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12/7/2022

Jody Weaver, PE
City Manager
202 North Virginia
Port Lavaca, TX 77979

RE: Request for Authorization to Proceed
Task Order 5: Final Design, Bid and Construction Phase Services for City of Port Lavaca Lynn's Bayou Wastewater Treatment Plant Expansion

Dear Ms. Weaver,

As requested by City of Port Lavaca (City) in the meeting on August 25, 2022, AECOM is pleased to submit this proposal to provide Professional Engineering Services for the expansion of the Lynn's Bayou Wastewater Treatment Plant from 2 MGD to 4 MGD capacity.

Background

City of Port Lavaca owns and operates the Lynn's Bayou Wastewater Treatment Plant (WWTP). The WWTP is located at 800 N. Commerce St., Port Lavaca, TX 77979, approximately 30 miles southeast of Victoria, Texas.

The WWTP was originally constructed in 1982 for a rated capacity of 1.5 MGD and was expanded in 2001 to 2 MGD. The plant is an activated sludge facility permitted for 2 MGD average daily flow and a 2-hour peak flow of 5,319 gpm or 7.65 MGD (TPDES Permit No. WQ0010251001). The existing treatment system consists of a mechanical bar screen, a grit classification chamber, two sequential aeration basins, two secondary clarifiers, UV disinfection, Parshall flume flow meter and outfall structure, an aerobic digester, a sludge thickener, a Return Activated Sludge (RAS)/Waste Activated Sludge (WAS) pump station, sludge dewatering beds, and four blowers.

The current average daily flow to the plant had increased over 75% of the WWTP rated flow for three consecutive months. With this exceedance rate over 75%, per TCEQ Rule §305.126 (a), City (permittee) initiated engineering and financial planning for expansion of the WWTP. City contracted with AECOM in 2021 to perform an assessment of the WWTP and plan for expansion of the plant. The September 2021 report titled "Lynn's Bayou Wastewater Treatment Plant Expansion" recommended performing a short-term improvements project that would address the immediate needs of the WWTP, including increasing the blower capacity for the aeration basins. The short-term improvements project is currently in design by AECOM.

The report evaluated two alternatives for increasing the WWTP capacity from 2 MGD to 4 MGD and made a recommendation of the preferred alternative. The report also recommended improvements to be performed in two phases. As discussed in the call, construction costs have seen a significant increase in recent months. The need for funding sources indicates a need to perform a 30% design to define current expansion requirements, current construction costs and the opportunity to phase construction. Proposed expansion of the WWTP per the recommended alternative includes design and construction of:

1. Headworks, grit basin and flow splitter box
2. Anoxic basins
3. Aeration basins with fine bubble diffusers
4. Aeration basins blower building
5. Final clarifiers and flow splitter box
6. RAS Pump Station
7. WAS Pump Station
8. UV Disinfection System Expansion
9. New Office/Lab Building
10. Modifications to existing Circular WWTP
11. Modifications to existing Sludge Dewatering Beds
12. Modifications to existing Parshall Flume

AECOM's Scope of Services for this project will include

Basic Services:

- Develop plan for sampling and source identification of Copper and Zinc in wastewater
- Perform 30% preliminary design of the WWTP expansion
- Provide assistance to the City in applications for securing funds/grants
- Perform detailed final design of the WWTP expansion
- Provide bidding services
- Provide construction phase services

Additional Services:

- Treatment system design for removal of Copper and Zinc, if required

The Scope of Services described here covers services for the services listed above by AECOM. If the City is successful in securing funds/grants available through Texas Water Development Board (TWDB), coordination of activities and obtaining approval of design and construction documents will be required. This proposal accounts for coordination with TWDB on such activities.

Exhibit "A" provides an itemization of the labor and expenses associated with the Scope of Services.

Exhibit "B" presents the proposed schedule for completion of the proposed Scope of Services.

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BASIC SERVICES

SCOPE OF SERVICES – Sampling and Source Identification of Copper and Zinc

The September 2021 report notes that, upon review of effluent data, copper and zinc concentrations have exceeded the daily maximum permit limits on several occasions. The permit limits on copper and zinc are anticipated to get more stringent in the future. It is essential to identify the source of these heavy metals, if possible, and mitigate the issue to be incompliance with current and future permit limits. Treatment process to reduce the concentration of copper and zinc at the WWTP would be considered as the secondary option and only if required.

This task will have to be authorized at the beginning i.e., along with 30% Design and Funding Assistance tasks and will have to be performed concurrently so that the need for a treatment system is determined prior to final design. Task 1 of 30% Design task will cover the project management required for this task. This task in anticipated to span over a period of four (4) months.

Scope of Services for this additional services task is outlined as below

- Develop plan for sampling and source identification of Copper and Zinc. This plan would include a multi-step approach that would require analysis of sampling results at every step.
- Perform source sampling and testing: Sampling to be performed by City staff as directed by the plan in specific service areas. An allowance amount has been included to utilize the services of a third-party lab for testing of water samples.
- AECOM will review and summarize the findings at every step of the plan. Instructions will be provided to the City on the next set of sampling to be performed, if deemed necessary.
- Once a contributor/source is identified, City shall negotiate an agreement with the contributor and make arrangements to control copper and zinc discharge at the source.
- A technical memo to document the work performed, findings and recommendations will be submitted upon completion of this task.

A third-party laboratory would be used in testing of water samples. Benefit in implementation of a source control and mitigation strategy includes eliminating the need for specialized treatment processes for metals removal at the WWTP. It shall be noted that the contributing source may not be identified even with extensive sampling.

SCOPE OF SERVICES – 30% Design

The September 2021 Wastewater Expansion Report made a recommendation of the preferred alternative for increasing the WWTP capacity from 2 MGD to 4 MGD and. A 30% design of the preferred alternative will be performed that includes the following tasks

Task 1 – Project Management

Project management associated is anticipated to span four (4) months as proposed in the attached schedule and includes the following sub-tasks:

Task 1.1: Project Management and Administration

Task 1.1.1: Project Setup and Administration

Setup project in AECOM project management system and administration during the span of the project including oversight, tracking and coordination.

Task 1.2: Meetings

Task 1.2.1: Client Kickoff Meeting

At the beginning of the project, AECOM will assist in the organization of and participate in a project kickoff meeting. The purpose of this meeting is to review the project objectives, identify guiding principles, and use these guides in the design of WWTP expansion.

An internal kickoff meeting will be conducted with AECOM team members to convey scope of the project and define roles and responsibilities. A kickoff meeting will be conducted with the subconsultants performing survey and geotechnical work to define goals, communication protocols, and management and invoicing procedures.

Task 1.2.2: Project Coordination

Task includes subconsultant management and coordination. AECOM will prepare and provide specific details on the scope of work of subconsultants and meet with them on-site prior to commencement of field work. Their work and progress will be coordinated; their deliverables will be reviewed prior to acceptance.

AECOM will conduct biweekly internal progress meetings with the multi-disciplinary teams involved to review progress, and discuss challenges, action items and path forward.

AECOM has previously communicated with TCEQ during the evaluation phase to determine anticipated future permit limits. A meeting will be organized with TCEQ to review the anticipated permit limits.

Task 1.2.3: Project Status Meetings

AECOM will assist in the organization of and participate in monthly project meetings with the City to communicate and receive input and feedback on data requirement, challenges, outstanding issues, status, decisions, and progress update. The project team will provide an agenda, summary minutes, and an updated decision and action items log for each meeting. The proposal is based on a total of four (4) meetings including status meetings and a review meeting.

Task 1.3: Project Management Deliverables

Task 1.3.1: Project Plan and Schedule

Prepare project plan that defines the project requirements, work breakdown structure, project control strategy, communication plan, quality assurance / quality control (QA/QC) plan, and decision-making/change management process.

Prepare a schedule to reflect the sequencing of the work. The schedule will be aligned with the work breakdown created and will be reviewed during the monthly status meetings and updated monthly as part of the status report. Changes to the project schedule will be identified and explained in the monthly status report.

Task 1.3.2: Monthly Invoices and Status Reports

Submit monthly invoices along with a status report summarizing progress of the project and updated project schedule.

Task 2 – 30% Design

Perform 30% final design and prepare a set of 30% design drawings, list of technical specifications, product data sheets of major equipment, construction cost estimate, preliminary project schedule and detailed design schedule will be prepared.

Task 2.1: Preliminary Design and Deliverables

Task 2.1.1 Site Design

AECOM will review and determine design criteria, and governing codes and standards. 100 yr & 500 yr floodplain limits and elevations will be reviewed, and mitigation measures will be determined as applicable. 30% design drawing set will include survey drawings, site layout and site grading plan.

Task 2.1.2 Process Mechanical Design

The treatment processes recommended in the September 2021 report will be verified and designed. The overall process flow diagram, and plan and section views of the individual treatment units will be prepared. All major equipment proposed for installation will be listed along with list of acceptable manufacturers; product data sheets will be provided.

Task 2.1.3 Hydraulic Design
A hydraulic profile that integrates both the proposed and existing facilities will be developed. Design configuration of treatment processes will be finalized using the hydraulic profile created. The preliminary hydraulic profile developed will be presented as part of the 30% drawing package.

Task 2.1.4 Structural Design
Criteria for structural design that will provide a uniform approach to the structural design for the proposed facilities will be determined. Codes and standards applicable for the structural design will be identified and listed. The different categories of load will be identified and the estimated loads for the individual categories will be listed. The existing facilities will be evaluated and rehabilitation needs will be determined. Review draft Geotech Report and provide comments.

Task 2.1.5 Architectural Design
This task will include planning requirements, description of occupancy and construction types for structures, general life safety requirements, and ventilations and electrical considerations. Any special permitting and code requirements will be identified. Design will include preparation of preliminary equipment schedule, preliminary sizing and routing of ductwork, piping and plumbing systems, and identification of electrical requirements for mechanical equipment. Design drawings set will include buildings architectural plan and sections and buildings HVAC plans and sections.

Task 2.1.6 Electrical Design
Electrical design will include identification of list of references standards, requirements of new utility service, major electrical equipment, standby power, and motor control and protection. Design drawings package will include electrical one-line diagrams and major equipment layout/electrical room plans.

Task 2.1.7 Instrumentation and Control Design
Instrumentation and control design will include general description and requirements of Programmable Logic Controllers (PLC) and Supervisory Control and Data Acquisition (SCADA) systems to be installed at the plant and preliminary process and instrumentation diagrams.

Task 2.2 Design Drawings and Technical Specifications

Task 2.2.1 Design Drawings

This task includes preparing 30% design drawings for the WWTP Expansion. The design package will include drawings from the following disciplines: Civil, Mechanical, Structural, Architectural, Electrical and Instrumentation and Control as indicated above.

Task 2.2.2 Technical Specifications

A preliminary list of the technical specifications that are expected to be used for bid will be provided at the 30% milestone review. A set of technical specifications will be provided at each milestone review, starting with the 60% milestone. A Preliminary Engineering Report will be prepared to document design and calculations performed.

Task 2.3 Opinion of Probable Construction Cost and Schedule

Opinion of Probable Construction Cost (OPCC) will be developed based on the 30% design performed. An overall project schedule and a detailed design schedule will be prepared and submitted.

Phasing of the project will be considered and reviewed at this stage of the project. A separate proposal requesting authorization of the design with details of the scope and level of effort will be submitted upon determination of the need.

Survey services for the Final Design phase of the project will be performed by Civil Corp and geotechnical services will be provided by TSI Laboratories. Fees for their services are included in the proposal.

