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 McDonough Engineering Corporation, (hereinafter "Consultant"), a company authorized to conduct business in the State of Texas.

WITNESSETH

WHEREAS, County desires that Consultant provide professional engineering services for Bullhead Slough improvements at US 90A and State Highway 99 under 2020 Mobility Bond Project No. 20410 (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 August 25, 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 four hundred seventy-five thousand three hundred twenty-seven dollars and no/100 (\$475,327.00) 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 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 four hundred seventy-five thousand three hundred twenty-seven dollars and no/100 (\$475,327.00) 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 four hundred seventy-five thousand three hundred twenty-seven dollars and no/100 (\$475,327.00).

Section 5. <u>Time of Performance</u>

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: McDonough Engineering Corporation

5625 Schumacher Houston, Texas 77057

- 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

For purposes of sections 2252.152, 2271.002, and 2274.002, Texas Government Code, as amended, Consultant hereby verifies that Consultant and any parent company, wholly owned subsidiary, majority-owned subsidiary, and affiliate:

- 25.1 Unless affirmatively declared by the United States government to be excluded from its federal sanctions regime relating to Sudan or Iran or any federal sanctions regime relating to a foreign terrorist organization, is not identified on a list prepared and maintained by the Texas Comptroller of Public Accounts under Section 806.051, 807.051, or 2252.153 of the Texas Government Code.
- 25.2 If employing ten (10) or more full-time employees and this Agreement has a value of \$100,000.00 or more, Consultant does not boycott Israel and is authorized to agree in such contracts not to boycott Israel during the term of such contracts. "Boycott Israel" has the meaning provided in section 808.001 of the Texas Government Code.
- 25.3 If employing ten (10) or more full-time employees and this Agreement has a value of \$100,000.00 or more, Consultant does not boycott energy companies and is authorized to agree in such contracts not to boycott energy companies during the term of such contracts. "Boycott energy company" has the meaning provided in section 809.001 of the Texas Government Code.
- 25.4 If employing ten (10) or more full-time employees and this Agreement has a value of \$100,000.00 or more, Consultant does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association and is authorized to agree in such contracts not to discriminate against a firearm entity or firearm trade association during the term of such contracts. "Discriminate against a firearm entity or firearm trade association" has the meaning provided in section 2274.001(3) of the Texas Government Code. "Firearm entity" and "firearm trade association" have the meanings provided in section 2274.001(6) and (7) of the Texas Government Code.

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.

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 | MCDONOUGH ENGINEERING CORPORATION |
|--|---|
| County Judge KP George KP George, County Judge | Ranney Myonousts Authorized Agent – Signature |
| 11-9-2021 Date | RANNEY MONOUGH Authorized Agent - Printed Name |
| | _ |
| ATTEST: | Pres. |
| Jama Richard | 10/25/2021 |
| Laura Richard, County Clerk | Date |
| APPROVED: | |
| J. Stacy Slawinski, P.E., County Engineer | |
| / | |

AUDITOR'S CERTIFICATE

I hereby certify that funds are available in the amount of \$475,327.00 to accomplish and pay the obligation of Fort Bend County under this contract.

Robert Ed Sturdivant, County Auditor

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EXHIBIT A



EXHIBIT "A" SCOPE OF SERVICES

August 25, 2021 (Revised 10/1/2021)

LJA Engineering, Inc. Robert T. McBride, P.E. 3600 W Sam Houston Parkway S Suite 600 Houston, TX 77042

RE: Proposal for Professional Engineering Services

Bullhead Slough Improvements at US 90A and SH 99

Precinct 4

Fort Bend County FBC Project No. 20410 MEC Project No. PEND

Dear Mr. McBride,

Please accept this proposal letter to furnish engineering services for the proposed improvements to the US 90A and SH 99 intersection in Precinct 4 of Fort Bend County to aid in preventing flooding from future overflows from Bullhead Bayou.

PROFESSIONAL SERVICE TASKS

| TOTAL PROFESSIONAL SERVICES BUDGET | \$475,327.00 |
|---|--------------|
| ENVIRONMENTAL SERVICES SUBTOTAL | \$8,250.00 |
| GEOTECHNICAL SERVICES SUBTOTAL | \$87,128.00 |
| SURVEYING SUBTOTAL | \$40,544.00 |
| PHASE 3 – BID AND CONSTRUCTION PHASE SUBTOTAL | \$40,000.00 |
| PHASE 2 – FINAL ENGINEERING DESIGN SUBTOTAL | \$177,785.00 |
| PHASE 1 – PRELIMINARY ENGINEERING DESIGN SUBTOTAL | \$121,620.00 |

Please see the manpower Level of Effort Estimate enclosed herein for a detailed breakdown of professional service fees.

Proposal for Professional Engineering Services
Bullhead Slough Improvements at US 90A and SH 99
Precinct 4
Fort Bend County
MEC Project No. PEND
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PROJECT BACKGROUND

The existing depressed intersection of US 90A and SH 99 experiences flooding during overflow events from Bullhead Bayou. At the peak of flooding for the intersection from Hurricane Harvey, over 14-ft of water inundated the intersection. The Bullhead Bayou Feasibility Study prepared by AECOM, dated June 2019, provided a high-level feasibility study of potential improvements that would prevent future overflows from flooding the depressed intersection. The study recommended a series of four earthen embankments along the eastern and western sides of SH 99 between US 90A and Bullhead Bayou.

The purpose of this project is to conduct Phase 1 Preliminary Engineering Design which will analyze the findings from the AECOM Feasibility Study and provide recommendations for the Phase 2 Final Engineering Design. Phase 2 will consist of preparing construction plans and bid documents.

Based on the proposed design shown in the AECOM Feasibility Study, land acquisition will be required west of SH 99 and for the area bound by SH 99, FM 1464, and Bullhead Slough for the proposed berms in these locations. Maintenance and access easements may be required for the berms, to be evaluated during the Phase 1 Preliminary Engineering Design.

The project is located in the 100-year floodplain Zone AE based on the current published FEMA map 48157C0260L effective 4/2/2014. The FEMA map also shows a portion of the intersection within Zone X Area with Reduced Flood Risk Due to Levee for the Fort Bend County Levee Improvement District #7 481594.

PROPOSED SCOPE

McDonough Engineering Corporation's (MEC) scope for the intersection improvements include the Phase 1 preliminary design phase and Phase 2 final engineering design phase services to develop the project PS&E package for the construction of improvements to the intersection of US 90A and SH 99 to aid in preventing flooding from future overflows from Bullhead Bayou.

As discussed in the scoping meeting with LJA, berms shall be designed to meet criteria required for future levee certification, based on requirements by Fort Bend County Drainage Criteria Manual, United States Army Corps of Engineers (USACE), and the Federal Emergency Management Agency (FEMA). Per scoping discussions, levee certification of berms is not included in this proposal.

The AECOM Feasibility Study provides two alternatives for proposed Berm 2 on the east side of SH99: Alternative A, which follows TxDOT ROW along SH 99; and Alternative B, which follows Bullhead Bayou and maximizes the amount of protect land within the levee. Please see Exhibits 4 Sheets 1 and 2 from the AECOM study attached for reference. Per scoping discussions, Fort Bend County will advise on their preferred alternative for MEC to proceed with design. This proposal provides engineering services for either option.

MEC will incorporate the Fort Bend County Drainage District requirements into preparation of the PS&E package.

The geotechnical report will be prepared in accordance with the current Fort Bend County Engineering Department Engineering Design Manual May 2021 Draft.

An Environmental Phase 1 Site Assessment is included in this proposal. No other environmental services are included with this proposal.

No traffic signal design services are included as part of this proposal.

Proposal for Professional Engineering Services
Bullhead Slough Improvements at US 90A and SH 99
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The AECOM Feasibility Study Exhibits 1-6 state that the existing FM 1464 roadway at the location the proposed berms tie-in may require an existing 1-2 feet of elevation added to meet minimum elevation of 80.0-ft according to LIDAR topography. The cost of roadway improvements to achieve this elevation was not shown in the construction cost estimate included in the AECOM Feasibility Study. This proposal does not include roadway improvements to raise any existing roadway. Elevations will be verified with topographic survey, and the result will be discussed with LJA and FBC. If requested by FBC, a scope amendment can be prepared to address any required roadway improvements.

Stormwater pump station design is not included in this proposal.

A project design schedule has been prepared and is included as Exhibit B.

BASIC SERVICES

Basic services will generally follow the design process outlined in the Fort Bend County Engineering Department Engineering Design Manual May 2021 Draft.

Phase 1 - Preliminary Design Phase

MEC will prepare a study report documenting the project scope, findings and recommendations for the final design phase that will include a plan view schematic of recommended improvements, drainage impact analysis, ROW acquisition needs, potential utility conflicts, preliminary construction cost estimate, Environmental Phase 1 Site Assessment, and geotechnical report. MEC will attend progress meetings with LJA and prepare a roll plot plan view of the proposed improvements.

MEC will obtain GIS, LiDAR, and any available field survey data as necessary to define existing conditions. Record drawings of adjacent improvements will be obtained, if available.

<u>Drainage</u>

The drainage scope for the Phase 1 preliminary design shall consist of the following items:

- Assess and compare AECOM Feasibility Study and FBCDD Oyster Creek Watershed HEC-RAS models. A recommendation will be made for appropriate HEC-RAS model to use for Drainage Impact Analysis.
- 2. The hydrology will be revised as necessary for Atlas 14 rainfall event.
- 3. Prepare a revised existing conditions HEC-RAS model to incorporate detailed field survey data and other details as necessary. The revised existing conditions HEC-RAS model will be used as the baseline condition to compare proposed conditions models against.
- 4. Prepare proposed conditions HEC-RAS model, incorporating proposed flood protection berm. It is assumed the minimum top of berm will be set to meet minimum Fort Bend County levee freeboard requirements. This model will be used to determine potential hydraulic impacts from the proposed flood protection berm.
- 5. Prepare HEC-RAS model including drainage improvements required to mitigate the hydraulic impacts of the proposed berm. This model will be used to demonstrate that the project will cause "no adverse impact" to existing hydraulic conditions of Bullhead Bayou. Potential improvements

Proposal for Professional Engineering Services
Bullhead Slough Improvements at US 90A and SH 99
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may include channel conveyance improvements, mitigation storage, or other improvements as determined by the study. The proposed improvements will be coordinated with LJA. This proposal anticipates up to two rounds of geometric revisions prior to submittal of the Drainage Impact Analysis report.

- Prepare a technical Drainage Impact Analysis (DIA) report to be included with the Preliminary Engineering Report (PER) with exhibits documenting the analysis for submittal to regulatory agencies. It is anticipated that the DIA report will be reviewed by LJA, Fort Bend County Engineering, FBCDD, and TxDOT.
- 7. Address comments from regulatory agency review of the draft DIA report and prepare a final sealed DIA report.

Floodplain Mitigation

Per meeting minutes included with the AECOM Feasibility Study for a meeting between FBC and AECOM on 3/19/2019, since this area is not in a regulatory conveyance zone the project will not be required to mitigate impacts to the floodplain. As such, no floodplain mitigation calculations are included with this proposal.

Utilities

Research and obtain record documents for all known existing utilities within the public ROW and project footprint. MEC will prepare a utility conflict table and update it during the final design phase as needed. MEC will submit milestone-level drawings to the applicable utility companies for their review. It is understood that the county and/or the project management consultant will contact and coordinate all utility adjustments.

Surveying

The following surveying services are included in this proposal and further described in the attached proposal from Tejas Surveying:

- Topographic Survey
- Right of Way Maps Survey
- Right-of-Way Acquisitions
 - o 1 parcel for additional ROW along the existing west ROW of SH 99
 - o 1 parcel for either Berm 2A or 2B
 - o 1 drainage easement for potential borrow area along Bullhead Bayou
- Maintenance Easements
 - o Up to 4 maintenance easements for Berm 1, Berm 2A or 2B, Berm 3, and Berm 4

Geotechnical

Provide a geotechnical report in accordance with the Fort Bend County Engineering Department Engineering Design Manual May 2021 Draft. Alternative A will require a total of twenty (20) soil borings at 25' for the proposed berms. Alternative B will require a total of seventeen (17) soil borings at 25' for the proposed berms. The geotechnical report will include a description of subsurface conditions, groundwater information, boring logs, slope stability analysis, and recommendations for erosion protection of the proposed berm slopes. See attached proposal by Associated Testing Laboratories for additional details.

Proposal for Professional Engineering Services
Bullhead Slough Improvements at US 90A and SH 99
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Phase 2 – Final Engineering Design

MEC will proceed with completion of the PS&E for 70%, 95%, and 100% submittals to LJA. MEC will address comments presented in the Preliminary Design Phase review meeting, and address and/or provide responses to 70% and 95% comments.

Per the Fort Bend County Engineering Department Engineering Design Manual Aug 2020 Draft, 70% and 95% submittals shall include cover sheet, typical and non-standard cross-sections, overall project layout, survey control map, drainage area map with hydraulic calculations, plan and profile sheets, standard traffic control details, storm water pollution prevention plans, cross sections at 100' intervals, specification table of contents, and bid form with estimated unit and total costs. Three (3) copies of the 70% submittal will be submitted for County review in 11"x17" sheets along with a PDF of the drawings, cross sections at 100' intervals, specifications and estimate.

Additionally, the 95% submittal shall also include general notes sheet, signage and pavement marking plans, standard construction details, project manual, and responses to 70% comments. The 95% physical submittal will be the same as for the 70% submittal.

The 100% 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 LJA.

MEC will provide monthly progress reports.

Please note that the Phase 2 Final Engineering Design scope and fee prepared and included with this proposal assumes no design or scope deviations from the recommendations provided in the Bullhead Bayou Feasibility Study prepared by AECOM dated June 2019. As stated in the report, the feasibility study was intended to provide a high-level analysis and due to the complexity of the proposed improvements, many assumptions were made based on engineering judgement, coordination with Fort Bend County, and the best information readily available at the time. Furthermore, the study states that any potential improvements recommended with the study are preliminary assessments that require further detailed evaluation. The Phase 1 Preliminary Engineering Design to be completed by MEC will provide further detailed evaluation, which may result in changes to the design and scope of the recommended improvements. Based on the extent of these potential changes, a change of scope and fee for MEC's contract may be required, at which time MEC can prepare and submit a scope amendment for these services.

