre-emptive control system shall be included with Glance GPS pre-emption system as preferred units from Applied Information.
	For Fort Bend maintained signals, wireless magnetometer vehicle detection system (WMVDS) from Sensys System may be used for detection over loop detectors with max advance detection at 150 ft.
	Centerpoint SOL (Service Outlet Location) request for power service should be made for new traffic signals with design submittals.
	Traffic signals maintain by other entities such as TXDOT or cities shall submit for applicable review and comply with their guidelines
Sidewalks	Project W/Sidewalk & Without Sidewalk
	2% max slope needs to be carried through the crosswalk area (current or future) for side street and driveway approaches.
	We require sidewalks and Type 7 ramps on both sides of the road for development projects. Coordinate with County as to location of sidewalks, typically provide sidewalks in areas where adjacent property is already developed and does not include sidewalks (coordination with HOA or MUD for participation is a bonus). If sidewalks are not provided, grade out the right of way to allow provision of sidewalks in the future, particularly across driveways and intersecting streets.
	We would prefer the sidewalks are not immediately adjacent to the curbs on mobility projects as we require developers to provide a 2' minimum space between the sidewalk and the curb. However, we can probably allow some leeway here because developers control the grading of adjacent property and we do not.



	Require Type 7 curb ramps at each corner of the intersections. Curb ramps should not direct the visually impaired toward the center of the intersection. The developers in Fort Bend County are being directed to install a Type 7 (TX DOT PED-12A) in each direction. This configuration will clearly define the direction and should meet ADA requirements for the visually impaired.
Right of Way	
	Provide corner clips at all public/private street intersections when right of way is being expanded.
	Unless otherwise discussed, curb & gutter major thoroughfares (MT) are to be constructed within 100' ROW. Additional ROW at intersections with MT and collector are also necessary. For example, a MT-MT intersection requires 132' to allow for 3 through lanes, dual left, and a single right turn. Provide sketch to design consultant.
	Major thoroughfares with open ditches and bridges/grade separations will require more than 100' of ROW. Projects within developed areas will be studied to determine what ROW acquisition is feasible. Coordinate with County on required width of ROW.
	Avoid ROW alignment with micro-parcels (less than 50 SF) if not required for functional design or construction
	Do not include existing County occupied (prescriptive) areas in parcels for ROW purchase
Median Openings	
	Unless a driveway is very low volume, should include left turn lanes at all median openings.
	Use turning templates to confirm median nose locations.
	When transitioning from a four lane section to a two lane section, put the asphalt transition across the median instead of tacked on to the end of a concrete pavement section to aid in traffic control for future roadway expansion.
	Check need and location of median openings. Minimum 500' from intersection required. If there is no need for an access point do not include an opening. A mid-block opening is sufficient for u-turns, if there are no additional access needs.
Drainage	
	Do not allow storm sewer trunk lines to be placed under pavement. Prefer rigid pipe only in all applications but if flexible pipe is allowed additional quality assurance and warranty requirements are needed.
	In combined storm sewer configurations where curb inlets and area inlets are in the same system, check HGL elevations of trunk line versus top of grate of area inlets for backflow scenario or use of private property for ponding. At a minimum, confirm ponding situation is not made worse by project and specify grates or manholes to be bolted down in these scenarios.
	Confirm temporary drainage is addressed during construction phasing and provide appropriate pay items.
	Ensure all offsite drainage swales are identified and captured in drainage system.
	In particularly constrained areas where area inlets are being used behind the curb, consider use of an adjacent landscape reserve or temporary easement on undeveloped property to grade out slopes before using slope paving.
	Check to ensure storm water pollution prevention devices are utilized effectively (i.e. in offsite, not onsite flow configurations, provision of construction exits to minimize mud tracking on roadway, etc.) and provide appropriate specifications/pay items.
	Check location of proposed inlets in relation to driveways and median openings. Anticipate future driveways at median openings in undeveloped areas (also consider minimizing median openings in undeveloped areas).