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SCOPE OF SERVICES – Assistance in Applications for Funds/Grants

City of Port Lavaca, in the August 25 meeting, requested AECOM's help in assisting them with applying for state/federal grants to fund the design and construction of the WWTP expansion. This task will have to be authorized at the beginning i.e., along with two previously detailed tasks and will have to be performed concurrently with the 30% Design and Final Design tasks. Task 1 of 30% Design and Final Design tasks will cover the project management required for this task. This task in anticipated to span over a period of six (6) months.

Scope of this task will include the following

- Identify available programs for design and construction of the WWTP expansion project. Review eligibility requirements, additional subsidization eligibility and deadlines. Programs potentially to be considered would be Water Development Fund (DFund) – State, Clean Water State Revolving Fund (CESRF) - Federal, etc. available through TWDB.
- AECOM will communicate with TWDB regional office with inquiries.
- Attend pre-application meeting along with the City.
- Obtain application forms required for the appropriate program and determine data needs.
- Assist with filling of applications and preparing cost estimates, project description and eligibility justifications.
- This proposal assumes that the City would provide all data required by the agency. Data requirements, per guidance documents, may include but not limited to audits, census, population and demand projections, certificates and operations budget, council resolution, environmental assessment, water conservation plan, water use survey etc. If required, AECOM can assist in preparation of these documents as an additional service; a separate proposal will be submitted for these services.

SCOPE OF SERVICES – Final Design

With City's review and approval of the 30% preliminary design, AECOM will submit a request for authorization of Final Design of the WWTP expansion. This phase will have 60%, 90% and bid ready package design milestone deliverables.

Task 1 – Project Management

Project management associated is anticipated to span ten (10) months as proposed in the attached schedule and includes the following sub-tasks:

Task 1.1: Project Management and Administration

Task 1.1.1: Project Setup and Administration

Setup project in AECOM project management system and administration during the span of the project including oversight, tracking and coordination.

Task 1.2: Meetings

Task 1.2.1: Project Coordination

AECOM will conduct biweekly internal progress meetings with the multi-disciplinary teams involved to review progress, and discuss challenges, action items and path forward.

Approval of plans and specifications will be required by TWDB; AECOM will coordinate the submittal and approval process with the agency.

Coordination will be done with American Electric Power (AEP) during the course of the final design phase in sizing transformer(s) and setting up service.

Task 1.2.2: Project Status Meetings

AECOM will assist in the organization of and participate in monthly project meetings with the City to communicate and receive input and feedback on data requirement, challenges, outstanding issues, status, decisions, and progress update. The project team will provide an agenda, summary minutes, and an updated decision and action items log for each meeting. The proposal is based on a total of ten (10) including status and review meetings.

Task 1.3: Project Management Deliverables

Task 1.3.1: Project Plan and Schedule

Update project plan and schedule prepared at the 30% design stage. Changes to the project schedule will be identified and explained in the monthly status report.

Task 1.3.2: Monthly Invoices and Status Reports

Submit monthly invoices along with a status report summarizing progress of the project and updated project schedule.

Task 2 – Final Design

Perform Final Engineering Design and prepare construction drawings and technical specifications. AECOM technical specifications, modified for job specific requirements, will be used for the project. Final design phase of this WWTP expansion project will include design of

1. Headworks, grit basin and flow splitter box
2. Anoxic basins
3. Aeration basins with fine bubble diffusers
4. Aeration basins blower building
5. Final clarifiers and flow splitter box
6. RAS Pump Station
7. WAS Pump Station
8. UV Disinfection System Expansion
9. New Office/Lab Building
10. Modifications to existing Circular WWTP
11. Modifications to existing Sludge Dewatering Beds
12. Modifications to existing Parshall Flume

Task 2.1 Final Design Drawings and Project Manual

Task 2.1.1 Final Design Drawings

This task includes preparing detailed design drawings for the WWTP Expansion. The design package will include drawings from the following disciplines: Mechanical, Civil, Structural, Architectural, HVAC, Electrical and Instrumentation and Control. The design drawings will be designed based off applicable codes and standards. A set of design drawings will be provided at the 60%, 90% and bid ready package milestones.

Task 2.1.2 Technical Specifications

This task includes preparing technical specifications for the WWTP Expansion. This will include specification for the following disciplines: Mechanical, Civil, Structural, Architectural, HVAC, Electrical and Instrumentation and Control. The design drawings will be designed based off applicable codes and standards. A set of technical specifications will be provided at the 60%, 90% and bid ready package milestones.

Task 2.2 TCEQ Submittal

This task includes finalizing the engineering report describing the WWTP expansion that will be delivered to the TCEQ for review. AECOM will also be responsible for responding to any comments provided by the TCEQ.

Task 2.3 Opinion of Probable Construction Cost and Schedule

Opinion of Probable Construction Cost (OPCC) developed at the 30% milestone will be updated based on the WWTP expansion final design drawings and specifications. OPCC prepared will be delivered as a part of each milestone review package.

Task 2.4 Deliverables

During the Final Design phase of the project, AECOM will package and deliver milestone review packages for the WWTP expansion for review to the City of Port Lavaca. AECOM will deliver electronic copies of the 60%, 90%, and bid ready milestone packages.

The proposal includes allowances for final design, by AECOM, of treatment facilities required for copper and zinc abatement, if required. A separate proposal requesting authorization of the design with details of the scope and level of effort will be submitted upon determination of the need.

Fee for additional survey and SUE services by Civil Corp has been included in the proposal, to be utilized as determined to be necessary.

SCOPE OF SERVICES – Bid Phase

Task 1 – Project Management

Project management associated is anticipated to span four (4) months as proposed in the attached schedule and includes the following sub-tasks:

Task 1.1: Project Management and Administration

Task 1.1.1: Project Setup and Administration

Setup project in AECOM project management system and administration during the span of this task including oversight, tracking and coordination.

Task 1.2: Meetings

Task 1.2.1: Project Meetings and coordination

AECOM will conduct internal meetings with the staff involved to review progress and address questions from contractors. The proposal is based on conducting a total of two (2) meetings.

Notification of and approval by TWDB is required at every stage of this task including advertisements and award of contract. AECOM will coordinate with the agency's representative.

Task 1.2.2: Project Status Meetings

AECOM will assist in the organization of two (2) project status meetings with the City during the Bid Phase to communicate and receive input and feedback on challenges, outstanding issues, status, decisions, and progress update.

Task 2 – Bid Services

Perform bid services including preparing construction document package for bidding and reviewing construction bids. This task includes the following sub-tasks:

Task 2.1: Bid Services

AECOM's front end contract documents will be used for this project. This task will include reviewing the front-end contract documents and preparing a combined bid package. AECOM will assist the City in preparing an advertisement and publishing two advertisements in two local newspapers and in Civcast. Cost for publications will be paid by the City.

AECOM will conduct a pre-bid meeting and prepare and transmit pre-bid meeting minutes. AECOM will respond to prospective bidders' questions related to the WWTP expansion and will issue contract addenda required to clarify or modify the contract documents.

AECOM will evaluate bids received by checking references and confirming that all required documents have been provided. AECOM will prepare bid tabulation and Recommendation of Award letter to the City.

SCOPE OF SERVICES – Construction Phase

Task 1 – Project Management

Project management associated is anticipated to span twenty-four (24) months as proposed in the attached schedule and includes the following sub-tasks:

Task 1.1: Project Management and Administration

Task 1.1.1: Project Setup and Administration

Setup project in AECOM project management system and administration during the span of the project including oversight, tracking and coordination.

Task 1.2: Meetings

Task 1.2.1: Project Meetings and Coordination

Once construction contract is awarded, AECOM will assist in the organization of and participate in a construction kick-off meeting that will be held at the WWTP. This meeting will discuss general and specific requirements for fulfilling the construction contract including construction phasing, use of existing facilities, and project coordination.

An internal kickoff meeting will be conducted with AECOM team members to convey scope of the construction project and define responsibilities.

AECOM will assist in organizing of and participate in substantial completion inspections of the project and develop punch list items that will be required for final completion. The proposal is based on conducting a total of four (4) partial substantial completion inspections and one (1) final completion inspection. AECOM, along with the City, will conduct a final review of the project for compliance with the Contract Documents.

Notification of and approval by TWDB is required at every stage of this task including kickoff, change orders and close out. AECOM will coordinate these with the agency's representative.

Task 1.2.2: Project Status Meetings

AECOM will assist in the scheduling of and participate in monthly project progress meetings with City and the contractor to review progress of construction, communicate and receive input and feedback on challenges and outstanding issues. AECOM will prepare agenda and meeting minutes each meeting. The proposal is based on conducting a total of twenty-four (24) on-site progress meetings.

A site visit will be conducted after the progress meeting to observe progress. In performing this service, the Engineer will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the work or material; he/she will not be responsible for the techniques of construction or the safety precautions incident thereto; and he/she will not be responsible nor liable in any degree for the Contractor's failure to perform the construction work in accordance with the Contract Documents. During visits to the construction site, and on the basis of the Engineer's on-site observations, he/she will keep the City informed of the extent of the progress of the work, and advise the City of material and substantial defects and deficiencies in

the work of contractors which are discovered by the Engineer or otherwise brought to the Engineer's attention in the course of construction.

AECOM will visit the site, in addition to the monthly site visits, on circumstances such as installation of a critical equipment, data collection, resolution of field issues etc. This proposal is based on conducting twelve (12) additional site visits.

Task 1.3: Project Management Deliverables

Task 1.3.1: Safety Plan and Schedule

Maintain an updated project safety plan. Prepare and maintain an overall construction schedule to reflect projected completion date. This schedule will be submitted with the monthly invoices.

Task 1.3.2: Monthly Invoices and Status Reports

Submit monthly invoices along with a status report summarizing progress of the project and updated project schedule.

Task 2 – Construction Phase Services

Construction phase engineering services will commence upon execution of the construction Contract by the CITY and authorization to proceed with construction phase services for the 2.0 MGD WWTP expansion:

Task 2.1: Construction Phase Services

This task will include review of shop drawings and submittals. This proposal is based on 150 shop drawings including resubmittals requiring six (6) hours to process. AECOM will prepare, maintain, and distribute a Submittals Log. AECOM will review the shop drawings and submittals to ensure they conform the drawings and specifications and will provide responses.

AECOM will answer requests for information (RFI) and issue interpretations and clarifications of the plans and specifications, as needed. Additionally, AECOM will prepare, maintain, and distribute an RFI Log. This task is based on thirty (30) RFIs each requiring approximately four (4) hours to process.

AECOM will review draft and final O&M Manuals data which the Contractor is required to submit, only for conformance with the requirements of the Contract Documents. This proposal is based on twenty (20) O&M Manuals submittals with each O&M Manual requiring four (4) man-hours to review including resubmittals.

During the administration of the construction contract, AECOM will issue all instructions to the Contractor requested by the City; coordinate construction materials testing; and provide general coordination with the Contractor. This task is budgeted for five (5) hours per week of the 24-month construction duration.

AECOM will prepare, maintain, and distribute a Change Order log. It is assumed that the Change orders will be prepared by the City; AECOM will review d provide comments on contractor's estimates and prepared change orders.

Based on the Engineer's observation of the progress, AECOM will review contractor's monthly pay estimates and provide comments/recommendations. This proposal is based on twenty-four (24) monthly pay estimates plus one (1) final pay estimate with each pay estimate requiring approximately two (2) man-hours each. Verification of project's progress and materials stored on-site will be by the City's Construction Project Manager.