Utilities

MEC will identify all known existing utilities on the plan and profiles. MEC will coordinate with LJA's utility coordinator for the project and identify conflicts between the proposed improvements and the existing utilities. MEC to submit each milestone submittal to utility companies that are identified to be in conflict.

No water or sewer relocation or adjustment plans are included as part of this proposal.

<u>Drainage</u>

MEC will meet with and incorporate the Fort Bend County Drainage District requirements into preparation of the PS&E package. The drainage analysis will follow the effective Fort Bend County Interim Atlas 14 Design Criteria Manual per Fort Bend County Drainage District.

The project is located in the 100-year floodplain Zone AE based on the current published FEMA map 48157C0260L effective 4/2/2014. The FEMA map also shows a portion of the intersection within Zone X Area with Reduced Flood Risk Due to Levee for the Fort Bend County Levee Improvement District #7

Proposal for Professional Engineering Services
Bullhead Slough Improvements at US 90A and SH 99
Precinct 4
Fort Bend County
MEC Project No. PEND
Page 6 of 6

481594. A FEMA submittal for the project is not included in this proposal. Providing or obtaining a "no impact letter" is not part of this proposal.

Structural

The AECOM Feasibility Study recommends modifying an existing storm sewer outfall to add flap gates to prevent backflow from Bullhead Bayou. The existing outflow structure appears to consists of two 7-ft by 3-ft concrete box culverts and an approximately 30-inch RCP pipe. It is anticipated that modifying this outfall structure will require structural details to be included in the plan set. Additionally, the AECOM Feasibility Study proposes check valves on up to three (3) proposed storm sewer culverts which drain through the proposed berm. It is anticipated that the storm sewer culvert outfalls may require non-standard structural details to accommodate check valves or duckbill valves to be included in the plan set.

Union Pacific Railroad

It is anticipated that the proposed Berm 4 and a portion of Berm 1 will require work within Union Pacific Railroad (UPRR) ROW. The proposed berms within UPRR ROW have the potential to impact existing swales within UPRR ROW, which is to be evaluated after survey is collected. Work within UPRR ROW will require review and approval of UPRR. MEC will submit milestone drawings to UPRR and address comments to obtain an agreement for the proposed work.

Traffic

It is anticipated that the proposed project will be constructable with minimal impacts to traffic, and that any lane closures required for work area will be accomplished with standard traffic details.

Bid and Construction Phase

Assist LJA with the preparation of the bid phase documents, attend pre-bid meeting, address bidder questions, and prepare addendums.

MEC will attend the preconstruction meeting, review contractor submittal and respond to RFIs. Fields visits and progress meetings will not be attended unless requested by Fort Bend County. MEC will attend a substantial completion walkthrough meeting, prepare record documents based on the contractor redlines and provide a hard copy to Fort Bend County. MEC will prepare and submit a PDF of record drawings with a KMZ file of the project.

Billing

The preliminary and final design efforts will be a lump sum fee to be billed monthly on a percent complete basis by tasks. Invoicing will be per direction provided the Fort Bend County Engineering Department Engineering Design Manual May 2021 Draft.

Cost Summary

A level of effort estimate is enclosed based on the scope of work described herein. The Lump Sum Fee amount is \$435,327.00 and the Hourly Not-To-Exceed Fee amount is \$40,000.00 for a total of \$475,327.00 for the project.

McDonough Engineering Corportation

<u>Total</u>

10/1/2021

| | | | | | | | | Hours per | Number of | |
|---|-------------------|-----------------|-----------------|-----------------|-------------|-----------------|-----------------|-------------|---------------|----------------|
| | <u>Proj. Man.</u> | <u>Engineer</u> | Senior Designer | <u>Sr. CADD</u> | <u>CADD</u> | <u>Clerical</u> | <u>Fee</u> | <u>Task</u> | <u>sheets</u> | Hour per Sheet |
| Phase I - Preliminary Design Phase | | | | | | | | | | |
| Coordination and review deliverables by subconsultants (Geotech, Environmental, Surveyor) | 12 | 24 | 0 | 0 | 4 | 12 | \$ 8,500.00 | 52 | N/A | N/A |
| Coordination with Agencies and Entities (City of Rosenberg, MUD 148) | 6 | 6 | 4 | 0 | 0 | 0 | \$ 3,120.00 | 16 | N/A | N/A |
| Coordination with and Attend 1 Meetings with FBCDD | 2 | 2 | 0 | 0 | 0 | 0 | \$ 840.00 | 4 | N/A | N/A |
| Coordination with and Attend 2 Meetings with UPRR | 12 | 10 | 0 | 0 | 0 | 0 | \$ 4,680.00 | 22 | N/A | N/A |
| Coordination with and Attend 1 Meetings with LID 7 | 4 | 2 | 0 | 0 | 0 | 0 | \$ 1,320.00 | 6 | N/A | N/A |
| Attend 2 Meetings with TxDOT | 4 | 4 | 0 | 0 | 0 | 0 | \$ 1,680.00 | 8 | N/A | N/A |
| Attend Progress Meetings with PM (Bi-weekly for 3 months) | 6 | 6 | 0 | 0 | 0 | 0 | \$ 2,520.00 | 12 | N/A | N/A |
| Site Visit and Survey Topo Site Walk Review | 4 | 4 | 4 | 0 | 0 | 0 | \$ 2,280.00 | 12 | N/A | N/A |
| Research Documentation for Existing Utilities within Project Limits | 4 | 6 | 18 | 4 | 16 | 0 | \$ 6,840.00 | 48 | N/A | N/A |
| Data Collection - GIS Basemap, Hydraulic Models | 1 | 3 | 4 | 0 | 0 | 0 | \$ 1,380.00 | 8 | N/A | N/A |
| Attend Utility Coordination Meetings (2 meetings budgeted) | 2 | 2 | 0 | 0 | 0 | 0 | \$ 840.00 | 4 | N/A | N/A |
| H+H Analysis | | | | | | | | | | |
| Assess AECOM (Feasibility Study Model) vs. FBCDD HEC-RAS Model (Oyster Cr Watershed) | 1 | 4 | 4 | 0 | 0 | 0 | \$ 1,560.00 | 9 | N/A | N/A |
| Revise Bullhead Bayou/Oyster Creek to Atlas 14 Rainfall | 0 | 1 | 4 | 0 | 0 | 0 | \$ 780.00 | 5 | N/A | N/A |
| Create Revised Existing Model to reflect detailed survey data | 1 | 4 | 0 | 20 | 0 | 0 | \$ 3,460.00 | 25 | N/A | N/A |
| Adjust Proposed Berm for req'd Ft Bend County Levee Freeboard | 1 | 4 | 2 | 20 | 0 | 0 | \$ 3,760.00 | 27 | N/A | N/A |
| Proposed Berm Model w/ Mitigation (No Impact Model) | 4 | 12 | 24 | 30 | 0 | 0 | \$ 10,470.00 | 70 | N/A | N/A |
| Review H+H Results w/ PM Prior to Submitting PER and Address Comments (incl. 2 revisions) | 4 | 16 | 28 | 32 | 0 | 0 | \$ 12,040.00 | 80 | N/A | N/A |
| Prepare 30% plans (Typical sections, plan and profile- proposed plan view only, 1"=40' scale 11x17) | 8 | 18 | 32 | 35 | 85 | 0 | \$ 22,835.00 | 178 | 11 | 16.2 |
| Prepare Preliminary Engineering Report with Drainage Impact Analysis | 4 | 18 | 28 | 14 | 4 | 8 | \$ 11,150.00 | 76 | N/A | N/A |
| QA/QC | 3 | 8 | 15 | 2 | 6 | 0 | \$ 5,260.00 | 34 | N/A | N/A |
| Attend a Preliminary Design Phase Meeting to Review PER | 3 | 3 | 0 | 0 | 0 | 0 | \$ 1,260.00 | 6 | N/A | N/A |
| Address Comments on PER | 2 | 6 | 20 | 4 | 16 | 6 | \$ 7,110.00 | 54 | N/A | N/A |
| Final Submittal of PER | 2 | 2 | 6 | 1 | 4 | 2 | \$ 2,415.00 | 17 | N/A | N/A |
| Construction Cost Estimate | 2 | 8 | 20 | 0 | 6 | 0 | \$ 5,520.00 | 36 | N/A | N/A |
| | | | | | | | | | | |
| Phase II - Final Design Phase | | | | | | | | | | |
| Project Administration | 75 | 12 | 4 | 0 | 0 | 15 | \$ 21,885.00 | 106 | N/A | N/A |
| Attend Progress Meetings (Bi-weekly for 6 months) | 24 | 24 | 12 | 0 | 0 | 0 | \$ 11,880.00 | 60 | N/A | N/A |
| UPRR On-site diagnostic meeting | 4 | 4 | 0 | 0 | 0 | 0 | \$ 1,680.00 | 8 | N/A | N/A |
| UPRR Agreement | 6 | 2 | 0 | 0 | 0 | 0 | \$ 1,800.00 | 8 | N/A | N/A |
| QA/QC | | | | | | | | | | |
| Internal QA/QC (3 submittals) | 12 | 24 | 24 | 9 | 12 | 0 | \$ 13,125.00 | 81 | N/A | N/A |
| Construction Documents | | | | | | | | | | |
| Plans | | | | | | | | | | + |
| Cover sheet | 0.5 | 1 | 1 | 0 | 2 | 0 | \$ 650.00 | 4.5 | | 1 4.5 |
| Index of Sheets | 1 | 1 | 1 | 2 | 2 | 0 | \$ 1,020.00 | 7 | | 1 7.0 |
| General Notes | 1 | 1 | 1 | 2 | 2 | 0 | \$ 1,020.00 | 7 | | 2 3.5 |
| Legend | 1 | 1 | 1 | 2 | 2 | 0 | \$ 1,020.00 | 7 | | 1 7.0 |
| Survey Control Sheets | 1 | 0 | 1 | 0 | 2 | 0 | \$ 590.00 | 4 | | 4 1.0 |
| Overall Project Layout | 1 | 3 | 1 | 1 | 6 | 0 | \$ 1,655.00 | 12 | | 1 12.0 |
| Proposed Typical Sections | 3 | 8 | 1 | 8 | 14 | 0 | \$ 4,710.00 | 34 | | 1 34.0 |
| Plan and Profile (1"=40' scale 11x17) | 16 | 22 | 32 | 54 | 130 | 0 | \$ 32,350.00 | 254 | 1 | .1 23.: |
| Overall Drainage Area Map | 1 | 2 | 4 | 0 | 4 | 0 | \$ 1,600.00 | 11 | | 1 11.0 |

McDonough Engineering Corportation

| | | | | | | | | | | <u>Total</u> <u>Hours per</u> | Number of | |
|--|--------------|-------------------|------------------|---------------------|------------------------|------------------------|------------------|----------|------------------------|----------------------------------|---------------|----------------|
| | <u>Proj.</u> | Man. I | <u>Engineer</u> | Senior Designer | Sr. CADD | <u>CADD</u> | <u>Clerical</u> | | <u>Fee</u> | <u>Task</u> | <u>sheets</u> | Hour per Sheet |
| Drainage Area Map Sheets (1"=100' scale, double stacked, 11x17) | | 2 | 4 | 6 | 2 | 12 | 0 | \$ | 3,550.00 | 26 | 3 | 8.7 |
| Hydraulic Calculations | | 4 | 12 | 6 | 1 | 4 | 0 | \$ | 4,545.00 | 27 | 2 | 13.5 |
| Union Pacific Railroad Plan Sheets | | 2 | 8 | 12 | 2 | 18 | 0 | \$ | 5,770.00 | 42 | 2 | 21.0 |
| Details | | | | | | | | | | | | |
| Storm Sewer Construction Details | | 1 | 1 | 1 | 0 | 1 | 0 | \$ | 670.00 | 4 | 1 | 4.0 |
| Precast Concrete Storm Sewer Manhole Details | | 1 | 1 | 1 | 0 | 1 | 0 | \$ | 670.00 | 4 | 1 | 4.0 |
| Junction Box Manhole Detail | | 1 | 1 | 1 | 0 | 1 | 0 | \$ | 670.00 | 4 | 1 | 4.0 |
| Safety End Treatment for 12"-72" Dia. Pipe Culverts | | 1 | 1 | 1 | 0 | 1 | 0 | \$ | 670.00 | 4 | 1 | 4.0 |
| Traffic Control Standard Details | | 1 | 1 | 1 | 0 | 1 | 0 | \$ | 670.00 | 4 | 1 | 4.0 |
| Structural Details to Modify Exist 2-7'x3' RCB with Flap Gates | (| 6 | 20 | 32 | 8 | 32 | 0 | \$ | 14,040.00 | 98 | 2 | 49.0 |
| Structural Details for Culvert Outfalls w/ Check Valve or Duckbill Valves | | 8 | 26 | 32 | 10 | 40 | 0 | \$ | 16,650.00 | 116 | 3 | 38.7 |
| Storm Water Pollution Prevention Plans (1"=100' scale) | | 2 | 4 | 8 | 5 | 16 | 0 | \$ | 4,625.00 | 35 | 4 | 8.8 |
| Storm Water Pollution Prevention Plan Details | | 1 | 1 | 1 | 0 | 1 | 0 | \$ | 670.00 | 4 | 1 | 4.0 |
| Earthwork Table | | 4 | 6 | 12 | 8 | 19 | 0 | \$ | 6,740.00 | 49 | 2 | 24.5 |
| Cross Sections | | 4 | 9 | 16 | 18 | 38 | 0 | \$ | 11,030.00 | 85 | 20 | 4.3 |
| Construction Cost Estimate | | 4 | 8 | 20 | 2 | 12 | 0 | \$ | 6,850.00 | 46 | N/A | N/A |
| Project Manual (Bid form, specification TOC, special specs) | | 2 | 20 | 0 | 0 | 0 | 12 | \$ | 4,980.00 | 34 | N/A | N/A |
| | | | | | | | | | | | | |
| Phase III - Bid/Construction Phase | | | | | | | | | | | | |
| Estimated Total, Hourly Not-to-Exceed | | | | | | | | \$ | 40,000.00 | 0 | N/A | N/A |
| | | | | | | | | | | | | |
| Total Hours Phase I - Preliminary Design Phase Rate (\$/HR) | | 92 40 | 173 180 | 213 150 | 162 125 | 141 100 | 28 75 | | Hours Sheets | 809 11 | | |
| Phase I - Pre-Design Phase Subtotal (Lump Sum) | | 2,080.00 \$ 8% | 31,140.00 26% | \$ 31,950.00 26% | \$ 20,250.00 \$ 17% | \$ 14,100.00 \$ 12% | 2,100.00 1.7% | \$ | 121,620.00 | | | |
| Total Hours Phase II - Final Design Phase Rate (\$/HR) | 19 | 90.5 | 228 180 | 233 150 | 134 125 | 373 100 | 27 75 | | Hours Sheets | 1185.5 67 | | |
| Phase II - Design Phase Subtotal (Lump Sum) | | 5,720.00 \$ 6% | 41,040.00 23% | \$ 34,950.00 20% | \$ 16,750.00 \$ 9% | \$ 37,300.00 \$ 21% | 2,025.00 1.1% | \$ | 177,785.00 | | | |
| Phase III - Bid/Construction Phase Subtotal (Hourly, Not-To-Exceed) | | - | - | - | - | - | - | \$ | 40,000.00 | | | |
| Survey - Tejas Surveing Phase 1 - Deed Research/ROW, Survey Controls and Levels, Topo, Survey Control Maps Phase 2 - Parcel Sketches and Descriptions (3), Maintenance Easements (4), Railroad Agreement (1) | | | | | | | | \$ \$ | 26,444.00 14,100.00 | | | |
| Survey Services Subtotal (Lump Sum) | | | | | | | | \$ | 40,544.00 | | | |
| Geotechnical Report - Associated Testing Laboratories | | | | | | | | | | | | |
| Geotechnical Investigation for Option Berm 2B | | | | | | | | \$ | 82,265.00 | | | |
| ***Optional Additional for Option Berm 2A | | | | | | | | \$ | 4,863.00 | | | |
| Geotechnical Services Subtotal (Lump Sum) | | | | | | | | \$ | 87,128.00 | | | |