	Submit for review and approval from Fort Bend County Drainage District if working in FBCDD facilities.
Coordination	
	Coordinate with HOA and/or MUD for decorative signals, pavement, or pavers, landscaping, or irrigation. Agreements for funding may be needed.
	Coordinate with adjacent landowners regarding driveway locations, grades, consolidation, and access during construction.
	Road closures and one-way detours require approval from Commissioner's Court. Court Agenda date and the timing of the closure will be considered once the Contractor's schedule is available.
	Submit and complete applications for TXDOT permits as applicable for intersections with TXDOT ROW.
Intersections	
	Consider widening cross street if a potential future signalized intersection.
	Use minimum 25' radii for intersections with local streets and minimum 30' radii with intersections with collector streets and above.
	Provide visibility triangles at street intersections.
	Account for cross slope transition at major/major intersections (particularly when tying into an existing intersection with a new through street – think Cinco Ranch Boulevard at Westheimer Parkway) and confirm that gutter line drainage path is not inadvertently reversed or flattened by cross slope transitions.
	Carry full width improvements through intersections. Consider including reconstruction of intersections at project limits where substandard and transition down on the other side of the intersection. An example of this would be upgrading a two lane road to a four lane boulevard and going through the intersecting street at the project limit instead of transitioning back down to a lower capacity roadway short of the intersection.
	All intersections utilizing Traffic Control measures shall have A.D.A. wheel chair ramps installed.
	At all intersection locations, Type 7 ramps shall be placed in accordance with TXDOT Ped-12a standard detail sheet. A.D.A. – Handicap Ramps shall be installed with street paving at all intersections and comply with current A.D.A. regulations.
	Access to all existing streets and driveways shall be maintained at all times.
Utilities	
	Confirm that temporary widening and access areas account for removal/relocation of existing utilities as needed.
	A Blue Double Reflectorized button shall be placed at all Fire Hydrant locations. The Button shall be placed 12 inches off of the centerline of the street on the same side as the hydrant.
	Identifying conflicts in early stages, will help agency to properly plan and allocate resources for any relocation, and will avoid unnecessary delays to your construction caused by late utility relocations.
	Use County or Drainage District specifications for drainage and storm sewers. City or applicable jurisdiction specs to be used for sanitary sewer and waterline utilities only.
	Submit for review and approval from private utilities and pipelines as applicable.
Pavement Striping	
	Confirm existing pavement with temporary traffic control is permanently restriped. If there are gaps in proposed work area, consider restriping existing gaps for uniformity.



	High visibility continental crosswalks to be used on major thoroughfares, collectors, and midblock crosswalks and school zones on local streets. Regular visibility crosswalks for use elsewhere.
Pavement	
	All Paving Improvements shall be constructed in accordance with Fort Bend County "Rules, Regulations and Requirements relating to the Approval and Acceptance of Improvements in Subdivisions as currently amended.
	4"x 12" reinforced concrete curb shall be placed in front of single family lots only, all other areas shall be 6" reinforced concrete curb.
	All concrete pavement shall be 5 ½ sack cement with a minimum compressive strength of 3500 psi at 28 days. Transverse expansion joints shall be installed at each curb return and at a maximum spacing of 60 feet. To be included in plans or notes.
	A continuous longitudinal reinforcing bar shall be used in the curbs.
	All road widths, curb radii and curb alignment shown indicates back of curb

Attachment D

PRODUCTION MANHOUR ESTIMATE - DESIGN, BID & CPS

Ransom Road Reconstruction and Widening

0570-007-00

Reconstruct 2-lanes and widen to 3-lanes
Assume 3 submittals. Assume 2-lanes will be required to remain open even during construction causing additional Traffic Control effort.