AECOM will prepare record drawings assembled from the Contractor's markups of changes made during the construction process. AECOM will provide the City of Port Lavaca one (1) set of reproducible (paper) drawings, and digital files in the electronic format.

Construction materials testing services will be provided by TSI Laboratories; fee for the service is included in the proposal. This proposal does not include services of a resident project representative and other field personnel for on-site observation of construction, construction phase survey control staking or verifications.

ADDITIONAL SERVICES

SCOPE OF SERVICES – Design of treatment system for removal of Copper and Zinc

If the contributing source was not able to be identified through the sampling and source identification program, a system to remove copper and zinc needs to be included as part of final design. The abatement system designed may potentially be chemical addition to precipitate the metals.

Additional testing will be required to determine the right chemical and dosage to meet the effluent permit limits. This proposal includes an allowance under Additional Services which could be utilized if design of an abatement system is determined to be necessary as part of the treatment process.

An allowance for design of treatment facilities required for copper and zinc abatement has been included as part of the Final Design fee as an Additional Services. This allowance will be utilized to develop a proposal if design of a treatment system is determined to be necessary.

Assumptions

1. City of Port Lavaca will provide requested data and information within five business days of written submittal request to maintain the project schedule. Consistent with the professional standard of care, AECOM shall be entitled to rely upon the accuracy of data and information provided by City or others without independent review or evaluation.
2. If and when possible, City will provide site access and facility support staff to allow for any identified site reconnaissance activities. Facility support staff shall be knowledgeable of applicable safety practices and will inform any AECOM project team members of these requirements. AECOM understands any site visits will occur between regular business hours and will depend on City staff escort availability. No special equipment is expected to be utilized or required during site visits. AECOM will conduct all observations without the use of specialty equipment that may require additional safety training beyond awareness training.
3. City will provide electronic design files as available to support development of drawings, details, and criteria as required for preparation of deliverables.
4. City will provide review and comment on AECOM's deliverables within ten business days of submittal to maintain the project schedule.
5. Invoices will be prepared monthly and will be accompanied by a status summary memo. Project Schedule will be updated and submitted with the invoice. Any changes to the schedule will be noted and explained.
6. Labor costs have been distributed by discipline in accordance with the Scope of Work (SOW). Estimated costs were based upon discussions of the pre-proposal meeting, prior experience, and AECOM's understanding of the goals of the project.
7. AECOM understands that City input will be required for certain deliverables and that completeness of certain deliverables is dependent on City's ability to provide such data.
8. Permitted effluent quality limits upon issuance of a final amended TPDES permit for the 2.0 MGD capacity expansion will not be lower than 10/15/5/4 (mg/L - BOD/TSS/NH3-N/DO).

9. There will not be any significant revisions requested by the City after receiving initial direction by the City or after obtaining approvals from the TCEQ.
10. Meeting other than the ones specifically called out as on-site meetings will be conducted virtually.
11. No travel and subsistence required of AECOM and authorized by the City to points other than the project site or City offices.
12. No filing, review, permit, inspection and other fees assessed by the City, County or State.
13. There will not be any additional copies of contract documents and specifications (over agreed number) and additional copies of drawings (over agreed number).
14. Proposal does not include fee for the effort associated with re-bidding the project.
15. AECOM will not be preparing an environmental assessment of the project site.
16. AECOM will not provide assistance to the City as an expert witness in any litigation with third parties arising from the development or construction of the project.
17. No warranty phase engineering services will be required.
18. AECOM will not be participating in public involvement meetings.
19. Services related to preparation, submittal, and processing of a TPDES permit application, including attendance at public hearings related to TPDES, and addressing of public are not required.
20. SCADA/PLC programming services will be provided by the contractor as part of the construction contract.
21. Fee for providing basic construction phase services is for a period of 24 months; a fee will be negotiated to extend the service upon determination of the additional duration, prior to completion of the 24 months.
22. Supplemental Provisions
    a. Reuse of Documents: AECOM shall bear no liability or responsibility for deliverables that have been modified post-delivery or used for a purpose other than that for which it was prepared under this project.
    b. Any Opinion of Probable Construction Cost prepared by AECOM represents its judgment as AECOM and is supplied for the general guidance of City. Since AECOM has no control over the cost of labor and material, or over competitive bidding or market conditions, AECOM does not guarantee the accuracy of such opinions as compared to Construction Contractor bids or actual cost to City.

DELIVERABLES

AECOM will be submitting the following deliverables for review and approval as listed in the sub-tasks of the Scope of Services.

1. Meeting agenda and minutes (as applicable)
2. Workshop agenda and minutes (as applicable)
3. Monthly invoices and progress reports
4. 30% Milestone Review Package
5. 60% Milestone Review Package
6. 90% Milestone Review Package
7. Bid Ready Package
8. Estimates of Probable Construction Cost
9. Bid Documents
10. Up to two (2) Addenda for Bidding
11. Conformed Construction Documents
12. Record Drawings

AECOM

Each deliverable will have the following

- Three (3) sets of each Milestone Review Package (hard copy)
- Electronic copy of Milestone Review Package
- Three (3) sets of each Bid Ready Package (hard copy)
- Electronic copy of Bid Ready Package
- Up to five (5) sets of Conformed Construction Documents (hard copy)
- Electronic copy of Conformed Construction Documents
- One (1) Full Size set of Record Drawings (hard copy)
- Electronic copy of Record Drawings

COMPENSATION

Compensation for the services listed in the above Scope of Services for Task Order 5 is to be on a lump sum. The project cost of the scope of work has been calculated and is defined in Exhibit A. The total compensation for the basic and additional services listed in the above Scope of Services is summarized below.

Task Order 5 - Basic Services

Task	Description	AECOM	Subconsultants	Total
5A	Sampling and Source Identification of Cu and Zn	$44,716	$3,150	$47,866
5B	30% Design	$331,323	$85,755	$417,078
5C	Assistance in Funding Application	$29,644		$29,644
5D	Final Design	$1,126,116		$1,126,116
5E	Bid Phase	$24,214		$24,214
5F	Construction Phase Services	$579,207	$78,347	$657,554
Total Estimated Fee - Basic Services				**$2,302,472**

Task Order 5 - Additional Services

Task	Description	AECOM	Subconsultants	Total
5G	Final Design: CU and Zn Treatment System Design	$60,000		$60,000
5F	SUE Services		$13,409	$13,409
Total Estimated Fee - Additional Services				**$73,409**

AECOM requests authorization of the Basic Services Items 5A, 5B and 5C for a total amount of $494,588. We appreciate your consideration of the proposal and look forward to the opportunity to work on this project. Should you have any questions or require additional information, please do not hesitate to contact me at (281) 675-7668.

Sincerely,

Vinoth Manoharan, P.E.
Project Manager

Shelby G. Eckols, P.E.
Senior Vice President

Attachments: Exhibit A – Level of Effort
Exhibit B – Project Schedule

AECOM

Signature below indicates that Tasks 5A, 5B and 5C of Task Order 5 are accepted in accordance with our Master Design Engineering Services Agreement dated May 10, 2021.

_____
Signature

Jack Whitlow
Printed Name

Mayor
Printed Title

December 12, 2022
Date

City of Port Lavaca - Lynns Bayou Wastewater Treatment Plant Expansion
Summary of Fees

Task Order 5 - Basic Services

Task	Description	AECOM	Subconsultants	Total
5A	Sampling and Source Identification of Cu and Zn	$44,716	$3,150	$47,866
5B	30% Design	$331,323	$85,755	$417,078
5C	Assistance in Funding Application	$29,644		$29,644
5D	Final Design	$1,126,116		$1,126,116
5E	Bid Phase	$24,214		$24,214
5F	Construction Phase Services	$579,207	$78,347	$657,554
Total Estimated Fee - Basic Services				**$2,302,472**

Task Order 5 - Additional Services

Task	Description	AECOM	Subconsultants	Total
5G	Final Design: CU and Zn Treatment System Design	$60,000		$60,000
5F	SUE Services		$13,409	$13,409
Total Estimated Fee - Additional Services				**$73,409**

AECOM
Exhibit A - Level of Effort
Plan for Sampling and Source Identification of Cu & Zn - Lynns Bayou WWTP Expansion

Proposal Date: October 20, 2022

Task Number	Billing Rates	Principal	Project Manager	QA/QC	Sr. Process Engineer	Structural Eng /Architect	Electrical Engineer	I&C Engineer	Project Engineer	Graduate Engineer	Sr. Designer/ Drafter	Electrical Designer	Drafter	Admin	TOTALS
		$370	$227	$275	$256	$276	$266	$224	$136	$118	$195	$156	$123	$97	
	LABOR														
	TASK DESCRIPTION														TASK FEE
Plan for Sampling and Source Identification of Copper and Zinc															
	Item Description	3	20	6	52	0	0	0	88	60	16	0	0	4	$43,216
	a Sampling Plan	2	6	2	20				40	40	8			2	$19,707
	b Co-ordination of Sampling Activities		4						8						$1,999
	c Review of Test Results and Recommendations		4		16				20						$7,736
	d Technical Memorandum	1	6	4	16				20	20	8			2	$13,775
	TOTAL HOURS	3	20	6	52	0	0	0	88	60	16	0	0	4	$43,216
	AECOM BASIC SERVICES LABOR EXPENSE TOTALS	$1,109.72	$4,542.72	$1,652	$13,330	$0	$0	$0	$11,993	$7,087	$3,115	$0	$0	$388	
														Check	$43,216

NON-LABOR		
	Copies, Prints & Couriers	$500
	Travel (Ground Transport, Parking, Meals,etc)	$1,000
AECOM BASIC SERVICES NON-LABOR EXPENSE TOTAL		$1,500
AECOM BASIC SERVICES EXPENSE TOTAL		$44,716

SUBCONTRACTOR		Subcontract Amount	Subcontract Markup	Subcont Expense
Laboratory - Water Sample Testing		$3,000	$150	$3,150
SUBCONTRACTOR SERVICES TOTALS				$3,150

TOTAL BASIC SERVICES WORK PLAN	$47,866

AECOM
Exhibit A - Level of Effort
30% Preliminary Design - Lynns Bayou WWTP Expansion