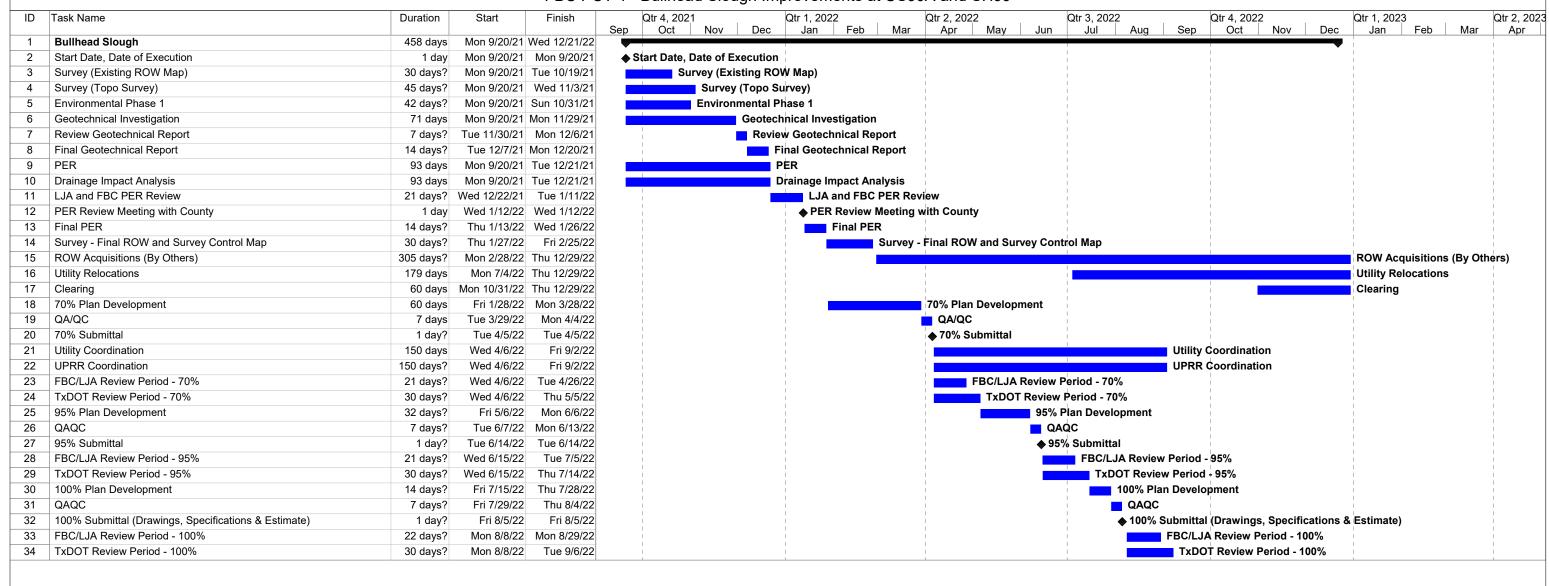
Bullhead Bayou - Flood Protection Berms at US 90A/SH 99 - PCT 4 Level of Effort Estimate

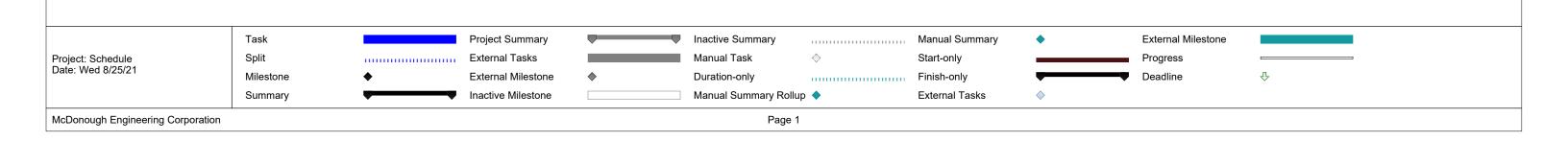
McDonough Engineering Corportation

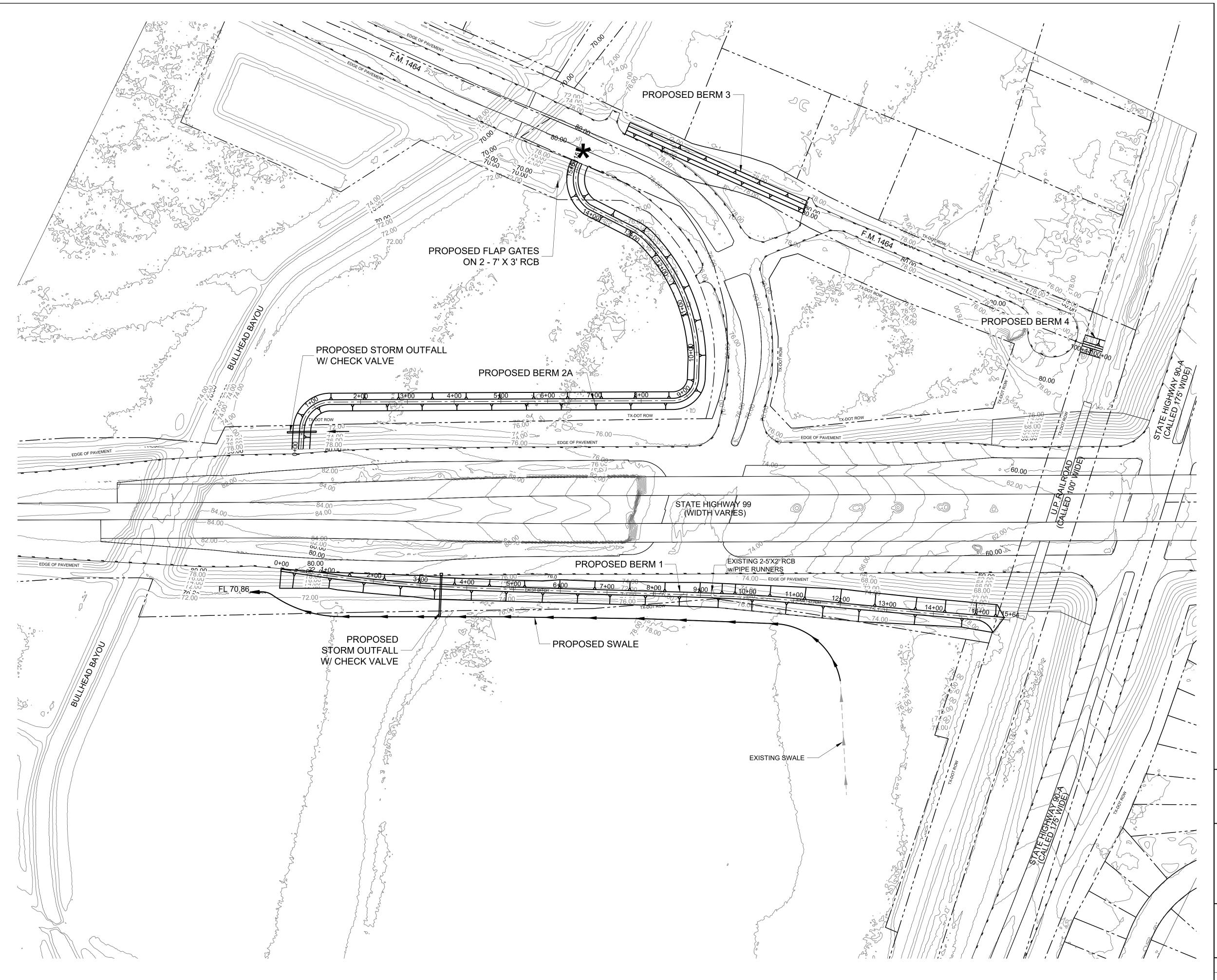
| | | | | | | | | | <u>Total</u> Hours per | Number of | : | |
|--|-------------------|-----------------|-----------------|----------|------|-----------------|----|------------|---------------------------|-----------|----------------|--|
| | <u>Proj. Man.</u> | Engineer | Senior Designer | Sr. CADD | CADD | <u>Clerical</u> | | <u>Fee</u> | Task | sheets | Hour per Sheet | |
| Phase 1 Environmental Site Assessment | | | | | | | \$ | 8,250.00 | | | | |
| Environmental Services Subtotal (Lump Sum) | | | | | | | \$ | 8,250.00 | | | | |
| Total Professional Services Budget | | | | | | | ¢ | 475 327 00 | | | | |

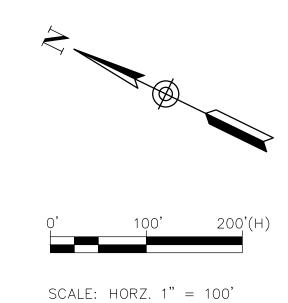
McDonough Engineering Corporation 5625 Schumacher Houston, TX 77057

Exhibit B - Anticipated Design Schedule FBC PCT 4 - Bullhead Slough Improvements at US90A and SH99



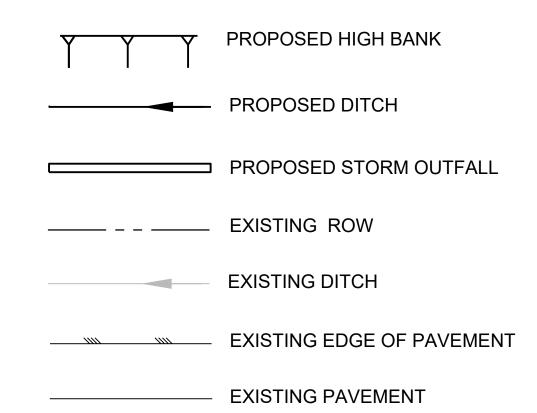






ROADWAY NEEDS 1-2 FEET OF ELEVATION ADDED TO MEET MINIMUM ELEVATION OF 80.0 ACCORDING TO LIDAR TOPOGRAPHY.

<u>LEGEND</u>





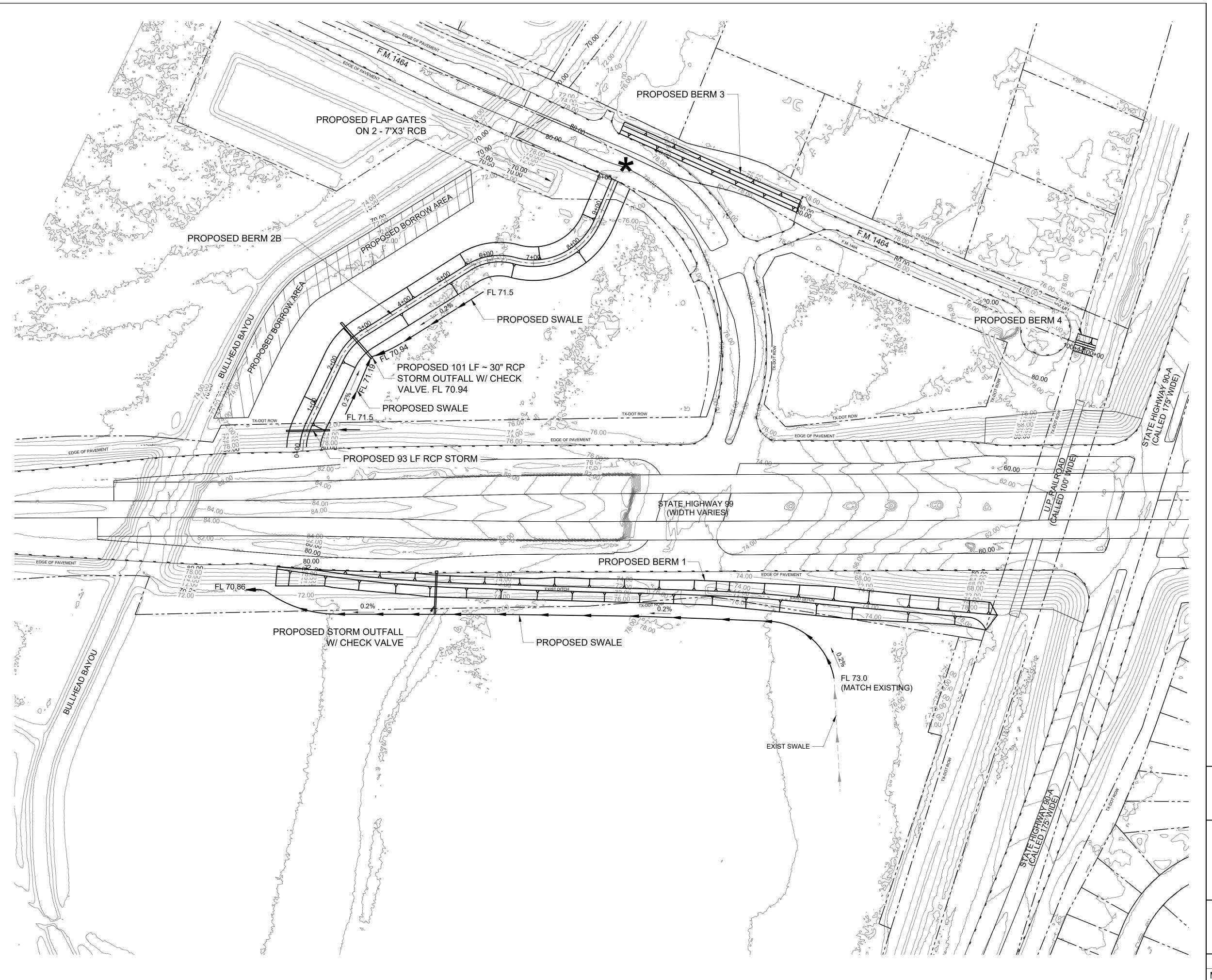
AECOM Technical Services, Inc. 19219 Katy Freeway, Suite 100 Houston, Texas 77094 www.aecom.com