DATE: April 17, 2018

SHT NO.	DESCRIPTION	PRIN	SR PM	DM	SENG	ENG/ EIT	SR PROD	PROD	ADMIN	TOTAL HOURS	COST/ SHT	COST
Plans												
	<i>Preliminary Design (30%)</i>											
1 - 16	Plan Sheets 11x17		2.0	4.0	18.0	9.0	18.0	40.0		91.0	\$ 764.88	\$ 12,238.00
	ROW Delineation/Coordination		2.0	4.0	4.0		4.0			14.0		\$ 2,400.00
	Utility Conflict Assessment			2.0	4.0				4.0	10.0		\$ 1,412.00
	Construction Cost Estimate			2.0	4.0	12.0				18.0		\$ 2,464.00
	Technical Memo		2.0	2.0	4.0	12.0			4.0	24.0		\$ 3,316.00
	<i>Sub-Total Preliminary Design</i>		<i>6.0</i>	<i>14.0</i>	<i>34.0</i>	<i>33.0</i>	<i>22.0</i>	<i>40.0</i>	<i>8.0</i>	<i>137.0</i>		<i>\$ 21,830.00</i>
Plan Production												
1	Cover Sheet & Sheet Index				1.0	2.0	2.0	9.0		14.0	\$ 1,727.00	\$ 1,727.00
2 - 3	Construction Notes				4.0	18.0	4.0	18.0		44.0	\$ 2,731.00	\$ 5,462.00
4	Project Layout					1.0	2.0	9.0		12.0	\$ 1,455.00	\$ 1,455.00
5 - 6	Survey Control (By Others)					1.0	2.0	4.0		7.0	\$ 435.00	\$ 870.00
7 - 8	Typical Sections (Exist & Prop)				4.0	18.0	24.0	4.0		50.0	\$ 3,312.00	\$ 6,624.00
9	Estimate & Quantities Sheet				0.5	0.5	2.0	4.0		7.0	\$ 884.00	\$ 884.00
10 - 11	Drainage Area Map & Calculations			4.0	18.0	4.0	8.0	18.0		52.0	\$ 3,607.00	\$ 7,214.00
12	Clearing & Grubbing Plan				2.0	4.0	6.0	9.0		21.0	\$ 2,681.00	\$ 2,681.00
13 - 24	Plan & Profiles			12.0	24.0	108.0	144.0	96.0		384.0	\$ 4,214.00	\$ 50,568.00
25 - 36	Traffic Control Plans (Project Specific)			12.0	24.0	12.0	108.0	24.0		180.0	\$ 2,116.00	\$ 25,392.00
37 - 43	Traffic Control Sheets (Standards Only)						7.0	14.0		21.0	\$ 374.00	\$ 2,618.00
44	SW3P				0.5	0.5	2.0	4.0		7.0	\$ 884.00	\$ 884.00
45 - 47	SW3P Details					1.5	3.0	6.0		10.5	\$ 435.00	\$ 1,305.00
48 - 55	Paving Standards					4.0	8.0	16.0		28.0	\$ 435.00	\$ 3,480.00
56 - 62	Storm Sewer Standards					3.5	7.0	14.0		24.5	\$ 435.00	\$ 3,045.00
63 - 68	Signage & Striping Plan				12.0	24.0	12.0	72.0		120.0	\$ 2,472.00	\$ 14,832.00
69 - 79	Signage & Striping Standards					5.5	11.0	22.0		38.5	\$ 435.00	\$ 4,785.00
80 - 93	X-Sections						8.0			8.0	\$ 800.00	\$ 11,200.00
	<i>Sub-Total Design</i>			<i>28.0</i>	<i>90.0</i>	<i>207.5</i>	<i>432.0</i>	<i>343.0</i>	<i>16.0</i>	<i>1100.5</i>		<i>\$ 145,026.00</i>
Specifications/Project Manual												
	Plan and Project Manual Reproductions								1.0	1.0		\$ 103.00
	Bid Form				2.0	6.0			4.0	12.0		\$ 1,444.00
	Specifications & Summary of Work				2.0	6.0			12.0	20.0		\$ 2,268.00
	<i>Sub-Total Specifications/Project Manual</i>				<i>4.0</i>	<i>12.0</i>			<i>17.0</i>	<i>33.0</i>		<i>\$ 3,815.00</i>
Construction Cost Estimate												
	Quantity Take-Off				2.0	24.0						\$ 3,228.00
	Construction Cost Estimate				2.0	24.0						\$ 3,228.00
	<i>Sub-Total CCE</i>				<i>4.0</i>	<i>48.0</i>				<i>52.0</i>		<i>\$ 6,456.00</i>
Meetings & Coordination												
	Project Meetings (K/O, I-Line, 90%)	3.0	6.0	6.0	6.0	6.0	6.0		2.0	35.0		\$ 5,978.00
	Project Management	10.0	80.0							90.0		\$ 20,200.00
	Utility Coordination	2.0	2.0	4.0	20.0				8.0	36.0		\$ 4,704.00
	Agency Coordination & Response to Review Comments			1.0	2.0	18.0	2.0	4.0		27.0		\$ 3,444.00
	Site Visit			4.0	4.0					8.0		\$ 1,400.00
	Internal QA/QC		24.0					4.0	2.0	30.0		\$ 5,954.00
	<i>Sub-Total Meetings & Coordination</i>	<i>13.0</i>	<i>112.0</i>	<i>13.0</i>	<i>16.0</i>	<i>44.0</i>	<i>8.0</i>	<i>8.0</i>	<i>12.0</i>	<i>226.0</i>		<i>\$ 41,680.00</i>
	Total Hours	13.0	112.0	41.0	114.0	311.5	440.0	351.0	45.0	1411.5		
	Total Production Cost	\$ 3,380.00	\$ 24,640.00	\$ 8,200.00	\$ 17,100.00	\$ 38,003.00	\$ 61,600.00	\$ 41,067.00	\$ 4,635.00	\$ -		\$ 218,807.00
	Non-Reimbursable Expenses										\$ -	\$ 1,000.00
	IDS Production Cost											\$ 219,807.00
Bid Phase												
	Respond to Bid Questions		4		4					8		\$ 1,480.00
	Pre-Bid Conf			3	3					6		\$ 1,050.00
	Bid Tab			1	1				4	6		\$ 762.00
Construction Phase												
	RFIs, Submittals, Shop Drawing Review			12	40	40			4	96		\$ 13,692.00
	Site Visits & Meetings			4	4					8		\$ 1,400.00
	TOTAL											\$ 238,191.00