Proposal Date: October 20, 2022

Task Number	Billing Rates	Principal	Project Manager	QA/QC	Sr. Process Engineer	Estimator	Structural Eng /Architect	Electrical Engineer	I&C Engineer	Project Engineer	Graduate Engineer	Sr. Designer/ Drafter	Electrical Designer	Drafter	Admin	TOTALS
		$370	$227	$275	$256	$198	$278	$266	$224	$136	$118	$195	$156	$123	$97	
	LABOR															
	TASK DESCRIPTION															TASK FEE
	TASK 1 - Project Management															
1.1	Project Management and Administration (4 months)	2	8	0	0	0	0	0	0	8	0	0	0	0	8	$4,423
1.1.1	Project Setup and Administration	2	8	0	0	0	0	0	0	8	0	0	0	0	8	$4,423
a	Project Setup and Update	1	4												4	$1,666
b	Oversight and Budget Tracking	1	4							8					4	$2,757
1.2	Meetings	2	46	0	23	0	9	9	9	46	13	1	1	0	4	$32,519
1.2.1	Project Meetings	1	8	0	1	0	1	1	1	10	1	1	1	0	0	$5,040
a	Client Kickoff Meeting		2							2						$727
b	Internal Kickoff Meeting	1	2		1		1	1	1	2	1	1	1			$2,587
c	Subconsultant Kickoff Meetings		4							6						$1,726
1.2.2	Project Coordination	1	32	0	16	0	8	8	8	30	12	0	0	0	4	$23,760
a	Subconsultants Coordination and Onsite Meetings		12							12					4	$4,749
b	Biweekly Internal Progress Meetings	1	12		8		8	8	8	12	8					$13,853
c	Coordination - TCEQ		8		8					6	4					$5,158
1.2.3	Project Status Meetings	0	6	0	6	0	0	0	0	6	0	0	0	0	0	$3,719
a	Project Status Meetings (4)		6		6					6						$3,719
1.3	Project Management Deliverables	3	12	2	0	0	0	0	0	16	0	0	0	0	2	$6,760
1.3.1	Project Plan and Schedule	2	8	2	0	0	0	0	0	12	0	0	0	0	0	$4,743
a	Project Plan and Safety Plan	1	4	1						6						$2,371
b	Design and Preliminary Construction Schedule	1	4	1						6						$2,371
1.3.2	Monthly Invoices and Progress Reports	1	4	0	0	0	0	0	0	4	0	0	0	0	2	$2,018
a	Monthly Invoices & Progress Reports (4 months)	1	4							4					2	$2,018
	TASK 2 - 30% Design															
2.1	Preliminary Design and Deliverables	12	97	0	62	0	80	116	0	258	358	222	80	68	0	$236,803
2.1.1	Site Design	2	10	0	10	0	0	0	0	30	24	22	0	20	0	$19,247
a	Determine Design Criteria, Codes and Standards		1		4					6	6					$2,779
b	100-yr & 500-yr Flood Plain Review and Mitigation	1	2							6	6	6				$3,519
c	Review Survey Drawings		2							4						$999
d	Site Layout	1	4		4					8	6	8		12		$7,140
e	Site Drainage and Grading		1		2					6	6	8		8		$4,810
2.1.2	Process Mechanical Design	2	46	0	24	0	0	0	0	38	138	144	0	20	0	$69,319
a	Process Flow Diagrams	1	2		6					6	10	24		4		$9,527
b	Plan and Section Drawings of Treatment Units	1	40		12					24	120	120		16		$55,311
c	List of Proposed Major Equipment and Acceptable Manufacturers		4		8					8	8					$4,994
2.1.3	Hydraulic Design	1	6	0	12	0	0	0	0	16	12	16	0	4	0	$12,015
a	Hydraulic Profile Drawing	1	6		12					16	12	16		4		$12,015
2.1.4	Structural Design	2	13	0	8	0	28	0	0	26	28	8	0	8	0	$22,860
a	Establish Criteria for Structural Design		1				4			4	4					$2,348
b	Identify Codes and Standards		1				4			4	4					$2,348
c	Identify Categories of Loads and Estimate Loads	1	4				6			4	4					$3,951
d	Evaluation of Existing Facilities for Rehabilitation	1	6		8		8			12	16	8		8		$12,059
e	Review Gotech Report		1				6			2						$2,155
2.1.5	Architectural Design	2	8	0	0	0	52	0	0	52	44	32	0	16	0	$37,385
a	Identify Occupancy and Construction Types		1				4			4	4					$2,348
b	General Life Safety Requirements		1				4			4	4					$2,348
c	Preliminary Equipment Schedule, Ductwork, Piping and Plumbing		2				8			8	8					$4,696
d	Identify Special Permitting and Code Requirements		1				4			4	4					$2,348
e	Building Floor Plans and Sections	1	2				16			16	12	16		8		$12,936
e	HVAC Plans and Sections	1	1				16			16	12	16		8		$12,709

AECOM
Exhibit A - Level of Effort
30% Preliminary Design - Lynns Bayou WWTP Expansion

Proposal Date: October 20, 2022

Task Number	Billing Rates	Principal	Project Manager	QA/QC	Sr. Process Engineer	Estimator	Structural Eng /Architect	Electrical Engineer	I&C Engineer	Project Engineer	Graduate Engineer	Sr. Designer/ Drafter	Electrical Designer	Drafter	Admin	TOTALS
		$370	$227	$275	$256	$198	$276	$266	$224	$138	$118	$195	$156	$123	$97	
	LABOR															
	TASK DESCRIPTION															TASK FEE
	2.1.6 Electrical Design	2	8	0	0	0	0	116	0	60	60	0	40	0	0	$54,915
	a Identify Reference Standards		1					4		4	4					$2,309
	b Determine Major Electrical Equipment		1					40		8	16					$13,850
	c Standby Power and motor Control and Protection, Raceways and Lighting		2					40		16	16					$15,167
	d Electrical one-Line Diagrams	1	2					16		16	12					$8,679
	e Major Equipment Layout and Electrical Room Plan	1	2					16		16	12		40			$14,909
	2.1.6 Instrumentation and Control Design	1	6	0	8	0	0	0	0	36	52	0	40	0	0	$21,061
	a General Description and Requirements of PLC		1							8	12					$2,735
	b General Description and Requirements of SCADA		1							12	24					$4,697
	c Preliminary Process and Instrumentation Diagrams	1	4		8					16	16		40			$13,629
2.2	Design Drawings and Technical Specifications	4	14	24	12	0	0	4	4	32	36	24	0	16	0	$31,560
	2.2.1 Design Drawings	1	4	20	0	0	0	0	0	8	8	16	0	16	0	$13,907
	a Preparation of 30% Design Package	1	4	20						8	8	16		16		$13,907
	2.2.2 Technical Specifications	3	10	4	12	0	0	4	4	24	28	8	0	0	0	$17,653
	a Preliminary List of Technical Specifications	1	4		4			4	4	8	12					$6,771
	b Preliminary Engineering Report	2	6	4	8					16	16	8				$10,882
2.4	Opinion of Probable Construction Cost & Schedule	1	8	4	0	40	0	0	0	12	12	0	0	0	0	$14,258
	a Estiamted Construction Cost Estimate	1	8	4		40				12	12					$14,258
	TOTAL HOURS	24	185	30	97	40	89	129	13	372	419	247	81	84	14	$326,323
	AECOM BASIC SERVICES LABOR EXPENSE TOTALS	$8,877.77	$42,020.16	$8,258	$24,865	$7,917	$24,547	$34,323	$2,911	$50,697	$49,488	$48,088	$12,616	$10,357	$1,358	
															Check	$326,323

NON-LABOR	
Copies, Prints & Couriers	$1,000
Travel (Ground Transport, Parking, Meals,etc)	$4,000
AECOM BASIC SERVICES NON-LABOR EXPENSE TOTAL	$5,000

AECOM BASIC SERVICES EXPENSE TOTAL	$331,323

AECOM ADDITIONAL SERVICES	
a Design of Facilities Required for Copper and Zinc Abatement	$0
AECOM ADDITIONAL SERVICES LABOR EXPENSE TOTALS	$0

BASIC SUBCONTRACTOR SERVICES AND MARKUP												
SUBCONTRACTOR		Subcontract Amount					Subcontract Markup					Subcontor Expense
Surveying - CivilCorp [See attached Proposal for Detail]		$56,097					$2,805					$58,901
Geotech - TSI Laboratories [See attached Proposal for Detail]		$25,575					$1,279					$26,854
SUBCONTRACTOR BASIC SERVICES TOTALS												$85,755

SUBCONTRACTOR ADDITIONAL SERVICES AND MARKUP												
SUBCONTRACTOR		Subcontract Amount					Subcontract Markup					Subcontor Expense
		$0					$0					$0
SUBCONTRACTOR ADDITIONAL SERVICES TOTALS												$0

TOTAL BASIC SERVICES WORK PLAN	$417,078

CivilCorp
ENGINEERS • SURVEYORS

4611 E. Airline Ste 300
Victoria, Texas 77904
Telephone: (361) 570-7500
E-Mail: babsher@civilcorp.us

October 4, 2022
AECOM
Attn: Vinoth Manoharan, P.E.

Re: Fee Proposal for Surveying Services – Port Lavaca Waste Water Treatment Facility Topographic Survey

CivilCorp, LLC is pleased to submit this fee proposal for surveying services for the above referenced project. We propose the following scope of work, deliverables, fee and exclusions for our services.

I. Scope of Work – Topographic Survey

The work to be performed by CivilCorp shall consist of providing topographic surveying deliverables for the subject project.

The work described below is based on the following assumptions:

1. Deliverables to be in Microstation DGN format.
2. All as-built and plan drawings will be provided.
3. Work will be restricted to areas shown in attachment "A".

Tasks To Be Completed:

a. Control

Approximately 4 control points will be established near or within the project area. All control will be tied with GPS or conventional traverse to establish horizontal location. Control will be tied with conventional third order level loop for vertical location and referenced to existing site control and the Texas Coordinate System, South Central Zone.

CivilCorp shall prepare a Survey Control Index Sheet, signed, sealed and dated by the responsible RPLS for insertion into the plan set. The Survey Control Index Sheet shows an overall view of the project control and the relationship of primary monumentation and control used in the preparation of the project.

The following information should be shown on the Survey Control Index Sheet:

- Overall view of the project and primary control monuments set for control of the project.
- Identification of the control points.
- Graphic (Bar) Scale.
- North Arrow.
- RPLS signature, seal and date.

b. Topographic Surveying

The topographic survey is to include edge of pavements, driveways, signs, mailboxes, traffic signals, sidewalks, pavement markings, trees over 6 inches in diameter, building corners, eave height of buildings man hole covers, and other visible features as needed for design of the project. Topographic survey shall include limits and elevations of all existing structures (WWTP treatment units) include flowline elevations and diameters and flowline elevations of outfall pipes An existing condition 2-D topographic survey base map will be provided with text, line types, and feature blocks scaled to be plotted at agreed upon scales in Microstation .dgn format. A 3-D .tin file will be created using ground features tied. The approximate locations of floodplains shall be plotted by referencing and scaling the relative F.I.R.M Map panel.

Topographic survey shall be performed by on the ground methods for horizontal and vertical locations of all features. A combination of RTKGNSS and conventional total station methods shall be utilized.

Topographic survey will be performed at a grid spacing of 25' within the fenced area of the waste water treatment plant. Topographic survey will be performed at a grid spacing of 100' within Commerce St right-of-way.

All boreholes will be tied and refenced to control after completion.

Topographic survey does not include mapping of piping throughout facility.

c. Changes to Scope

If at any time during the contract period, CivilCorp encounters unforeseen circumstances which may materially affect the scope, complexity or character of the work authorized by AECOM, CivilCorp shall notify AECOM in writing with a complete description of the circumstances encountered.

II. Deliverables

1. Copy of ASCII points in .txt format files
2. Topographic map in PDF format signed and sealed by Texas RPLS
3. Survey Control Index Sheet
4. All CAD files, including DTM in Microstation format
5. All electronic files (i.e. .dgn, pdf, etc.)
6. Electronic copies of field books

III. Fee

The estimated fee for the above mentioned Scope of Work for lump sum payment is **$ 43,607.50.**

IV. Exclusions

1. Right of entry agreements
2. Property line or right-of-way line determination
3. Staking borehole locations
4. Tying and mapping utilities
5. Performing SUE Level A, B, C, or D
6. Property Descriptions
7. Deed research
8. Extra work that is not included in Scope of Work

V. Optional Scope of Work – Property Boundary Survey

Tasks To Be Completed:

a. Property Survey

Adequate deed research and field survey will be completed to determine boundary lines of subject property. Work will be performed without the aid of a title commitment.