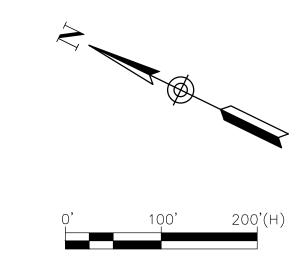


Fort Bend County
301 Jackson St, First Floor
Richmond, TX 77469
www.fortbendcountytx.gov

EXHIBIT 4 CONCEPTUAL SCHEMATIC ALTERNATE A OVERALL

| DATE | STATE | COUNTY | PROJECT NO. | EXHIBIT NO. |
|----------|-------|-----------|-------------|----------------|
| MAY 2019 | TEXAS | FORT BEND | 60590362 | 01 |



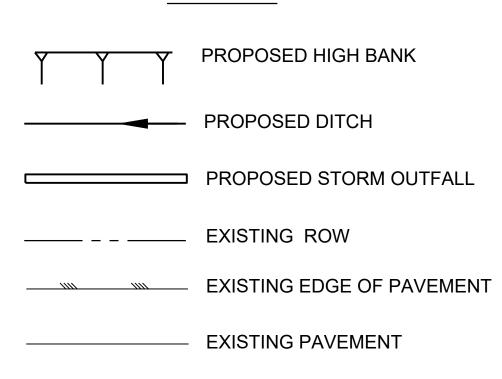


SCALE: HORZ. 1" = 100'



ROADWAY NEEDS 1-2 FEET OF ELEVATION ADDED TO MEET MINIMUM ELEVATION OF 80.0 ACCORDING TO LIDAR TOPOGRAPHY.

LEGEND





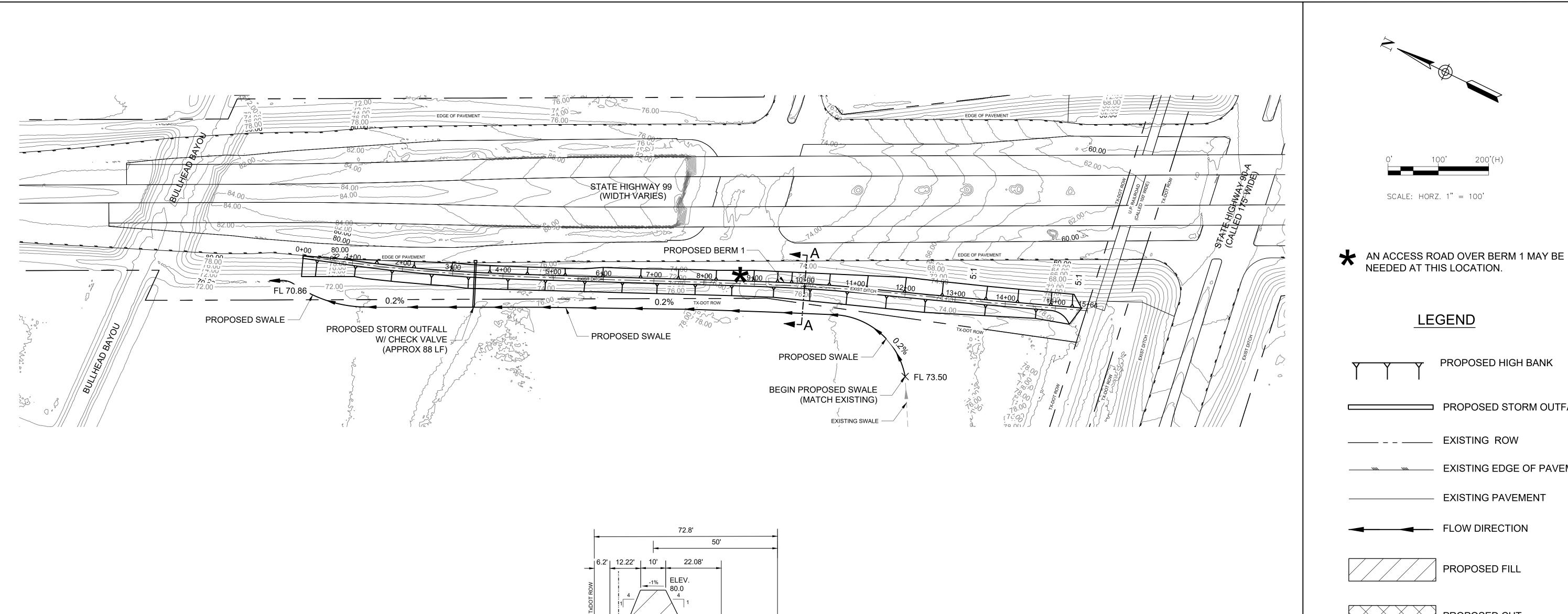
AECOM Technical Services, Inc. 19219 Katy Freeway, Suite 100 Houston, Texas 77094



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EXHIBIT 4 CONCEPTUAL SCHEMATIC ALTERNATE B OVERALL

| DATE | STATE | COUNTY | PROJECT NO. | EXHIBIT NO. |
|----------|-------|-----------|-------------|----------------|
| MAY 2019 | TEXAS | FORT BEND | 60590362 | 02 |



NATURAL GROUND

6.77'

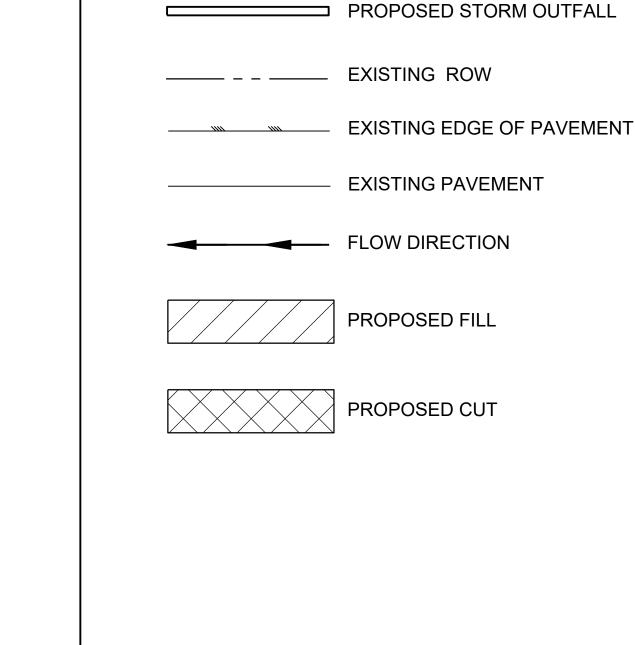
PROPOSED DITCH)

PROPOSED DITCH SLOPE 0.2% FL 73.1

ELEV. 77.0

ELEV. _77.0__

PROPOSED / BERM 1



SCALE: HORZ. 1" = 100

LEGEND

PROPOSED HIGH BANK





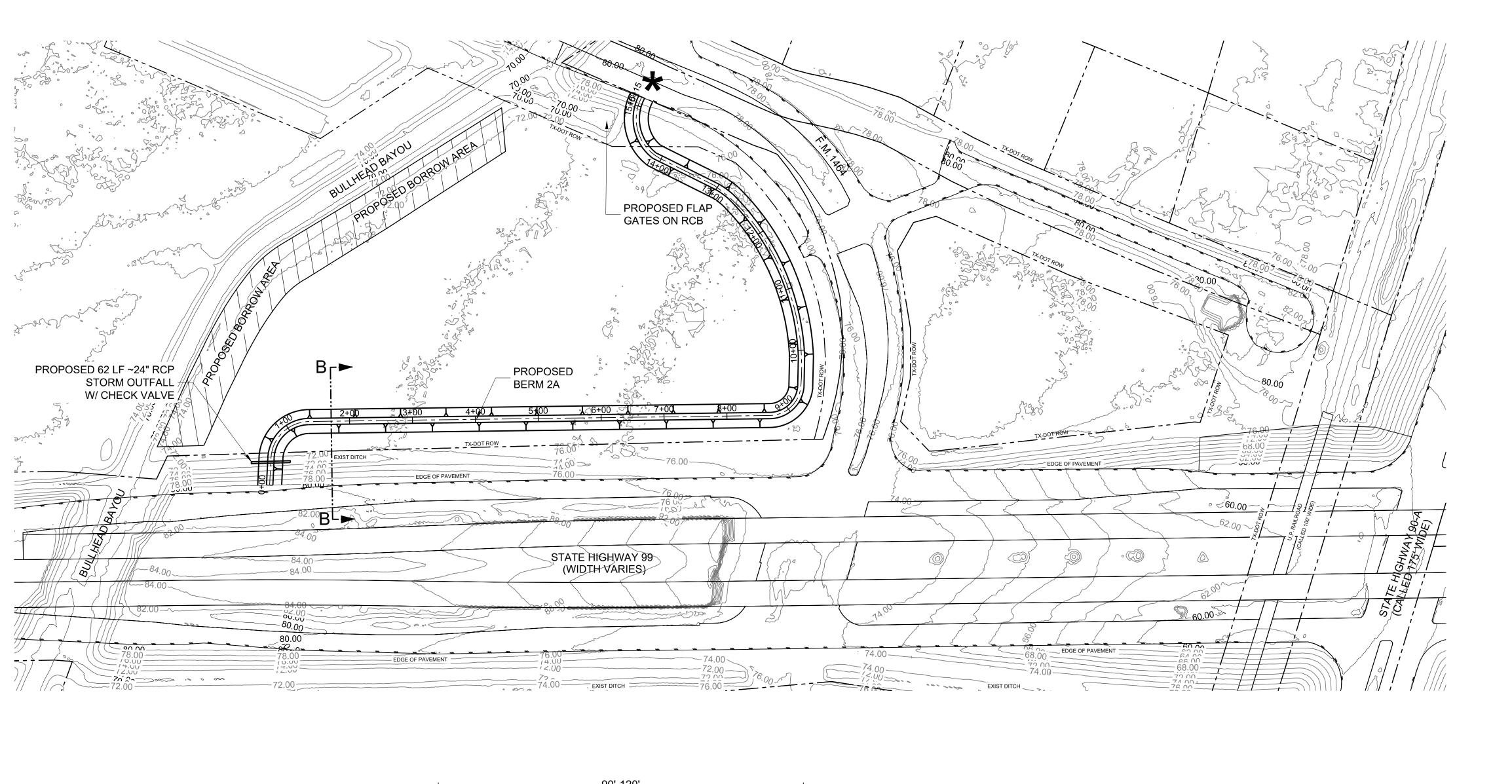
AECOM Technical Services, Inc. 19219 Katy Freeway, Suite 100 Houston, Texas 77094 www.aecom.com TBPE REG. NO. F-3580

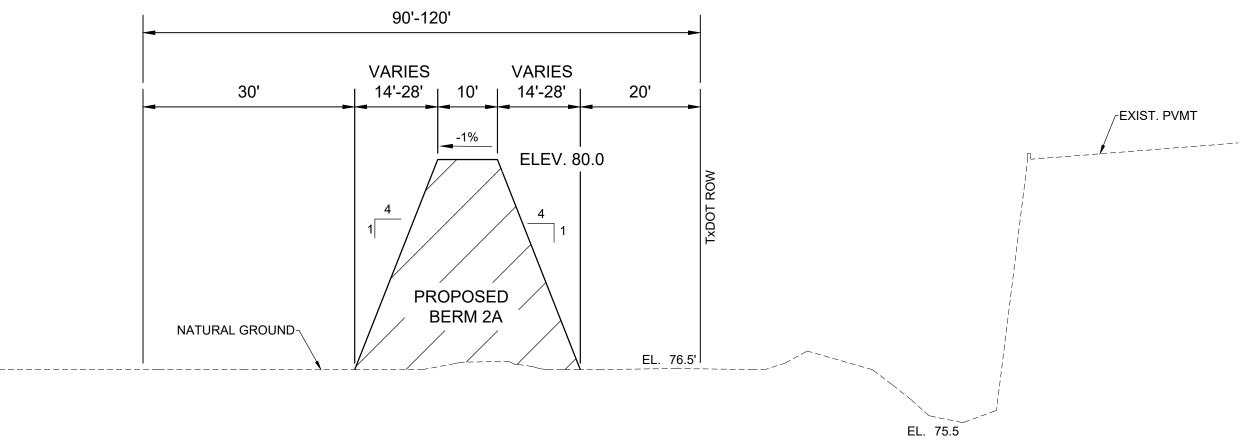


Fort Bend County 301 Jackson St, First Floor Richmond, TX 77469 www.fortbendcountytx.gov

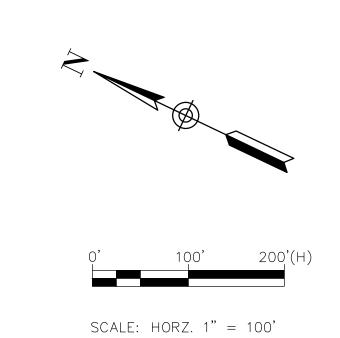
EXHIBIT 4 CONCEPTUAL SCHEMATIC PROPOSED BERM 1

EXHIBIT NO. STATE COUNTY PROJECT NO. MAY 2019 TEXAS FORT BEND 60590362 03



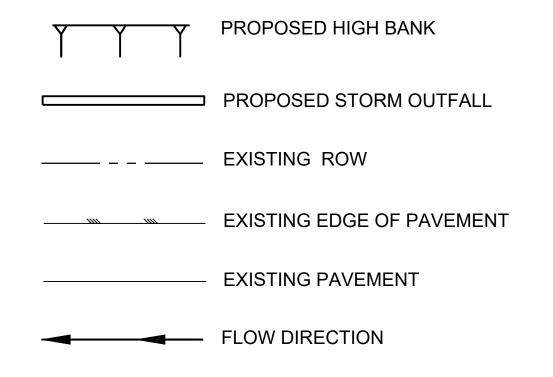


SECTION B-B N.T.S.



ROADWAY NEEDS 1-2 FEET OF ELEVATION ADDED TO MEET MINIMUM ELEVATION OF 80.0 ACCORDING TO LIDAR TOPOGRAPHY.

<u>LEGEND</u>





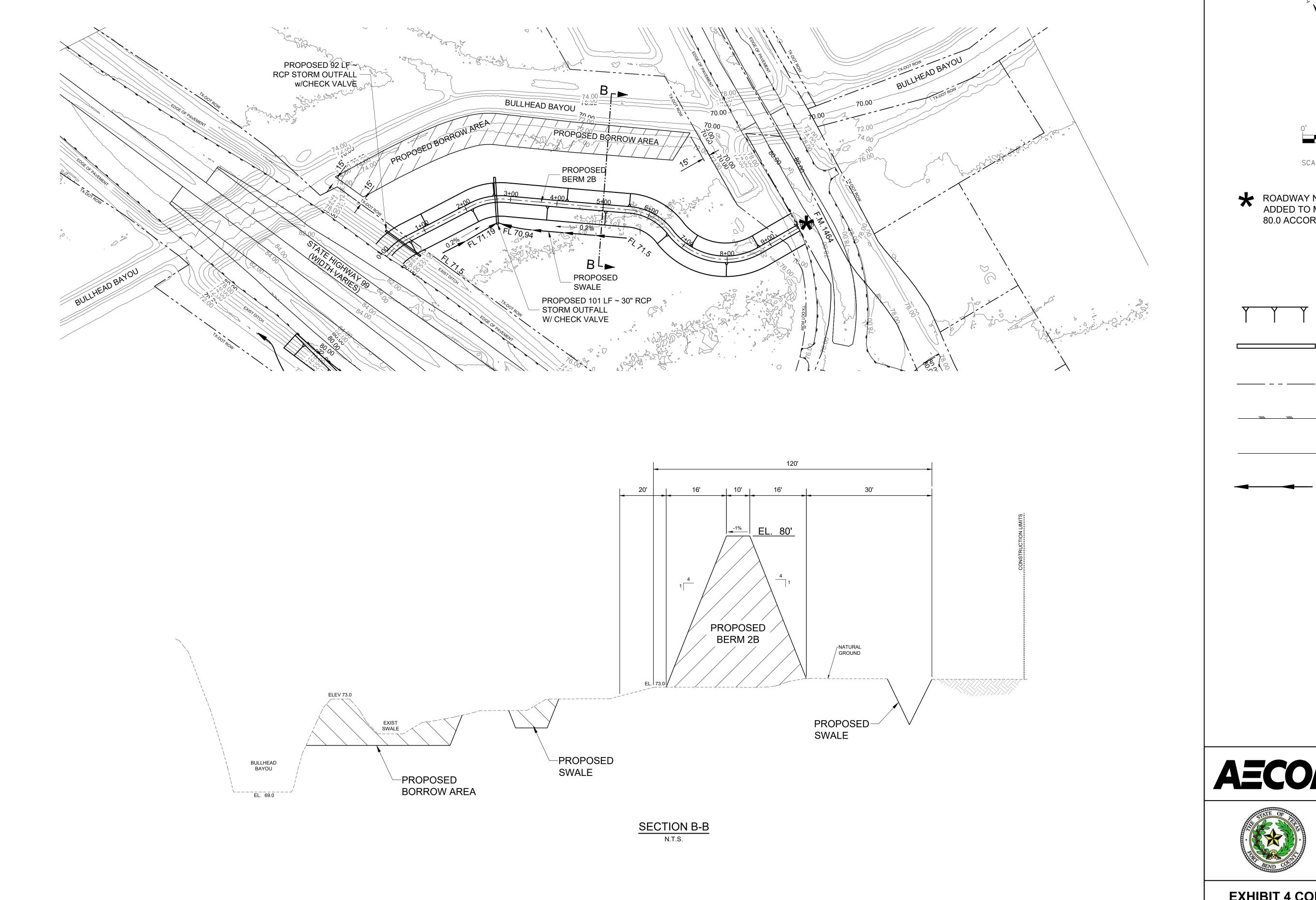
AECOM Technical Services, Inc. 19219 Katy Freeway, Suite 100 Houston, Texas 77094 www.aecom.com TBPE REG. NO. F-3580

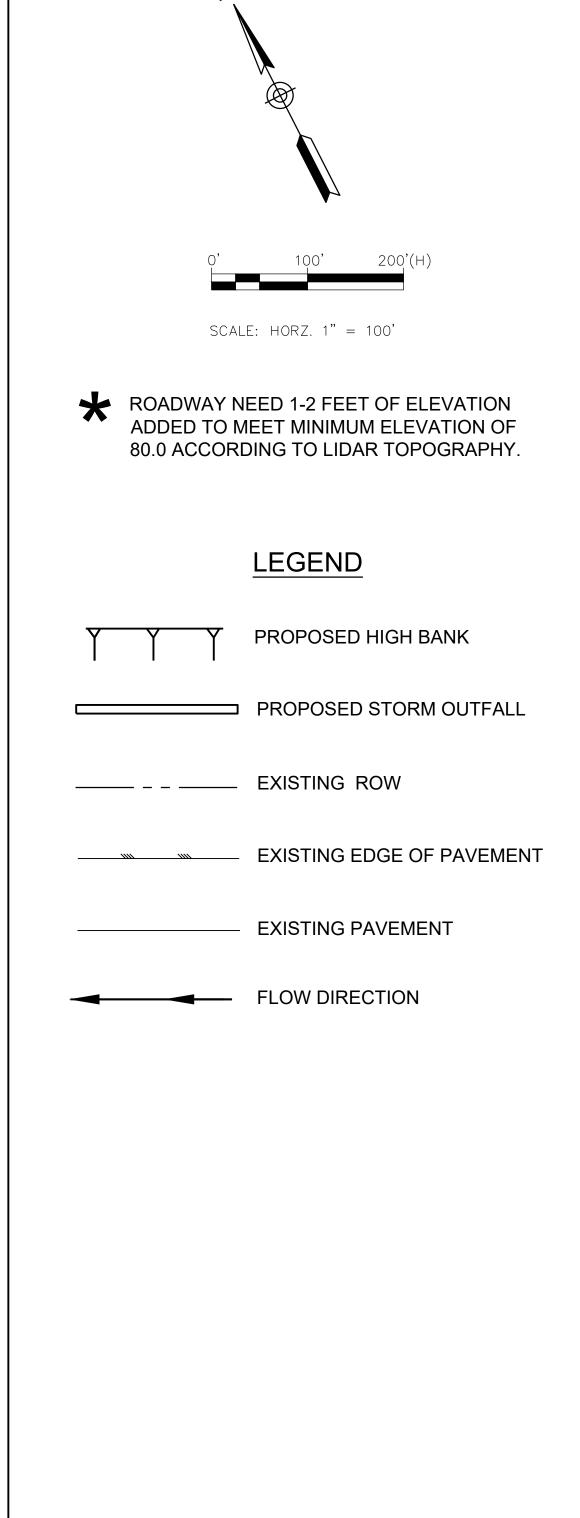


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EXHIBIT 4 CONCEPTUAL SCHEMATIC PROPOSED BERM 2A

| DATE | STATE | COUNTY | PROJECT NO. | EXHIBIT NO. |
|----------|-------|-----------|-------------|----------------|
| MAY 2019 | TEXAS | FORT BEND | 60590362 | 04 |





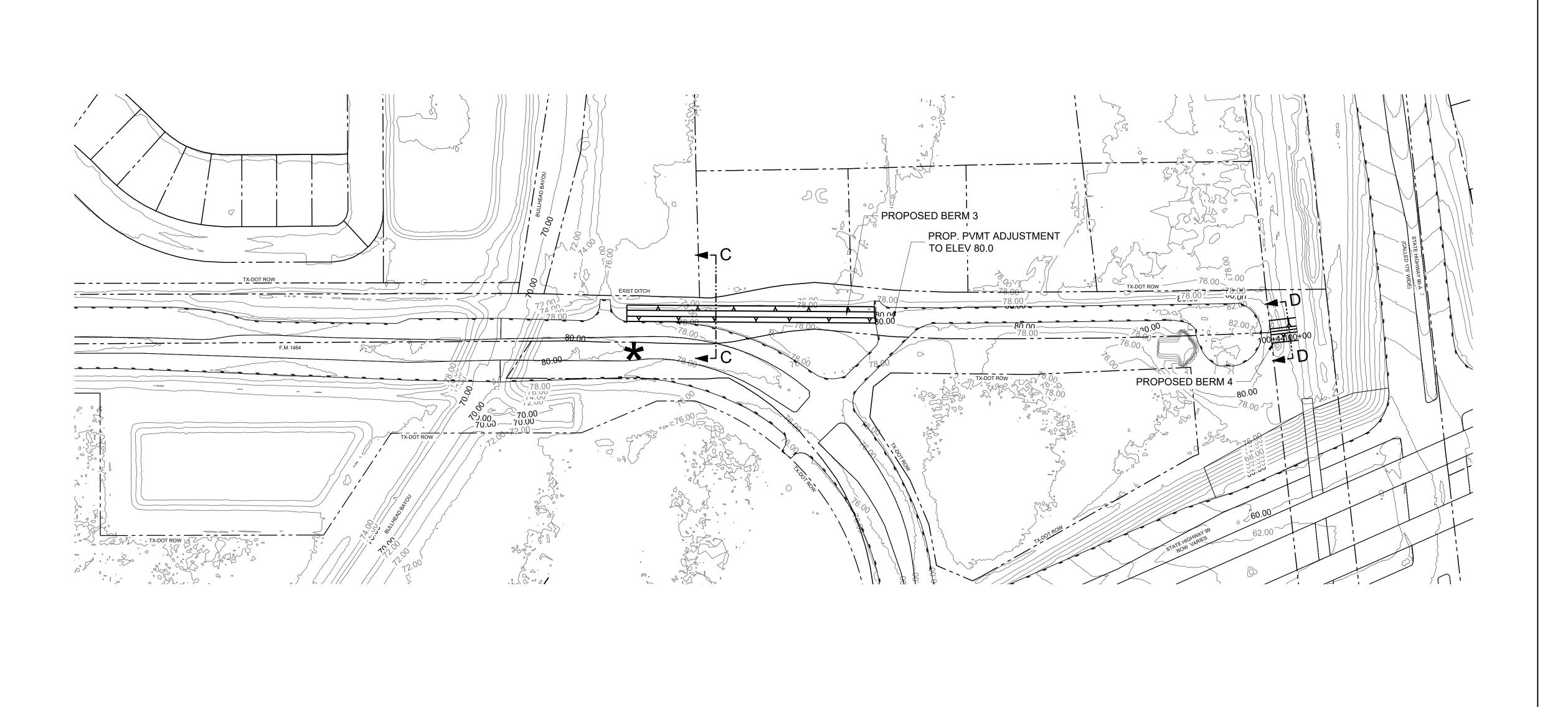


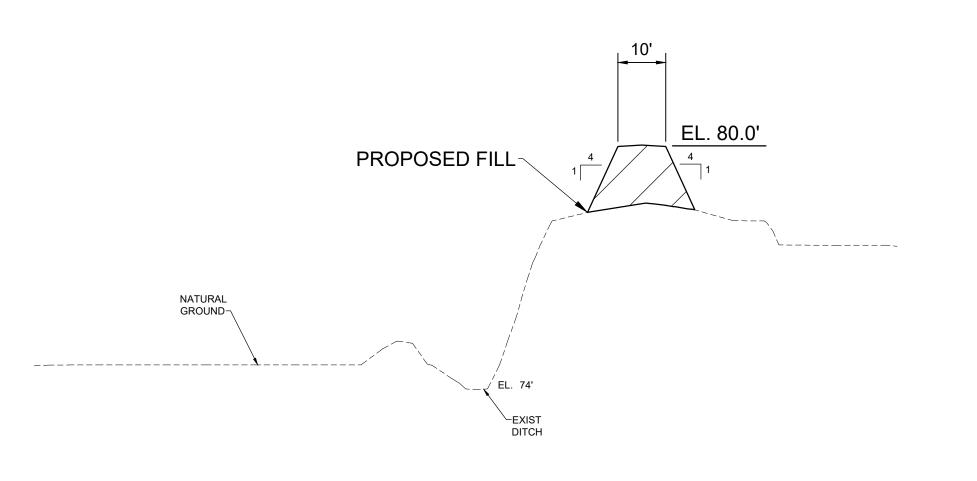
AECOM Technical Services, Inc. 19219 Katy Freeway, Suite 100 Houston, Texas 77094 www.aecom.com TBPE REG. NO. F-3580

Fort Bend County 301 Jackson St, First Floor Richmond, TX 77469 www.fortbendcountytx.gov

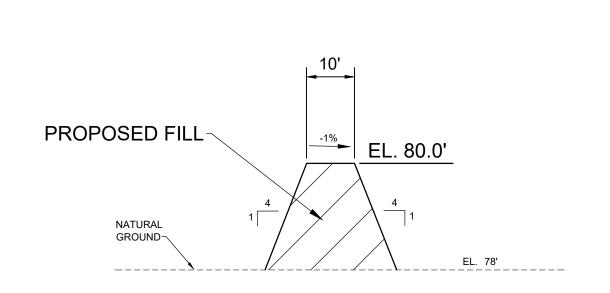
EXHIBIT 4 CONCEPTUAL SCHEMATIC PROPOSED BERM 2B

| DATE | STATE | COUNTY | PROJECT NO. | EXHIBIT NO. |
|----------|-------|-----------|-------------|----------------|
| MAY 2019 | TEXAS | FORT BEND | 60590362 | 05 |





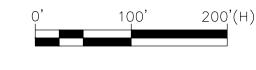




SECTION D-D

N.T.S.