VI. Deliverables

1. TSPS Manual of Practice Category 1B Standard Land Survey Condition 3 survey.
2. All CAD files in Microstation format
3. All electronic files (i.e. .dgn, pdf, etc.)
4. Electronic copies of field books

VII. Fee

The estimated fee for the above mentioned Scope of Work for lump sum payment is **$ 12,489.00.**

VIII. Optional Scope of Work – Subsurface Utility Engineering (SUE)

The work described below is based on the following assumptions:

1. All as-built and plan drawings will be provided.
2. SUE Quality levels D and C will be performed by others
3. Proposed location of Testhole will be determined by others
4. All work will be completed with 1 mobilization

Tasks To Be Completed:

a. Level A Testholes

CivilCorp shall obtain precise horizontal and Vertical position, material type, condition, size and other data that may be obtainable about the utility facility and its surrounding environment through exposure by non-destructive excavation techniques up to a maximum depth of 10 feet. Estimated 5 Level A Test holes and minimal amount of Level B required to complete testhole.

IX. Deliverables

1. Testhole data sheets for each testhole

X. Fee

The estimated fee for the above mentioned Scope of Work for specified rate payment is not to exceed **$ 12,770.00** utilizing the rates on the attached fee schedule.

If you have any questions or require additional information, please don't hesitate to call me. We are looking forward to working with you on this project.

Very truly yours,

CivilCorp, LLC

Brandon Absher, RPLS
Survey Manager

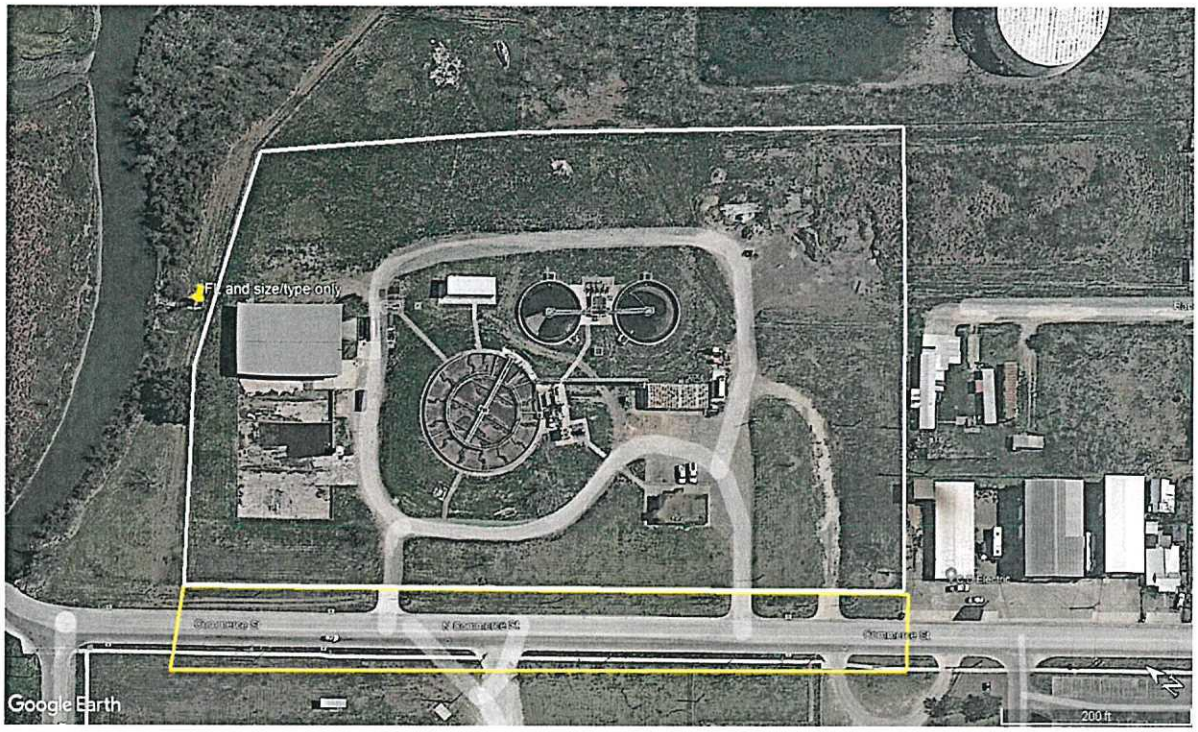
AECOM

By: _____

Title: _____

Date: _____

Attachment "A": Limits of Survey



Fee Schedule
Method of Payment: Lump Sum

Prime: AECOM
Project: Port Lavaca Waste Water Plant Survey
Subprovider: CivilCorp, LLC. (Topographic Surveying Tasks)
Method of Payment: Lump Sum

TASK DESCRIPTION **Topographic Surveying**	RPLS-PROJECT MANAGER	SENIOR SURVEY TECH	SURVEY TECH	1-PERSON SURVEY CREW	2-PERSON SURVEY CREW	3-PERSON SURVEY CREW	GIS OPERATOR	ADMIN/ CLERICAL	TOTAL LABOR HRS.
Verify Existing Control and Set Control and Level Loop (4 IR w/ Cap)	4	4	5			10		1	24
Topographic Survey 25' grid (within attached limits)	6	8	14			60		5	93
Topographic Survey w/100' X sections on N Commerce St	1	2	4			15		1	23
Tie Geotechnical Boreholes (estimate 14)	1	1	3			10		1	16
Signed/Sealed Topographic Survey and Base file	18	36	58						112
Control Index Sheet	4	4	8						16
HOURS SUB-TOTALS	34	55	92	0	0	95	0	8	284
CONTRACT RATE PER HOUR	$180.00	$115.00	$105.00	$130.00	$180.00	$215.00	$120.00	$90.00	
TOTAL LABOR COSTS	$6,120.00	$6,325.00	$9,660.00	$0.00	$0.00	$20,425.00	$0.00	$720.00	
% DISTRIBUTION OF STAFFING	12%	19%	32%	0%	0%	33%	0%	3%	
SUBTOTAL									$43,250.00

OTHER DIRECT EXPENSES	**UNIT**	MAXIMUM	**QUANTITY**	**NOTES**					**COST**
Mileage	Mile	$ 0.575	100						$ 57.50
GPS RTK Base	Hour	$ 30.000	10						$ 300.00
SUBTOTAL DIRECT EXPENSES									**$357.50**

SUMMARY	
TOTAL LABOR COSTS	$43,250.00
NON-SALARY (OTHER DIRECT EXPENSES)	$357.50
TOTAL	$43,607.50

Fee Schedule
Method of Payment: Lump Sum

Prime: AECOM
Project: Port Lavaca Waste Water Plant Survey
Subprovider: CivilCorp, LLC. (Boundary Surveying Tasks)
Method of Payment: Lump Sum

TASK DESCRIPTION **Boundary Surveying**	RPLS-PROJECT MANAGER	SENIOR SURVEY TECH	SURVEY TECH	1-PERSON SURVEY CREW	2-PERSON SURVEY CREW	3-PERSON SURVEY CREW	GIS OPERATOR	ADMIN/ CLERICAL	TOTAL LABOR HRS.
Determine Existing Property lines, provide property description and drawing	10	20	30			20		3	83
HOURS SUB-TOTALS	10	20	30	0	0	20	0	3	83
CONTRACT RATE PER HOUR	$180.00	$115.00	$105.00	$130.00	$180.00	$215.00	$120.00	$90.00	
TOTAL LABOR COSTS	$1,800.00	$2,300.00	$3,150.00	$0.00	$0.00	$4,300.00	$0.00	$270.00	
% DISTRIBUTION OF STAFFING	12%	24%	36%	0%	0%	24%	0%	4%	
SUBTOTAL									$11,820.00

OTHER DIRECT EXPENSES	**UNIT**	MAXIMUM	**QUANTITY**	**NOTES**					**COST**
Mileage	Mile	$ 0.575	120						$ 69.00
GPS RTK Base	Hour	$ 30.000	20						$ 600.00
SUBTOTAL DIRECT EXPENSES									**$669.00**

SUMMARY	
TOTAL LABOR COSTS	$11,820.00
NON-SALARY (OTHER DIRECT EXPENSES)	$669.00
TOTAL	$12,489.00

Fee Schedule
Method of Payment: Lump Sum

Prime: AECOM
Project: Port Lavaca Waste Water Plant Survey
Subprovider: CivilCorp, LLC. (SUE Tasks)
Method of Payment: Lump Sum

Subsurface Utility Engineering (SUE)	UNIT	COST	QUANTITY	NOTES					COST
SUE Mobilization/Demobilization - cost for mobilizing/demobilizing personnel and equipment portal to portal. Vacuum excavation truck (non-local)	Mile	$ 5.00	260						$ 1,300.00
SUE (Quality Level A - Utility Locate, Test Holes): Includes labor and equipment for vacuum excavation, engineering, surveying, CADD, and limited traffic control. Includes minimal Quality Level B service needed to perfrom testhole. Max Depth 10 feet.	Each	$ 2,150.00	5						$ 10,750.00
2- Person Survey Crew	Hour	180	4						$ 720.00
SUBTOTAL SUE									$12,770.00

TSI LABORATORIES, INC.
TBPE Firm Registration No. F-9236

September 23, 2022

Vinoth Manoharan
AECOM
19219 Katy Freeway Suite 100
Houston, TX 77094

Re: Geotechnical Investigation
Lynn's Bayou Wastewater Treatment Plant Expansion
800 N. Commerce St.
Port Lavaca, TX 77979

Proposal No.: PV-221254 Rev1

Mr. Manoharan,

TSI Laboratories, Inc. (TSI) is pleased to submit our Geotechnical Investigation Proposal for testing and inspection services for the above referenced project.

TSI has been in business for over 26 years. Our technicians hold various state certifications and licenses for testing and analysis of soils, concrete, asphalt, and steel materials. TSI conducts all testing of materials in accordance with ACI, TXDOT, ASTM and other State and National Standards. **TSI is currently accredited through the Army Corps of Engineers.**

TSI understands detailed geotechnical investigation which allows us to detect soil and ground issues that could potentially impact long term performance of the facility under consideration. In addition, early geotechnical involvement includes possible shortening of the construction schedule through identification of suitable, alternate construction methods that are directly linked to construction cost, operation, and maintenance. Our laboratory possesses the required equipment, qualified manpower, and certifications necessary to complete even the most difficult of tasks.

PROJECT DESCRIPTION

The project consists of the construction of a new admin building, headworks, anoxic aerobic basin, sludge PS, clarifiers, expanded UV disinfection capacity, rebuild Parshall flume and convert area to engineered sludge beds with roof. The project is located in Port Lavaca, TX.

GEOTECHNICAL ENGINEERING SCOPE OF WORK

Task 1 – Project Initiation

If required, prior to performing any sub-surface explorations we will visit the site to mark the proposed boring locations. Once locations have been marked, we will notify Texas811 to identify and mark potential buried utilities in the area. We assume no environmental permits are required for the work we will be performing.

TSI Laboratories, Inc. * 1810 SOUTH LAURENT STREET * VICTORIA, TX 77901
Telephone: 361-578-6933 Fax: 361-578-2601 www.tsilabstx.com E-mail: tsilabvictoria@gmail.com

Task 2 – Field Exploration

We will attempt to determine the subsurface water condition and level by drilling a boring. We observe the water level during drilling activities and 24 hours after drilling activities have been completed.

Location	Number of Borings	Depth of Borings
Clarifiers with Dist. Box	7	40'
Sludge PS, Central Blower and Admin Buildings	4	30'
Reactor Basins	3	50'

Geotechnical borings will generally be performed using dry auger. During boring advancement driven samples will be taken at various intervals.