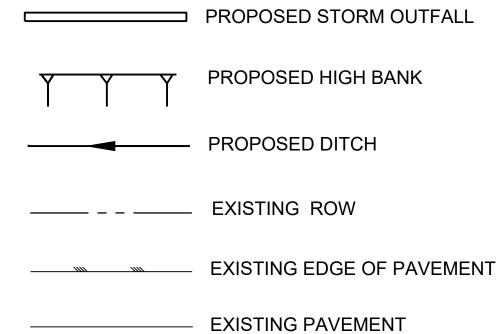




SCALE: HORZ. 1" = 100

ROADWAY NEED 1-2 FEET OF ELEVATION ADDED TO MEET MINIMUM ELEVATION OF 80.0 ACCORDING TO LIDAR TOPOGRAPHY.

LEGEND





AECOM Technical Services, Inc. 19219 Katy Freeway, Suite 100 Houston, Texas 77094 www.aecom.com



Fort Bend County
301 Jackson St, First Floor
Richmond, TX 77469
www.fortbendcountytx.gov

EXHIBIT 4 CONCEPTUAL SCHEMATICPROPOSED BERM 3 AND 4

 DATE
 STATE
 COUNTY
 PROJECT NO.
 EXHIBIT NO.

 MAY 2019
 TEXAS
 FORT BEND
 60590362
 06

TEJAS SURVEYING, INC.

Firm No. 10031300 1810 First Oaks St., Suite 220 Richmond, TX 77406-1666

August 25, 2021

Mr. Connor J. McBride, P.E. McDonough Engineering Corporation 5625 Schumacher Houston, TX 77057

Re: Fort Bend County Projects – Watershed Studies for SH 99 at Bullhead Slough

Dear Connor:

In connection with the watershed studies associated with SH 99 underpass at the UPRR crossing located between US 90A and Bullhead Slough in Sugar Land, being a Fort Bend County Project, and in accordance with the Fort Bend County August 2020 Engineering Design Manual, we hereby propose to provide the surveying services for this project's scope as identified in the AECOM Bullhead Bayou Feasibility Study, Exhibit 4 Conceptual Schematic Alternate A Overall and Alternate B Overall, and further itemized in the attached Exhibit A hereto, for an amount not to exceed FORTY THOUSAND FIVE HUNDRED FORTY-FOUR DOLLARS (\$40,544.00).

Note that the budget includes an amount of \$26,044 for the initial Phase I Surveying Services, and a provisional additional amount as Phase II Surveying Services based on per parcel unit costs, not to exceed \$14,100 for parcel maps and descriptions that may be needed after the design is completed, for the acquisition by others of right-of-way parcels and maintenance easements.

Please allow approximately 40 days for the collection of data and preparation of initial deliverables, once we have received notice to proceed. Payment for services rendered shall due and payable monthly, based on percentage of completion as invoiced for services rendered, within 10 days of receipt of payment from Fort Bend County for same. Tejas Surveying, Inc would like to be apprised of the billing to Fort Bend County when surveying expenses are included.

| Respectfully submitted: | |
|--------------------------|--|
| | |
| | |
| Randy S. McClendon, RPLS | |

Ph: 281 240-9099 Fax: 281 240-2791 Email: rsm@mrsurveyor.com

TEJAS SURVEYING, INC. JOB 61-2104 Estimate for Bullhead Slough Sections McDonough Engineering

| Task | Description | Spec | Length | Width | Acres | Unit Cost | Cost |
|----------|--|-----------------|--------|-------|-------|------------|----------|
| 1 | Deed Research/ROW Identification | current row | | | | \$500.00 | \$500 |
| - | Survey Controls and Levels | Establish 3 New | | | | \$1,000.00 | · · |
| - | Cross-Section Bullhead Slough | 100' sections | 1200 | 100 | 2.75 | | \$3,600 |
| | Bridges at SH 99 and FM 1464 - Limited to Deck & Low Chord | 36 points | 1200 | 100 | 2.73 | \$25.00 | \$900 |
| | Cross-Sections west side of SH 99 from BC | 100' sections | 1850 | 150 | 6.37 | \$2.00 | |
| | Cross-Section FM 1464 | 100' sections | 900 | - | 3.10 | | |
| | Cross-Section "Old FM 1464" | 100' sections | 300 | | 0.69 | \$3.00 | \$900 |
| | Topo acreage bounded by SH 99, FM 1464, Bullhead Slough | 100 sections | 1200 | - | 11.02 | \$200.00 | · |
| - | Cross-Section N Half RR ROW | 50' grid | 50 | | 0.06 | | \$250 |
| | Locate Utilties/811 Call | Jo gilu | 30 | 30 | 0.00 | \$600.00 | \$600 |
| | Detail MH's, Inlets, Culverts | | | | | \$750.00 | \$750 |
| | RailRoad Supervision to enter ROW- as needed | | | | | \$900.00 | \$900 |
| - | Survey Control Map and Sketches | 2 sheets | | | | \$2,500.00 | · |
| | QC BM & notes | 2 3110013 | | | | \$135.00 | \$135 |
| | QC Topo and MH Details | 3 hours | | | | \$135.00 | \$405 |
| 15 | | 5 110015 | | | | \$155.00 | |
| | Phase I - Surveying Sub-Total | | | | | | \$26,444 |
| | | | | | | | |
| | Parcel Sketches and Descriptions | 3 | | | | \$2,200.00 | \$6,600 |
| | Maintenance Easement | 4 | | | | \$1,500.00 | . , |
| 18 | Railroad Agreement - Parcel Sketch and Description | 1 | | | | \$1,500.00 | \$1,500 |
| | Phase II - Provisional Surveying Sub-Total | | | | | | \$14,100 |
| | | | | | | | |
| | CURVEYING TOTAL | | | | | | 640 544 |
| | SURVEYING TOTAL | | | | | | \$40,544 |
| | | | | | | | |



3143 Yellowstone Blvd., Houston, Texas 77054 Tel: (713) 748-3717 Fax: (713) 748-3748

July 26, 2021

Proposal No: GP2021-0712

Mr. Connor McBride, P.E. Project Manager Mc Donough Engineering Corporation 5625 Schumacher Lane Houston, Texas 77057

Reference: Proposal for Geotechnical Investigation

FBC PCT 4 – Bullhead Slough Project

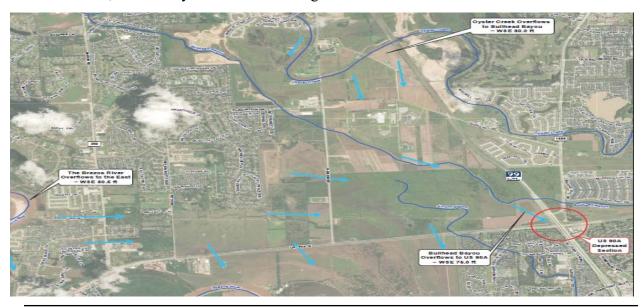
Fort Bend County, Texas

Dear Mr. McBride,

Associated Testing Laboratories, Inc. (ATL) is pleased to submit the proposal for the above-referenced project. The scope of work entails a Geotechnical Investigation for the Bullhead Slough Project at SH 99 and US 90A intersection in Fort Bend County, Texas.

Project Description

Based on the information provided, ATL understands that the project was based on a feasibility study by others to mitigate flooding the depressed intersection of US 90A due to Bullhead Bayou overflow such scenario as the Hurricane Hurvey. The study evaluated and recommended construction of series of berms along the northwest and northeast sections of the intersection of SH 99 and US 90A, the vicinity is shown on the Figure below.



T:\Proposal\2021\Gp21-0712 - FBC Pct4 - Bullhead Slough Project -\GP2021-0712 - FBC PCT 4 - Bullhead Slough.doc



ATL will conduct a geotechnical study of the project designed so that the berms could be levee certified in the future, and incorporate any applicable requirements (FBC drainage criteria manual, FEMA, USACE, etc).

Scope of Work:

Based on the currently available project information, the following scope of geotechnical investigation is proposed:

ATL will conduct soil borings at approximate locations along proposed berms, as shown in Figure 1-Option A, and Figure 2 – Option B, to investigate the soil stratigraphy and groundwater information. The borings, piezometer, and depths, along with the proposed project improvements, will study groundwater tables in low permeability clay soils that might not be observable during drilling but will be noticeable in the 7- and 30-day readings. The proposed soil borings recommended to evaluate the subsurface soils and groundwater conditions and are summarized in the table below:

| Section | Proposed Boring No. | Depth, ft | Total Depth, ft | | | | |
|--|------------------------|----------------|-----------------|--|--|--|--|
| Berm 1: B1-1 to B1-8 | 8 | 25 | 200 | | | | |
| Option A: | 8 | 25 | 200 | | | | |
| Berm 2A:B2a-1 to B2a-8 | | | | | | | |
| Option B | 5 | 25 | 125 | | | | |
| Berm 2B: B2b-1 to B2b-5 | | | | | | | |
| Berm 3: B3-1 to B3-3 | 3 | 25 | 75 | | | | |
| Berm 4:B4-1 | 1 | 25 | 25 | | | | |
| Option A: Berm 1, Berm2A, Berm 3, & Berm 4, TOTAL DRILLING: 500 LF | | | | | | | |
| Option B: Berm 1, Berm2B, B | serm 3, & Berm 4, T | OTAL DRILLING: | 425 LF | | | | |

GEOTECHNICAL INVESTIGATION

Field Exploration

ATL assumes that the permission to access to the proposed boring locations, if necessary, will be arranged by others at no cost to ATL. Soils stratigraphy and conditions at the proposed berm locations will be evaluated by drilling:

• Twenty (20) at 25-ft deep soil borings with Proposed Berm 2A (*Option A*) or,



• Seventeen (17) at 25-ft deep soil borings with Proposed Berm 2B (*Option B*)

ATL plans to drill the soil borings located in the proposed berm alignments using an All-Terrain vehicle (ATV) rig. Soil samples will be obtained continuously to a depth of 20 feet below the existing surface.

Standard Penetration Tests (SPT) will be performed in sands, if encountered, and clays will be sampled by Shelby tube. Shear strengths of the clays will be measured in the field with a hand penetrometer and correlations between this data and laboratory shear strength data will be made during analysis.

Depth to ground water will be important for the design and construction of this project. For this reason, the borings will be drilled dry and the depth at which groundwater is encountered will be recorded. The borehole will be grouted after the completion of drilling and sampling.

Four (4) piezometers are proposed by ATL to investigate the groundwater information of the site, including groundwater in low permeability clay soils that might not be observable during drilling but will be observable in the 7- and 30-day reading. Water level after 24-hours and 7- and 30-day will be recorded. The piezometers will be pulled and plugged after the 30-day water level reading.

Laboratory Testing

Laboratory tests will be assigned corresponding to the types of soils encountered, with the objective of classifying the soils physical and index properties, moisture contents, unconfined compressive strength, undrained unconsolidated compressive strength, Atterberg limits, percent finer than No. 200 sieve, dry density, Consolidated undrained triaxial test, crumb tests, Double hydrometer tests, and specific gravity of soils.

Engineering Analyses and Reporting

The field and laboratory data will be presented in a geotechnical report. Geotechnical analyses will be conducted using the field and laboratory test data to provide geotechnical data for the design and construction of the proposed improvements, including (but not limited to) the following:

- Generalized soils stratigraphy and groundwater levels.
- Discussion of the onsite soils dispersiveness, and recommendations for erosion protection of the berm slope soils.
- Evaluate the erosion potential (dispersiveness) and the slope stability (short and long term as well as rapid drawdown loading conditions) of the slope soils, and recommendations for restoring the channel slopes, Swales, storm sewers (Option B), and outfall structures as well as erosion protection measures of the berms.
- Discuss of onsite soil types and the suitability of onsite soils for use to the berm, and in other structural and non-structural areas.
- Construction recommendations.



Construction Related Observations

This project will involve field related decisions as the existing on-site soils along south bank of Bullhead Bayou that are excavated for possible use as berm. Field observations will include the following:

- 1) Proper stripping and preparation of berm foundation areas prior to constructing the new swales and installation of RCP storm sewer.
- 2) Fill material selection and testing to assess compaction and permeability. The permeability and shear strength will be critical to the performance of the berms and sewer line (option B).

If on-site materials are found to have permeabilities (dispersive soils) which are above acceptable limits, these provisions will be made for reducing the overall permeability of the berm. These decisions will require an experienced geotechnical technician to observe and document the field activities and to discuss the soil conditions with the design team. We propose to provide a full-time senior geotechnical technician to observe and test as outlined above, with regular site visits from an experienced geotechnical engineer to confirm the soil conditions and to develop recommendations for the design team.

COST ESTIMATE

Based on the scope of geotechnical work outlined above, we estimate the following costs:

| Project | Estimated Fee | | | | |
|---|--|--|--|--|--|
| Option A | | | | | |
| Geotechnical Investigation for Proposed | \$87,128.00 | | | | |
| Project: Berm 1, Berm 2A, Berm 3 & | (Does not include Construction Related | | | | |
| Berm 4 | Observations) | | | | |
| Option B | | | | | |
| Geotechnical Investigation for Proposed | \$82,265.00 | | | | |
| Project: Berm 1, Berm 2B, Berm 3 & | (Does not include Construction Related | | | | |
| Berm 4 | Observations) | | | | |

The cost estimates using the project quantities and requirements is presented in the enclosed **Itemized Geotechnical Fee Estimates (Option A & Option B)** spreadsheet. This estimate assumes that: (i) underground utilities at proposed boring locations will be cleared by One Call Service and/or private property maintenance personnel; (ii) the sites will be accessible to our All-terrain (ATV) equipment; (iii) permission/permit to access site, if needed, will be arranged by others at no cost to ATL.

TIME SCHEDULES

We estimate that the fieldwork can be started immediately after authorization is received. The field staking and utilities clearance will take about one week, and the regular laboratory testing will take about 2 weeks; the triaxial consolidated-undrained shear tests will require about 4 to 6 weeks. The



draft geotechnical report will be submitted approximately 8 to 10 weeks from the day we receive the official notice to proceed.

We appreciate the opportunity to submit this proposal and look forward to being of service to you on this project.

Very truly yours,

ASSOCIATED TESTING LABORATORIES, INC.

Nutan V. Palla, Ph.D., P.E.

Nutan V. Alba

Director, Geotechnical Services

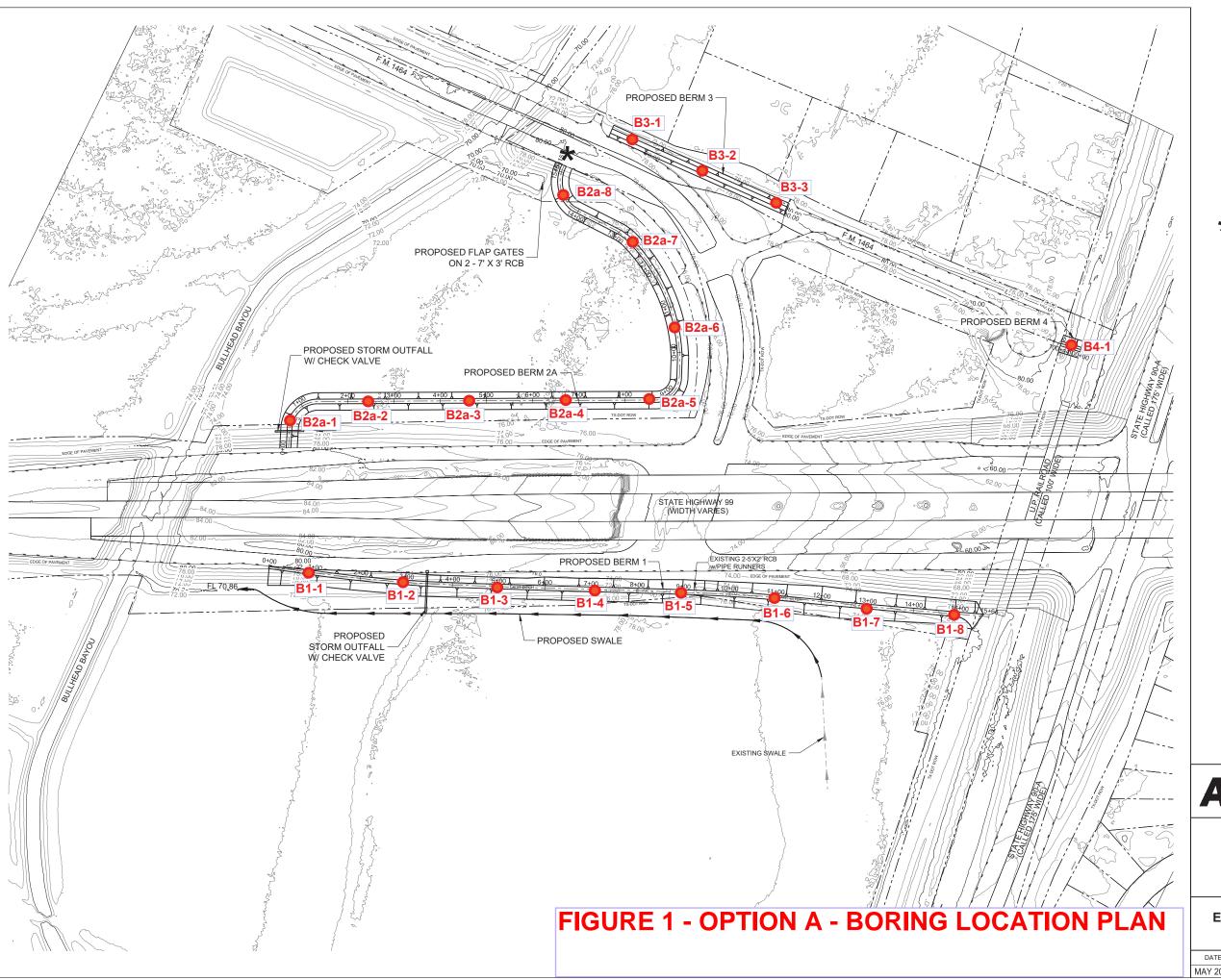
Enclosure:

Figure 1: Proposed Boring Location Plan - Option A

Figure 2: Proposed Boring Location Plan – Option B

Itemized Fee Estimates

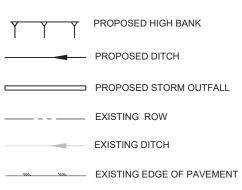
Appendix A - Site Reconnaissance





ROADWAY NEEDS 1-2 FEET OF ELEVATION ADDED TO MEET MINIMUM ELEVATION OF 80.0 ACCORDING TO LIDAR TOPOGRAPHY.

LEGEND



EXISTING PAVEMENT



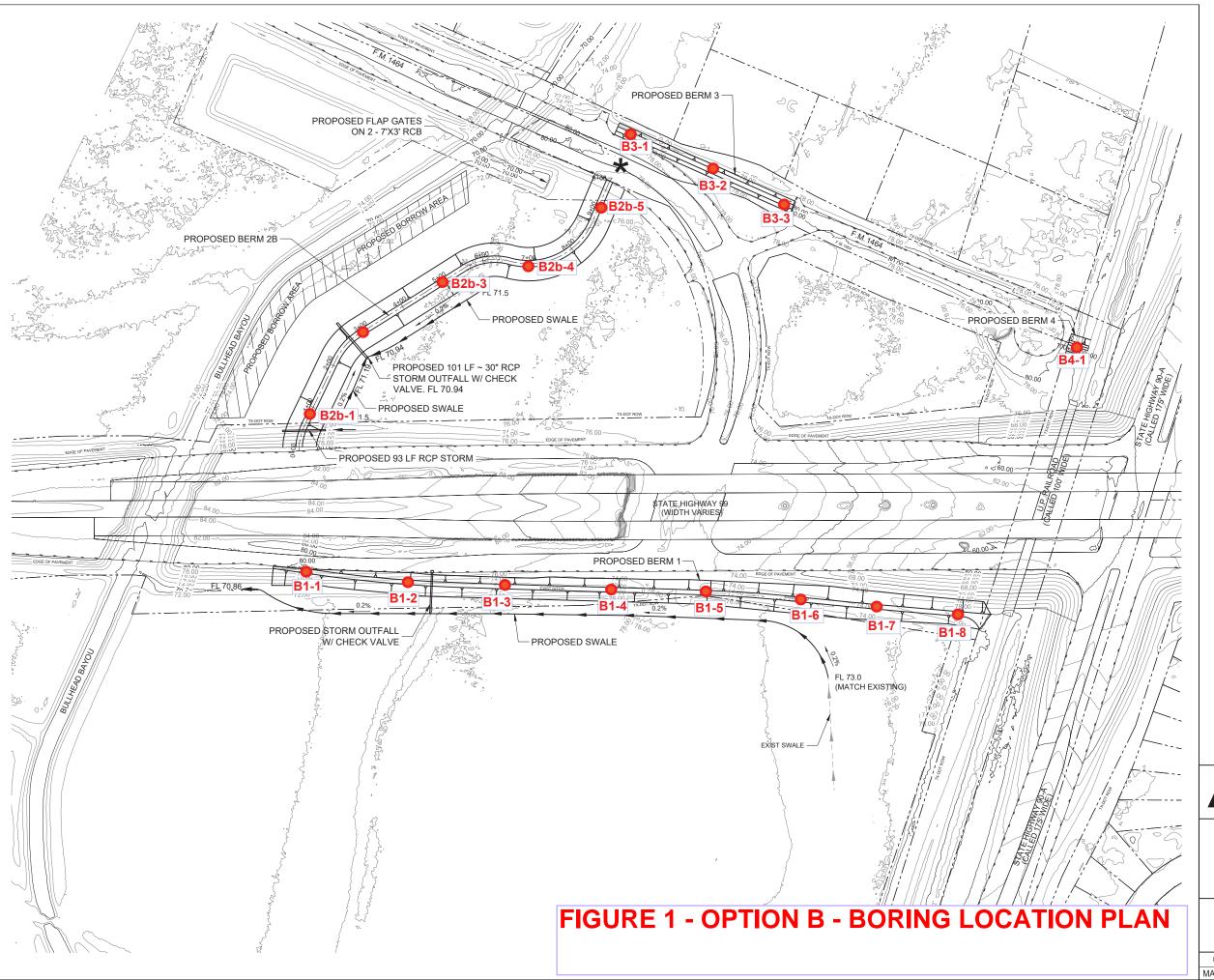
AECOM Technical Services, Inc. 19219 Katy Freeway, Suite 100 Houston, Texas 77094 www.aecom.com TRPE REG. NO E-3580

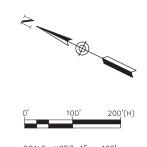


Fort Bend County 301 Jackson St, First Floor Richmond, TX 77469 www.fortbendcountytx.gov

EXHIBIT 4 CONCEPTUAL SCHEMATIC ALTERNATE A OVERALL

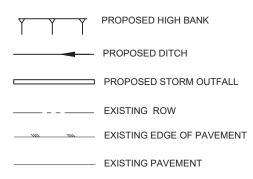
| DATE | STATE | COUNTY | PROJECT NO. | EXHIBIT NO. |
|----------|-------|-----------|-------------|----------------|
| MAY 2019 | TEXAS | FORT BEND | 60590362 | 01 |





ROADWAY NEEDS 1-2 FEET OF ELEVATION ADDED TO MEET MINIMUM ELEVATION OF 80.0 ACCORDING TO LIDAR TOPOGRAPHY.

LEGEND







Fort Bend County 301 Jackson St, First Floor Richmond, TX 77469 www.fortbendcountytx.gov

EXHIBIT 4 CONCEPTUAL SCHEMATIC ALTERNATE B OVERALL

| DATE | STATE | COUNTY | PROJECT NO. | EXHIBIT NO. |
|----------|-------|-----------|-------------|----------------|
| MAY 2019 | TEXAS | FORT BEND | 60590362 | 02 |
| | | | | |

Geotechnical Investigation Proposal Proposed FBC PCT 4 - Bullhead Slough Project - Option A SH 99 & US 90A Fort Bend County, Texas ATL Proposal No. GP21-0712 July 26, 2021