We anticipate the site is accessible to truck mounted equipment. If this is not the case additional fees may be required for site clearing and extra mobilization.

Any delays or standby time will be charged $200/hr. or $1,000/day.

Task 3 – Analyses and Report Preparation

Our findings, conclusions and recommendations will be presented in a report with logs of the explorations and laboratory test results. The report will include a cover letter sealed by a professional engineer, licensed in the state of Texas. We anticipate the report will include, but not be limited to, the following:

- Description of work scope, laboratory, and field procedures
- Logs of the borings
- Results of field testing
- Results of the standard laboratory testing **including UUs, CUs, Unconfineds, Consolidations, Swells and some Chemical testing and soil unit weights**
- Recommended foundation type and design parameters for drained and undrained conditions
- Foundation alternatives and relevant design parameters for drained and undrained conditions
- Site preparation and earthwork recommendations for subbase and backfill materials
- Pavement recommendations for subbase and backfill materials
- Anticipated excavation conditions
- Subsurface water observation levels and recommended groundwater elevation for structural design

SCHEDULE

We anticipate the field exploration to begin within 10 - 17 days after authorization is provided dependent on weather and current schedule. The field investigation will take approximately 3 - 5 working days. A final report should be submitted within 12 -16 business days after the completion of Laboratory testing. We will **provide electronic copies of final reports.**

TSI Laboratories, Inc. * 1810 SOUTH LAURENT STREET * VICTORIA, TX 77901
Telephone: 361-578-6933 Fax: 361-578-2601 www.tsilabstx.com E-mail: tsilabvictoria@gmail.com

ALLOCATION OF RISK

The total cumulative liability of TSI, its officers, employees, and agents, to the client arising from Services under this agreement, including attorney's fees due under this Agreement, will not exceed the gross compensation received by TSI under this Agreement; provided, however, that such liability is further limited as described below.

This limitation applies to all lawsuits, claims, or actions that allege errors or omission in TSI's Services, whether alleged to arise in tort, contract, warranty, or other legal theory.

INDEMNIFICATION

Subject to the provisions and limitations of this Agreement, TSI agrees to indemnify and hold harmless the Client against any and all claims, suits, liabilities, damages, expenses (including without limitation reasonable attorney's fees and costs of defense), or other losses to the extent caused by TSI's negligent performance of its Services under this Agreement.

The client agrees to indemnify and hold harmless TSI against any and all claims, suits, liabilities, damages, expenses (including without limitation reasonable attorney's fees and costs of defense), or other losses to the extent caused by the negligence of the Client.

ENGINEERING FEES AND AUTHORIZATION

The estimated cost for the geotechnical investigation is **$25,575.00**. This estimate includes drilling mobilization, laboratory testing, engineering fees and report. estimate is based on anticipated quantities and work schedules. This estimate does not include any construction materials testing. If there are any changes, prices will be changed accordingly. This proposal is valid for a period of 3 months from above date. If there are any questions, please call us at (361) 578-6933.

Respectfully Submitted,

Erlinda L. Aguillon

_____
Erlinda L. Aguillon
Estimator, TSI Laboratories

This proposal is accepted in accordance with the TSI Laboratories, Inc. prices, terms (due upon receipt) and conditions listed.

Firm: _____

Authorized Representative:

Sign: _____

Print: _____

Date: _____

Please sign and return acceptance copy.

TSI Laboratories, Inc. * 1810 SOUTH LAURENT STREET * VICTORIA, TX 77901
Telephone: 361-578-6933 Fax: 361-578-2601 www.tsilabstx.com E-mail: tsilabvictoria@gmail.com

AECOM

Exhibit A - Level of Effort

Assistance in Funding Application - Lynns Bayou WWTP Expansion

Proposal Date: October 20, 2022

Task Number	Billing Rates	Principal	Project Manager	QA/QC	Sr. Process Engineer	Structural Eng /Architect	Electrical Engineer	I&C Engineer	Project Engineer	Graduate Engineer	Sr. Designer/ Drafter	Electrical Designer	Drafter	Admin	TOTALS
		$370	$227	$275	$256	$278	$266	$224	$136	$118	$195	$156	$123	$97	
	LABOR														
	TASK DESCRIPTION														TASK FEE
Assistance in Application															
Item	Description	1	38	0	6	0	0	0	73	60	0	0	0	10	$28,544
a	Research on Potential TWDB Funding Opportunities		4						8	8				2	$3,138
b	TWDB Communication/Coordination		12						16	8				2	$6,045
c	Pre-application Meeting		6		6				3						$3,310
d	Obtain Application Forms and Determine Data Needs		4						12	10					$3,725
e	Filling of Applications and Preparing Attachments	1	4						24	24				4	$7,772
f	Assistance in Securing Required Documents and Packaging		8						10	10				2	$4,555
	TOTAL HOURS	1	38	0	6	0	0	0	73	60	0	0	0	10	$28,544
	AECOM BASIC SERVICES LABOR EXPENSE TOTALS	$369.91	$8,631.17	$0	$1,538	$0	$0	$0	$9,949	$7,087	$0	$0	$0	$970	
														Check	$28,544

NON-LABOR		
	Copies, Prints & Couriers	$500
	Travel (Ground Transport, Parking, Meals,etc)	$600
AECOM BASIC SERVICES NON-LABOR EXPENSE TOTAL		$1,100
AECOM BASIC SERVICES EXPENSE TOTAL		$29,644
TOTAL BASIC SERVICES WORK PLAN		$29,644

AECOM
Exhibit A - Level of Effort
Final Design Services - Lynns Bayou WWTP Expansion

Proposal Date: October 20, 2022

Task Number	Billing Rates	Principal	Project Manager	QA/QC	Sr. Process Engineer	Estimator	Structural Eng /Architect	Electrical Engineer	I&C Engineer	Project Engineer	Graduate Engineer	Sr. Designer/ Drafter	Electrical Designer	Drafter	Admin	TOTALS
		$370	$227	$275	$256	$198	$276	$266	$224	$136	$118	$195	$156	$123	$97	
	LABOR															
	TASK DESCRIPTION															TASK FEE
TASK 1 - Project Management																
1.1	Project Management and Administration (10 months)	2	16	0	0	0	0	0	0	5	0	0	0	0	16	$6,607
1.1.1	Project Setup and Administration	2	16	0	0	0	0	0	0	5	0	0	0	0	16	$6,607
a	Project Setup and Update	1	6												6	$2,315
b	Oversight and Budget Tracking	1	10							5					10	$4,293
1.2	Meetings	2	60	0	30	0	20	28	20	60	26	0	4	0	0	$51,373
1.2.2	Project Coordination	2	50	0	20	0	20	28	20	50	26	0	4	0	0	$45,175
a	Biweekly Internal Progress Meetings	2	30		20		20	20	20	30	20					$34,447
b	Coordination - TWDB		12							12	6					$5,070
c	American Electric Power(AEP) Coordination		8					8		8			4			$5,659
1.2.2	Project Status Meetings	0	10	0	10	0	0	0	0	10	0	0	0	0	0	$6,198
a	Project Status Meetings (10)		10		10					10						$6,198
1.3	Project Management Deliverables	3	14	0	0	0	0	0	0	16	0	0	0	0	10	$7,440
1.3.1	Project Plan and Schedule	2	4	0	0	0	0	0	0	6	0	0	0	0	0	$2,466
a	Project Plan and Safety Plan	1	2							3						$1,233
b	Design and Preliminary Construction Schedule	1	2							3						$1,233
1.3.2	Monthly Invoices and Progress Reports	1	10	0	0	0	0	0	0	10	0	0	0	0	10	$4,974
a	Monthly Invoices & Progress Reports (10 months)	1	10							10					10	$4,974
TASK 2 - Final Design																
2.1	Final Design Drawings and Project Manual	23	267	0	526	0	440	390	327	796	780	688	509	416	24	$969,775
2.1.1	Final Design Drawings	19	233	0	440	0	400	304	241	696	652	688	509	416	0	$854,284
a	100-yr & 500-yr Flood Plain Review and Mitigation	1	2		2		8			12	16	16		8		$11,170
b	Hydraulic Profile	1	6		16					36	24	24		8		$19,234
c	Site Layout	1	8		12					16	16	40		16		$19,094
d	Site Drainage and Grading		4		4					16	16	32		16		$14,207
e	Stormwater Pollution Prevention Plan		1		2					4	8	8		8		$4,774
f	Construction Phasing and Sequencing	2	8		16			4	4	16	16	8		8		$15,232
g	Headworks and Grit Basin	1	12		24		16	12	16	32	32	36	24	24		$42,282
h	Flow Splitter		6		10		12	4	2	24	24	40	10	24		$27,158
i	Anoxic Basins	2	16		32		32	16	16	48	40	40	30	24		$55,927
j	Aeration Basins	2	16		32		32	16	16	48	40	40	30	24		$55,927
k	Aeration Blower/Electical Building		16		32		36	40	32	48	40	40	40	24		$67,816
l	Expansion of Existing Blower Facility		12		20		32	36	15	40	40	24	50	24		$55,210
m	Clarifier Flow Splitter		8		12		16	8	4	24	24	24	10	16		$26,639
n	Clarifiers	1	16		36		36	12	12	40	40	40	40	24		$56,193
o	RAS Pump Station	1	12		24		20	16	16	36	36	24	30	24		$44,066
p	WAS Pump Station	1	12		24		20	16	16	36	36	24	30	24		$44,066
q	Scum Pump Station		8		12		12	16	16	16	16	16	30	16		$29,873
r	UV Disinfection System Expansion	2	16		36		24	24	16	40	40	40	24	24		$54,850
s	Parshall Flume	1	6		12		12	4	8	16	16	24	16	8		$23,195
t	Engineered Sludge Beds with Roof Structure	1	12		16		16	8		36	36	36	16	20		$34,863
u	Sludge Bed - Chemical Feed System		8		16		16	16	16	16	16	32	24	12		$33,689
v	Rehabilitation/Modifications to Exisitng WWTP	1	16		30		24	20	20	48	40	40	50	24		$57,913
w	Administrative/Lab Building	1	12		20		36	36	16	48	40	40	55	16		$60,905
2.1.2	Technical Specifications	4	34	0	86	0	40	86	86	100	128	0	0	0	24	$115,491
a	Technical Specifications	2	24		80		40	80	80	80	120				16	$103,556
b	Bid Form	1	4		6			6	6	8	8				4	$8,179
c	Front End Documents	1	6							12					4	$3,756
2.2	TCEQ Submittal	1	18	2	16	0	0	0	0	24	32	0	0	0	16	$17,713
a	Engineering Report	1	12	2	12					16	24				8	$12,513
b	TCEQ Submittal		6		4					8	8				8	$5,199

AECOM
Exhibit A - Level of Effort
Final Design Services - Lynns Bayou WWTP Expansion