ITEMIZED GEOECHNICAL FEE ESTIMATE

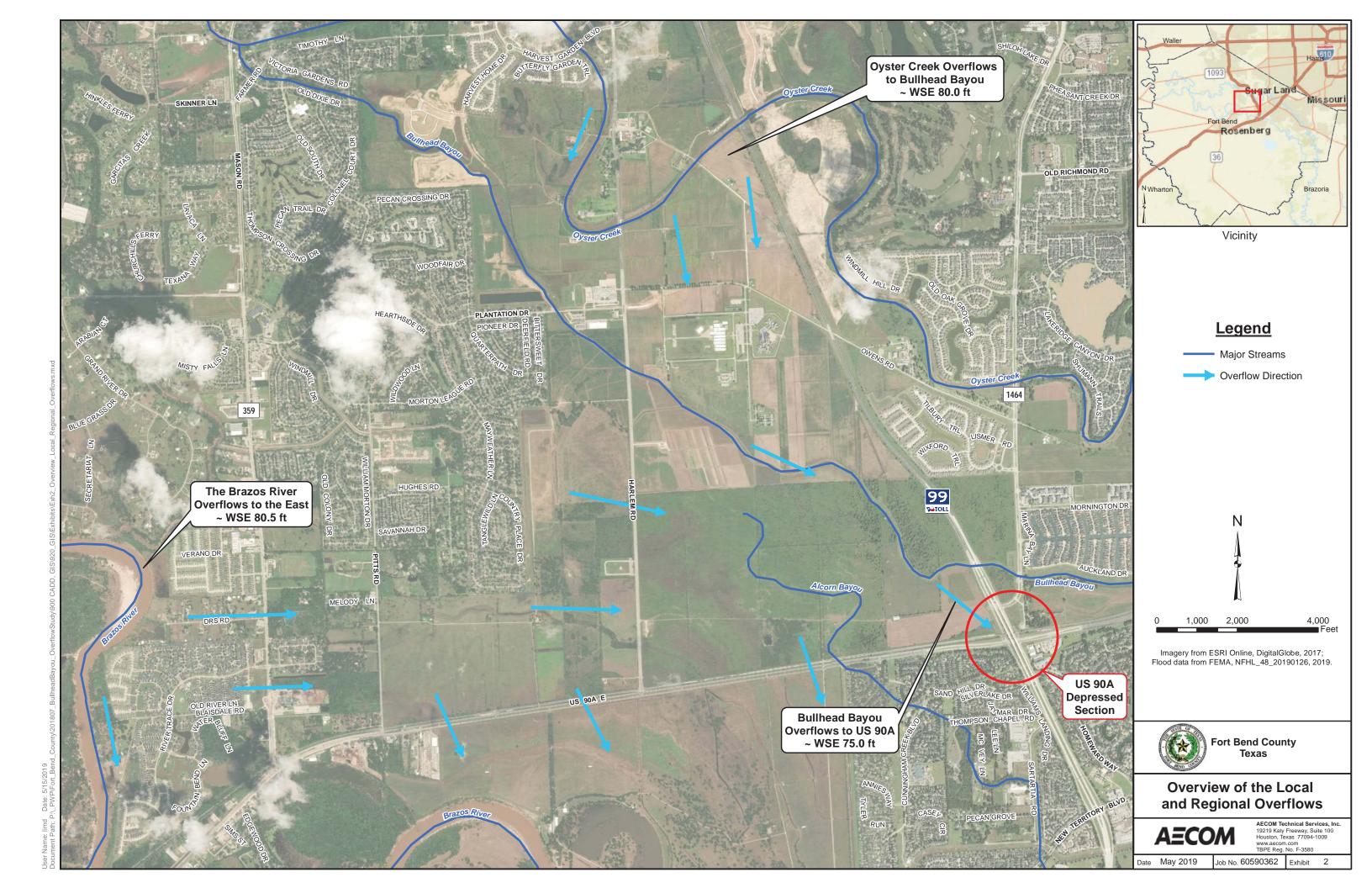
| Proposed FBC PCT 4 - Bullhead Slough Project - Option A | | | | | |
|---|--------------|------------|-------------|----------------------------|--|
| Borings:20@25' [500 LF]; Piezometers: 4@25'[100 LF] | <u> </u> | | | | |
| | Current Qty. | Unit | Unit Rate | Amount | |
| Mobilization/Demobilization (Truck Rig) | 1 | LS | \$500.00 | \$500.00 | |
| Mobilization/Demobilization (ATV Rig) | 1 | LS | \$250.00 | \$250.00 | |
| Technician for Staking, Utilities Clearance, Coordination | 8 | hrs. | \$90.00 | \$720.00 | |
| Soil Drilling and Sampling (continuous; <up 20')<="" td="" to=""><td>380</td><td>ft.</td><td>\$21.00</td><td>\$7,980.00</td></up> | 380 | ft. | \$21.00 | \$7,980.00 | |
| Soil Drilling and Sampling (intermittent; >20' to 50') | 120 | ft. | \$21.00 | \$2,520.00 | |
| Surcharge for ATV | 500 | ft. | \$10.00 | \$5,000.00 | |
| Logging (NICET II) | 40 | hr. | \$90.00 | \$3,600.00 | |
| Grouting Holes | 400 | ft. | \$7.00 | \$2,800.00 | |
| Piezometer Installation | 100 | ft. | \$24.00 | \$2,400.00 | |
| Piezometer Abandonment | 100 | ft. | \$20.00 | \$2,000.00 | |
| 24-Hour, 7- and 30-day PZ Water Level Readings | 24 | hrs. | \$65.00 | \$1,560.00 | |
| Vehicle Charge | 32 | hrs. | \$12.00 | \$384.00 | |
| | S | UBTOTAL | | \$29,714.00 | |
| B. GEOTECHNICAL LABORATORY TESTING | | Unit | Unit Rate | Amount | |
| Moisture Content (ASTM D-2216) | 220 | ea. | \$9.00 | \$1,980.00 | |
| Atterberg Limits (ASTM D-4318) | 80 | ea. | \$60.00 | \$4,800.00 | |
| Passing No. 200 Sieve (ASTM D-1140) | 80 | ea. | \$46.00 | \$3,680.00 | |
| Unconfined Compression (ASTM D-2166) | 20 | ea. | \$44.00 | \$880.00 | |
| Unconsolidated-Undrained Triaxial Test (ASTM D-2850) | 60 | ea. | \$61.00 | \$3,660.00 | |
| Consolidated-Undrained Triaxial Test (ASTM D-4767) *3-stage w/3 samples/set | 6 | ft. | \$1,800.00 | \$10,800.00 | |
| Double Hydrometer Tests (ASTM D-4221), with D ₉₀ and D50 | 8 | ea. | \$250.00 | \$2,000.00 | |
| Crumb Tests (ASTM D-6572) | 60 | ea. | \$43.00 | \$2,580.00 | |
| Specific Gravity | 6 | ea. | \$67.00 | \$402.00 | |
| | SUBTOTAL | | \$30,782.00 | | |
| C. ENGINEERING ANALYSES & REPORT PREPARATION | | Unit | Unit Rate | Amount | |
| Senior Engineer-Project Manager (P.E.) | 4 | hrs. | \$150.00 | \$600.00 | |
| Project Engineer (P.E.) | 40 | hrs. | \$105.00 | \$4,200.00 | |
| Civil Engineer | 40 | hrs. | \$83.00 | \$3,320.00 | |
| Draftsman | 60 | hrs. | \$60.00 | \$3,600.00 | |
| Word Processor | 60 | hrs. | \$60.00 | \$3,600.00 | |
| | SUBTOTAL | | | \$15,320.00 | |
| D. Additional Required Services | Qty. | Unit | Unit Rate | Amount | |
| Clearing Using Dozer or Hydro-axe | 2 | days | \$3,200.00 | \$6,400.00 | |
| Traffic Control Signs and Setup (Work Off Shoulder) | 4 | days | \$250.00 | \$1,000.00 | |
| Traffic Control Signs and Setup (Work On Shoulder with Crash Truck) | 0 | days | \$1,800.00 | \$0.00 | |
| Traffic Control Signs and Setup (One Lane Closure with Crash Truck) | 0 | days | \$2,250.00 | \$0.00 | |
| Other Traffic Control Equipment (if needed) | 0 | Cost + 10% | | \$0.00 | |
| Flagman | 48 | hrs. | \$26.50 | \$1,272.00 | |
| Peace Officer | 48 | hrs. | \$55.00 | \$2,640.00 | |
| Pavement Coring and Patching (up to 6" thick) | 0 | ea. | \$150.00 | \$0.00 | |
| Pavement Coring and Patching (> 6" thick) | 0 | inches | \$13.50 | \$0.00 | |
| | | UBTOTAL | | \$11,312.00 \$87,128.00 | |
| TOTAL ESTIMATED FEE OF PROPOSED SCOPE | | | | | |

Geotechnical Investigation Proposal Proposed FBC PCT 4 - Bullhead Slough Project - Option B SH 99 & US 90A Fort Bend County, Texas ATL Proposal No. GP21-0712 July 26, 2021



ITEMIZED GEOECHNICAL FEE ESTIMATE

| Proposed FBC PCT 4 - Bullhead Slough Project - Option B | | | | | | |
|---|--------------|------------|------------|----------------------------|--|--|
| Borings: 17@25' [425 LF]; Piezometers: 4@25'[100 LF] | | | | | | |
| A. FIELD EXPLORATION | Current Qty. | Unit | Unit Rate | Amount | | |
| Mobilization/Demobilization (Truck Rig) | 1 | LS | \$500.00 | \$500.00 | | |
| Mobilization/Demobilization (ATV Rig) | 1 | LS | \$250.00 | \$250.00 | | |
| Technician for Staking, Utilities Clearance, Coordination | 8 | hrs. | \$90.00 | \$720.00 | | |
| Soil Drilling and Sampling (continuous; <up 20')<="" td="" to=""><td>360</td><td>ft.</td><td>\$21.00</td><td>\$7,560.00</td></up> | 360 | ft. | \$21.00 | \$7,560.00 | | |
| Soil Drilling and Sampling (intermittent; >20' to 50') | 90 | ft. | \$21.00 | \$1,890.00 | | |
| Surcharge for ATV | 425 | ft. | \$10.00 | \$4,250.00 | | |
| Logging (NICET II) | 40 | hr. | \$90.00 | \$3,600.00 | | |
| Grouting Holes | 325 | ft. | \$7.00 | \$2,275.00 | | |
| Piezometer Installation | 100 | ft. | \$24.00 | \$2,400.00 | | |
| Piezometer Abandonment | 100 | ft. | \$20.00 | \$2,000.00 | | |
| 24-Hour, 7- and 30-day PZ Water Level Readings | 24 | hrs. | \$65.00 | \$1,560.00 | | |
| Vehicle Charge | 32 | hrs. | \$12.00 | \$384.00 | | |
| | S | UBTOTAL | | \$27,389.00 | | |
| B. GEOTECHNICAL LABORATORY TESTING | | Unit | Unit Rate | Amount | | |
| Moisture Content (ASTM D-2216) | 198 | ea. | \$9.00 | \$1,782.00 | | |
| Atterberg Limits (ASTM D-4318) | 68 | ea. | \$60.00 | \$4,080.00 | | |
| Passing No. 200 Sieve (ASTM D-1140) | 68 | ea. | \$46.00 | \$3,128.00 | | |
| Unconfined Compression (ASTM D-2166) | 17 | ea. | \$44.00 | \$748.00 | | |
| Unconsolidated-Undrained Triaxial Test (ASTM D-2850) | 51 | ea. | \$61.00 | \$3,111.00 | | |
| Consolidated-Undrained Triaxial Test (ASTM D-4767) *3-stage w/3 samples/set | 6 | ft. | \$1,800.00 | \$10,800.00 | | |
| Double Hydrometer Tests (ASTM D-4221), with D ₉₀ and D50 | 8 | ea. | \$250.00 | \$2,000.00 | | |
| Crumb Tests (ASTM D-6572) | 51 | ea. | \$43.00 | \$2,193.00 | | |
| Specific Gravity | 6 | ea. | \$67.00 | \$402.00 | | |
| | SUBTOTAL | | | \$28,244.00 | | |
| C. ENGINEERING ANALYSES & REPORT PREPARATION | | Unit | Unit Rate | Amount | | |
| Senior Engineer-Project Manager (P.E.) | 4 | hrs. | \$150.00 | \$600.00 | | |
| Project Engineer (P.E.) | 40 | hrs. | \$105.00 | \$4,200.00 | | |
| Civil Engineer | 40 | hrs. | \$83.00 | \$3,320.00 | | |
| Draftsman | 60 | hrs. | \$60.00 | \$3,600.00 | | |
| Word Processor | 60 | hrs. | \$60.00 | \$3,600.00 | | |
| | S | SUBTOTAL | | \$15,320.00 | | |
| D. ADDITIONAL REQUIRED SERVICES | Qty. | Unit | Unit Rate | Amount | | |
| Clearing Using Dozer or Hydro-axe | 2 | days | \$3,200.00 | \$6,400.00 | | |
| Traffic Control Signs and Setup (Work Off Shoulder) | 4 | days | \$250.00 | \$1,000.00 | | |
| Traffic Control Signs and Setup (Work On Shoulder with Crash Truck) | 0 | days | \$1,800.00 | \$0.00 | | |
| Traffic Control Signs and Setup (One Lane Closure with Crash Truck) | 0 | days | \$2,250.00 | \$0.00 | | |
| Other Traffic Control Equipment (if needed) | 0 | Cost + 10% | 12 | \$0.00 | | |
| Flagman | 48 | hrs. | \$26.50 | \$1,272.00 | | |
| Peace Officer | 48 | hrs. | \$55.00 | \$2,640.00 | | |
| Pavement Coring and Patching (up to 6" thick) | 0 | ea. | \$150.00 | \$0.00 | | |
| Pavement Coring and Patching (> 6" thick) | 0 | inches | \$13.50 | \$0.00 | | |
| TOTAL FOTTMATER FOR OF DOCUMENT | | UBTOTAL | | \$11,312.00 \$82,265.00 | | |
| TOTAL ESTIMATED FEE OF PROPOSED SCOPE | | | | | | |



ASSOCIATED TESTING LABORATORIES, INC.

3143 Yellowstone Blvd, Houston, Texas 77054 Tel: (713) 748-3717 Fax: (713) 748-3748 www.associatedtesting.com

Date: August 9, 2021

Connor McBride, PE McDonough Engineering Corporation 5625 Schumacher Lane Houston, TX 77057

Reference: Phase- I Environmental Site Assessment

Bullhead Slough Project- Fort Bend County Precinct 4

Proposal Number: 21-10

Dear Mr.McBride

Associated Test Laboratories, Inc. (ATL) is pleased to submit this proposal to provide environmental consulting services for the additional streets added for the above referenced project area.

According to the information pertaining to the project referenced above; the proposed alignment is

Bullhead Slough Project

For a project of this type, ATL proposes an amount of \$8,250.00 for the report.

SCOPE OF THE PHASE I ESA

The purpose of the project is, to identify the suspected presence of hazardous and/or non-hazardous industrial/commercial waste or materials such as hydrocarbons, chemicals, PCB's, and to conform to ASTM E1527-05.

During the site visit, ATL will look for evidence of past and present environmental concerns along the project area. ATL also will perform an automobile tour of surrounding areas to search for adjacent land use, which might pose obvious environmental concerns at the project area.

Based on the site reconnaissance and the information gathered during this environmental site assessment, **Associated Testing Laboratories, Inc.** will prepare a **Phase I Environmental Site Assessment** report with appropriate recommendations regarding the project areas.

TIME SCHEDULE

We estimate that the work required will take approximately six (6) weeks.

TERMS AND CONDITIONS

Referenced compensation includes *one* (1) *electronic copy*, unless otherwise stated and agreed upon to the preparation of report submittal. Should additional original copies be required, please inform us in advance, there will be a charge of \$100 per hard copy.

If you find this proposal of services acceptable, please execute the Proposal and return the original copy to our office in order that we may complete our files. Although fax copies of the proposal acceptance sheet will be sufficient to initiate our investigation, we require the original copy of this document for our files prior to issuance to the final report. If you have any questions regarding this proposal, or require adjustments to our approach or schedule, please contact us at (713) 748-3717.

Sincerely,

ASSOCIATED TESTING LABORATORIES, INC.

Jashi Sungl

Jasbir Singh P.E.

Principal

CERTIFICATE OF INTERESTED PARTIES

FORM **1295**

1 of 1

| L | | | | | 1011 | | |
|---|---|--------------------------------------|------------|---|--------------|--|--|
| | Complete Nos. 1 - 4 and 6 if there are interested parties. Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties. | | | OFFICE USE ONLY CERTIFICATION OF FILING | | | |
| 1 | Name of business entity filing form, and the city, state and country of the business entity's place | | | Certificate Number: | | | |
| | of business. McDonough Engineering Corporation | | | | 2021-816644 | | |
| | Houston, TX United States | | Date | Date Filed: | | | |
| 2 | Name of governmental entity or state agency that is a party to the | e contract for which the form is | 10/2 | 10/25/2021 | | | |
| | being filed. | | | Date Acknowledged: | | | |
| | = | | | 11/09/2021 | | | |
| 3 | Provide the identification number used by the governmental entity or state agency to track or identify the codescription of the services, goods, or other property to be provided under the contract. | | | | vide a | | |
| | Project No. 20410 | | | | | | |
| | Agreement for Professional Engineering Services - 2020 Mob | ility Bond Program | | T | | | |
| 4 | Name of Interested Party | City, State, Country (place of bu | einece) | Nature of | f interest | | |
| | Nume of interested Furty | only, state, soundly (place of busin | | Controlling | Intermediary | | |
| М | cDonough, Ranney | Ranney Houston, TX United States | | Х | | | |
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| | | | | | | | |
| | | | | | | | |
| 5 | Check only if there is NO Interested Party. | | | | | | |
| 6 | UNSWORN DECLARATION | | | | | | |
| | My name is | , and my date | of birth i | is | · | | |
| | My address is | | | , | ., | | |
| | (street) | (city) | (state) | (zip code) | (country) | | |
| | I declare under penalty of perjury that the foregoing is true and correc | t. | | | | | |
| | Executed inCounty | y, State of, on the | ne | _day of | , 20 | | |
| | | | | (month) | (year) | | |
| | | Signature of authorized agent of o | ontractin | na husiness entity | | | |
| | Signature of authorized agent of contracting business entity (Declarant) | | | | | | |