Proposal Date: October 20, 2022

Task Number	Billing Rates	Principal	Project Manager	QA/QC	Sr. Process Engineer	Estimator	Structural Eng /Architect	Electrical Engineer	I&C Engineer	Project Engineer	Graduate Engineer	Sr. Designer/ Drafter	Electrical Designer	Drafter	Admin	TOTALS
		$370	$227	$275	$256	$198	$276	$266	$224	$136	$118	$195	$156	$123	$97	
	LABOR															
	TASK DESCRIPTION															TASK FEE
2.4	**Opinion of Probable Construction Cost & Schedule**	**2**	**8**	**6**	**0**	**60**	**4**	**4**	**4**	**12**	**12**	**0**	**0**	**0**	**0**	**$22,200**
	a Estiamted Construction Cost Estimate	2	8	6		60	4	4	4	12	12					$22,200
2.3	**Deliverables**	**3**	**12**	**56**	**0**	**0**	**0**	**0**	**0**	**24**	**24**	**48**	**0**	**48**	**4**	**$41,007**
	a Prepare 60% Design Package	1	4	20						8	8	16		16	1	$14,004
	b Prepare 90% Design Package	1	4	20						8	8	16		16	1	$14,004
	c Prepare Bid Ready Package	1	4	16						8	8	16		16	2	$13,000
	TOTAL HOURS	36	395	64	372	60	464	422	351	937	874	736	313	464	70	$1,116,116
	AECOM BASIC SERVICES LABOR EXPENSE TOTALS	$13,316.66	$89,718.72	$17,617	$146,626	$11,876	$127,975	$112,283	$78,586	$127,696	$103,229	$143,290	$79,900	$57,212	$6,790	
															Check	$1,116,116

NON-LABOR		
Copies, Prints & Couriers		$2,000
Travel (Ground Transport, Parking, Meals,etc)		$8,000
AECOM BASIC SERVICES NON-LABOR EXPENSE TOTAL		$10,000
AECOM BASIC SERVICES EXPENSE TOTAL		**$1,126,116**

AECOM ADDITIONAL SERVICES		
a **Design of Facilities Required for Copper and Zinc Abatement**		$60,000
AECOM ADDITIONAL SERVICES LABOR EXPENSE TOTALS		$60,000

BASIC SUBCONTRACTOR SERVICES AND MARKUP													
SUBCONTRACTOR		Subcontract Amount					Subcontract Markup						Subcontor Expense
		$0					$0						$0
		$0					$0						$0
SUBCONTRACTOR BASIC SERVICES TOTALS													$0

SUBCONTRACTOR ADDITIONAL SERVICES AND MARKUP													
SUBCONTRACTOR		Subcontract Amount					Subcontract Markup						Subcontor Expense
Subsurface Utility Engineering (SUE) - CivilCorp [See attached Proposal for Detail]		$12,770					$639						$13,409
SUBCONTRACTOR ADDITIONAL SERVICES TOTALS													$13,409

TOTAL BASIC SERVICES WORK PLAN	**$1,199,524**

AECOM
Exhibit A - Level of Effort
Bid Phase Services - Lynns Bayou WWTP Expansion

Proposal Date: October 20, 2022

Task Number	Billing Rates	Principal	Project Manager	QA/QC	Sr. Process Engineer	Structural Eng /Architect	Electrical Engineer	I&C Engineer	Project Engineer	Graduate Engineer	Sr. Designer/ Drafter	Electrical Designer	Drafter	Admin	TOTALS
		$370	$227	$275	$256	$276	$266	$224	$136	$118	$195	$156	$123	$97	
	LABOR														
	TASK DESCRIPTION														TASK FEE
TASK 1 - Project Management															
1.1	**Project Management and Administration (4 months)**	2	6	0	0	0	0	0	0	0	0	0	0	8	$2,879
1.1.1	**Project Setup and Administration**	2	6	0	0	0	0	0	0	0	0	0	0	8	$2,879
a	Project Setup and Update	1	4											4	$1,666
b	Oversight and Budget Tracking	1	2											4	$1,212
1.2	**Meetings**	0	10	0	2	1	1	1	12	4	0	0	0	0	$5,658
1.2.1	**Project Meetings and Coordination**	0	6	0	2	1	1	1	8	2	0	0	0	0	$3,968
a	Internal Meetings (2)		2		2	1	1	1	2	2					$2,242
b	TWDB Coordination		4						6						$1,726
1.2.2	**Project Status Meetings**	0	4	0	0	0	0	0	4	2	0	0	0	0	$1,690
a	Project Status Meetings (2)		4						4	2					$1,690
1.3	**Project Management Deliverables**	0	4	0	0	0	0	0	2	0	0	0	0	2	$1,375
1.3.1	**Monthly Invoices and Progress Reports**	0	4	0	0	0	0	0	2	0	0	0	0	2	$1,375
a	Monthly Invoices & Progress Reports (4 months)		4						2					2	$1,375
TASK 2 - Bid Services															
2.1	**Bid Services**	1	20	7	3	0	0	0	27	8	0	0	0	10	$13,203
a	Review of Front End Contract Documents		4	4					8					2	$3,294
b	Develop Advertisement		1	1					2					2	$969
c	Prebid Conference		4						4	4				1	$2,023
d	Prepare Meeting Minutes & Addenda		8	2	2				8	4				4	$4,831
e	Bid Opening		1						1						$363
f	Bid Tabulation & Recommendation	1	2		1				4					1	$1,723
	TOTAL HOURS	3	40	7	5	1	1	1	41	12	0	0	0	20	$23,114
	AECOM BASIC SERVICES LABOR EXPENSE TOTALS	$1,109.72	$9,085.44	$1,927	$1,282	$276	$266	$224	$5,588	$1,417	$0	$0	$0	$1,940	
														Check	$23,114

NON-LABOR		
Copies, Prints & Couriers		$500
Travel (Ground Transport, Parking, Meals,etc)		$600
AECOM BASIC SERVICES NON-LABOR EXPENSE TOTAL		$1,100
AECOM BASIC SERVICES EXPENSE TOTAL		$24,214
TOTAL BASIC SERVICES WORK PLAN		**$24,214**

AECOM
Exhibit A - Level of Effort
Construction Phase Services - Lynns Bayou WWTP Expansion

Proposal Date: October 20, 2022

Task Number	Billing Rates	Principal	Project Manager	QA/QC	Sr. Process Engineer	Estimator	Structural Eng /Architect	Electrical Engineer	I&C Engineer	Project Engineer	Graduate Engineer	Sr. Designer/ Drafter	Electrical Designer	Drafter	Admin	TOTALS
		$370	$227	$275	$256	$198	$276	$266	$224	$136	$118	$195	$156	$123	$97	
	LABOR															
	TASK DESCRIPTION															TASK FEE
TASK 1 - Project Management																
1.1	Project Management and Administration (24 months)	3	15	0	0	0	0	0	0	12	0	0	0	0	27	$8,771
1.1.1	Project Setup and Administration	3	15	0	0	0	0	0	0	12	0	0	0	0	27	$8,771
a	Project Setup and Update	1	3												3	$1,342
b	Oversight and Budget Tracking	2	12							12					24	$7,429
1.2	Meetings	5	266	0	1	0	15	15	11	266	109	1	1	0	13	$123,851
1.2.1	Project Meetings and Coordination	1	38	0	1	0	15	15	11	38	31	1	1	0	1	$29,136
a	Construction Kickoff Meeting		6							6	6					$2,889
b	Internal Kickoff Meeting	1	2		1		1	1	1	2	1	1	1		1	$2,684
c	Partial Substantial Completion Inspections (4)		24				8	8	4	24	24					$16,787
d	Final Completion Inspection (1)		6				6	6	6	6						$6,775
e	Coordination with TWDB		6							8						$2,453
1.2.2	Project Status Meetings	4	228	0	0	0	0	0	0	228	78	0	0	0	12	$94,715
a	Onsite Progress Meetings & Site Visits (24)	4	120							120	48					$50,759
b	Agenda & Meeting Minutes		48							48					12	$18,608
c	Additional Site Visits (12)		60							60	30					$25,348
1.3	Project Management Deliverables	0	56	0	0	0	0	0	0	34	2	0	0	0	28	$20,305
1.3.1	Project Plan and Schedule	0	8	0	0	0	0	0	0	10	2	0	0	0	4	$3,804
a	Maintain Updated Project Safety Plan		2							4	2				2	$1,430
b	Maintain Updated Construction Schedule		6							6					2	$2,375
1.3.2	Monthly Invoices and Progress Reports	0	48	0	0	0	0	0	0	24	0	0	0	0	24	$16,501
a	Monthly Invoices & Progress Reports (24 months)		48							24					24	$16,501
TASK 2 - Construction Phase Services																
2.1	Construction Phase Services	21	443	4	198	0	88	132	112	490	284	180	80	140	41	$413,779
a	Review of Shop Drawings and Submittals (150)	10	75		140		80	120	100	150	200				25	$179,494
b	Response to Request for Information (30)	1	15	4	30		8	8	8	30	12				4	$24,588
c	Review of O&M Manuals (20)		8		12			4	4	16	32				4	$13,201
d	Construction Contract Administration	8	280							192						$92,723
e	Review of Pay Estimates (25)		25							50					4	$12,880
f	Prepare Record Drawings	2	40		16					52	40	180	80	140	4	$90,892
	TOTAL HOURS	29	780	4	199	0	103	147	123	802	395	181	81	140	109	$566,707
	AECOM BASIC SERVICES LABOR EXPENSE TOTALS	$10,727.31	$177,166.08	$1,101	$51,012	$0	$28,408	$39,113	$27,539	$109,298	$46,654	$35,239	$12,616	$17,262	$10,573	
															Check	$566,707

NON-LABOR	
Copies, Prints & Couriers	$1,500
Travel (Ground Transport, Parking, Meals,etc)	$11,000
AECOM BASIC SERVICES NON-LABOR EXPENSE TOTAL	$12,500
AECOM BASIC SERVICES EXPENSE TOTAL	**$579,207**

BASIC SUBCONTRACTOR SERVICES AND MARKUP												
SUBCONTRACTOR	Subcontract Amount					Subcontract Markup						Subcont Expense
TSI Laboratories - Construction Materials Testing [See attached for Detail]	$74,616					$3,731						$78,347
SUBCONTRACTOR BASIC SERVICES TOTALS												$78,347

TOTAL BASIC CONSTRUCTION PHASE SERVICES WORK PLAN	$657,554

TSI LABORATORIES, INC.
TBPE Firm Registration No. F-9236

September 27, 2022

Vinoth Manoharan
AECOM
19219 Katy Freeway Suite 100
Houston, TX 77094

Re: Construction Material Testing Proposal
Lynn's Bayou Wastewater Treatment Plant Expansion
800 N. Commerce St.
Port Lavaca, TX 77979

Proposal No.: PV-211262

Mr. Manoharan,

TSI Laboratories, Inc. (TSI) is pleased to submit our Construction Material Testing (CMT) **Proposal** for inspection services for the above referenced project.

TSI has been in business for over 26 years. Our technicians have acquired various state certifications and licenses. Our certifications allow us to test soils, concrete, asphalt, and steel materials. TSI conducts all testing of materials in accordance with state, TxDOT, U.S. Army Corps of Engineers, ASTM and National Standards. Our laboratories have accurate and calibrated state-of- the-art testing equipment. **TSI is currently accredited through the U.S. Army Corps of Engineers.**

PROJECT INFORMATION

The project consists of the construction of a new admin building, headworks, anoxic aerobic basin, sludge PS, clarifiers, expanded UV disinfection capacity, rebuild Parshall flume and convert area to engineered sludge beds with roof. The project is located in Port Lavaca, TX.

SCOPE OF SERVICES

TSI's experienced and certified technicians will conduct all inspections and testing services for this project to verify strict compliance to project plans and specifications or as requested by project engineers or architects.

This proposal should be reviewed by all design professionals prior to starting this project. If the proposed work is deemed inaccurate, we will be happy to revise the proposal to meet the necessary requirements.

SCHEDULING

TSI Technicians will perform inspections and testing on a "per request" basis. The client will need

TSI Laboratories, Inc. * 1810 SOUTH LAURENT STREET * VICTORIA, TX 77901
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to call to schedule all inspections and testing services with a minimum of 24 hrs. notice. If 24 hr. advance notice is not given, we will send the next available technician, this can cause delays and, in some cases, make in impossible to fulfill the task.

All scheduling should be done through the Victoria, Texas office by calling and speaking with dispatch at 361-578-6933. Technicians DO NOT schedule inspections or testing.

REPORTING

TSI Technicians are responsible for making sure that all work performed is within project specifications and completely daily reports on each project. Any work not meeting specifications will be reported to the site superintendent immediately, as well as our Project Manager.

TSI Project Manager will review all technicians' daily reports and communicate with the client regarding results in a timely manner.

REPORT DELIVERY

TSI Technicians and/or Project Managers will report failing tests or non-compliance items immediately to the appropriate personnel noted on the project sheet. All reports are submitted digitally. Timeframes for lab reports vary. Digitally signed reports are generally sent within two (2) business days of test completion to all parties designated on the project sheet.

COMPENSATION

Based on the information you provided the total cost for our testing services is estimated at **$74,616.00.** A breakdown of this estimate is provided under "Estimated Cost and Quantities". Many factors that are beyond our control can have an effect of the final charges such as weather, contractors schedule, cancelled or failed tests or additional requested testing. If there are any changes or additions, the cost will be adjusted accordingly. This estimate is based on anticipated quantities and work schedules as per project plans provided to TSI by the client. Actual cost will be based on the actual number of tests performed, trips and hours required to perform said testing. If paying with a credit card, a small processing fee will be added to total payment.

Technician time will be charged portal to portal from the closest TSI location (a minimum of 3 hours per call out). Normal work hours are 8am to 5pm, Monday thru Friday. Work performed before or after those hours will be charged at the overtime rate which is 1.5 times the regular technician rate. Technician time will be charged for sample pick up (a minimum of two (2) hours per pick up). Project manager time will be billed for report review at 0.5 hours per report issued (minimum charge of one (1) hour per monthly invoice).

Administrative charges will be billed at 0.5 hours per report prepared (minimum of one (1) hour per monthly invoice). Charges for failed tests and cancellations after technician is in route or has arrived to project will result in additional charges. A minimum of three (3) density tests will be charged per call out for compaction testing. Special permits, certifications or training required for the technician to access the job site will be billed to the customer at cost plus 15%.

ALLOCATION OF RISK

The total cumulative liability of TSI, its officers, employees, and agents, to the client arising from Services under this agreement, including attorney's fees due under this Agreement, will not exceed the gross compensation received by TSI under this Agreement; provided, however, that such liability is further limited as described below. This limitation applies to all lawsuits, claims, or actions that allege errors or omission in TSI's Services, whether alleged to arise in tort, contract, warranty, or other legal theory.

TSI Laboratories, Inc. * 1810 SOUTH LAURENT STREET * VICTORIA, TX 77901
Telephone: 361-578-6933 Fax: 361-578-2601 www.tsilabstx.com E-mail: tsilabvictoria@gmail.com

INDEMNIFICATION

Subject to the provisions and limitations of this Agreement, TSI agrees to indemnify and hold harmless the Client against any and all claims, suits, liabilities, damages, expenses (including without limitation reasonable attorney's fees and costs of defense), or other losses to the extent caused by TSI's negligent performance of its Services under this Agreement.

The client agrees to indemnify and hold harmless TSI against any and all claims, suits, liabilities, damages, expenses (including without limitation reasonable attorney's fees and costs of defense), or other losses to the extent caused by the negligence of the Client.

AUTHORIZATION

Acceptance of this proposal and all contained within it shall be provided by signing the attached signature page and returning the entire proposal along with the project sheet. Services will begin according to the schedule provided by the client. This proposal shall constitute the terms and conditions of the services to be provided by TSI.

This proposal is valid for a period of three (3) months from above date. Our regular hours of operation are Monday thru Friday 8AM to 5PM. If there are any questions, please call us at (361)578-6933.

Respectfully
Submitted,

Erlinda L. Aguillon

Erlinda L. Aguillon
Estimator, TSI Laboratories, Inc.

This proposal is accepted in accordance with the TSI Laboratories, Inc. prices, terms (due upon receipt) and conditions listed.

Firm: _____

Authorized Representative:

Sign: _____

Print: _____

Date: _____

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ESTIMATED COST AND QUANTITIES

No.	Item Description	Unit	Qty.	Unit Cost	Total Cost
1	**Soil Testing: Reactor Beams, Walls, Clarifiers, Buildings, Paving, Misc...**				
1.1	Proctor	No.	7	$155.00	$1,085.00
1.2	PI	No.	7	$60.00	$420.00
1.3	Gradations	No.	7	$45.00	$315.00
1.4	Densities	No.	436	$20.00	$8,720.00
1.5	Technician Time	No.	336	$45.00	$15,120.00
1.6	Trip	No.	79	$35.00	$2,765.00
				Subtotal	**$28,425.00**
2	**Concrete: Reactor Basins**				
2.1	Cylinders (12 sets x 4 cyl per set)	No.	48	$16.50	$792.00
2.2	Technician Time incl. Rebar Inspection	No.	60	$45.00	$2,700.00
2.3	Trip	No.	10	$35.00	$350.00
				Subtotal	**$3,842.00**
3	**Concrete: Clarifiers**				
3.1	Cylinders (36 sets x 4 cyl per set)	No.	144	$16.50	$2,376.00
3.2	Technician Time incl. Rebar Inspection	No.	100	$45.00	$4,500.00
3.3	Trip	No.	20	$35.00	$700.00
				Subtotal	**$7,576.00**
4	**Concrete: Headworks**				
4.1	Cylinders (4 sets x 4 cyl per set)	No.	16	$16.50	$264.00
4.2	Technician Time incl. Rebar Inspection	No.	30	$45.00	$1,350.00
4.3	Trip	No.	6	$35.00	$210.00
				Subtotal	**$1,824.00**
5	**Concrete: Admin Buildings**				
5.1	Cylinders (8 sets x 4 cyl per set)	No.	32	$16.50	$528.00
5.2	Technician Time incl. Rebar Inspection	No.	15	$45.00	$675.00
5.3	Trip	No.	2	$35.00	$70.00
				Subtotal	**$1,273.00**
6	**Concrete: Sludge PS**				
6.1	Cylinders (2 sets x 4 cyl per set)	No.	8	$16.50	$132.00
6.2	Technician Time incl. Rebar Inspection	No.	15	$45.00	$675.00
6.3	Trip	No.	3	$35.00	$105.00
				Subtotal	**$912.00**

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7	**Concrete: Blower Building**				
7.1	Cylinders (8 sets x 4 cyl per set)	No.	32	$16.50	$528.00
7.2	Technician Time incl. Rebar Inspection	No.	36	$45.00	$1,620.00
7.3	Trip	No.	6	$35.00	$210.00
				Subtotal	**$2,358.00**
8	**Concrete: Dirt Box**				
8.1	Cylinders (2 sets x 4 cyl per set)	No.	8	$16.50	$132.00
8.2	Technician Time incl. Rebar Inspection	No.	10	$45.00	$450.00
8.3	Trip	No.	2	$35.00	$70.00
				Subtotal	**$652.00**
9	**Concrete: Parshall Flume**				
9.1	Cylinders (4 sets x 4 cyl per set)	No.	16	$16.50	$264.00
9.2	Technician Time incl. Rebar Inspection	No.	24	$45.00	$1,080.00
9.3	Trip	No.	6	$35.00	$210.00
				Subtotal	**$1,554.00**
10	**Concrete: Sludge Bed**				
10.1	Cylinders (8 sets x 4 cyl per set)	No.	32	$16.50	$528.00
10.2	Technician Time incl. Rebar Inspection	No.	36	$45.00	$1,620.00
10.3	Trip	No.	6	$35.00	$210.00
				Subtotal	**$2,358.00**
11	**Concrete: Paving**				
11.1	Cylinders (12 sets x 4 cyl per set)	No.	48	$16.50	$792.00
11.2	Technician Time incl. Rebar Inspection	No.	60	$45.00	$2,700.00
11.3	Trip	No.	10	$35.00	$350.00
				Subtotal	**$3,842.00**
12	**Additional Costs for Testing**				
12.1	Masonry	LS	1	$5,000.00	$5,000.00
12.2	Weld and Bolt Inspection	LS	1	$5,000.00	$5,000.00
12.3	Misc. Testing/Inspections	LS	1	$5,000.00	$5,000.00
12.4	Admin Charges - PM and Clerical	LS	1	$5,000.00	$5,000.00
				Subtotal	**$20,000.00**
				Total estimated cost:	**$74,616.00**

**** Estimated cost is based on estimated number of tests needed, also time and trips required to perform said testing. No detailed plans were provided so assumptions were made based on outlining of proposed areas. Actual cost will be based on the actual number of tests performed, trips and hours required to perform said testing.****

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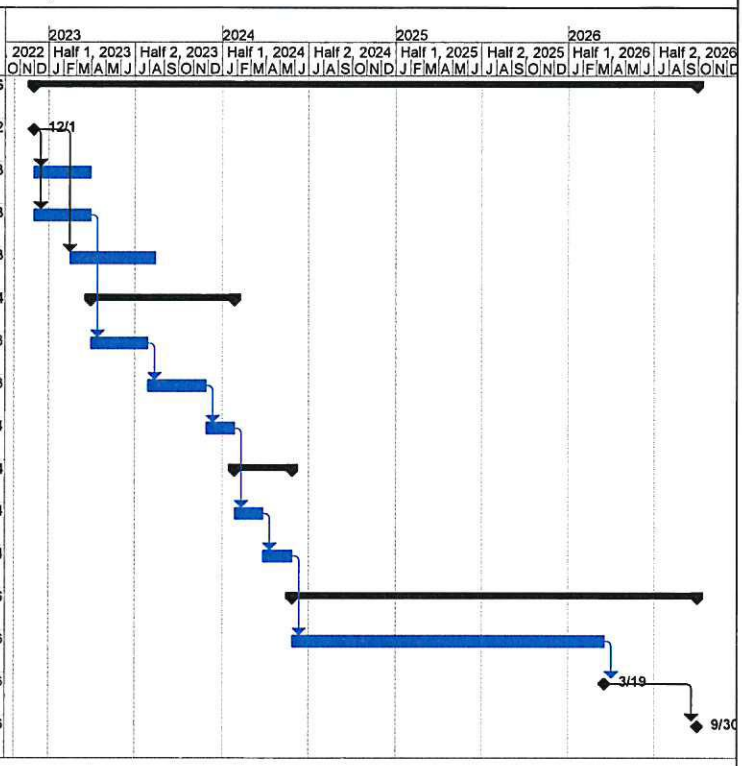
City of Port Lavaca - Lynns Bayou WWTP Expansion
Exhibit B - Preliminary Overall Schedule

ID	Task Name	Duration	Start	Finish
1	**Lynns Bayou WWTP Expansion**	**1399 days**	**Thu 12/1/22**	**Wed 9/30/26**
2	**Notice to Proceed**	0 days	Thu 12/1/22	Thu 12/1/22
3	**Cu & Zn Sampling & Source Identifica**	120 days	Thu 12/1/22	Fri 3/31/23
4	**30% Design**	120 days	Thu 12/1/22	Fri 3/31/23
5	**Funding Application**	180 days	Wed 2/15/23	Mon 8/14/23
6	**Final Design**	**302 days**	**Fri 3/31/23**	**Sat 1/27/24**
7	60% Design	120 days	Fri 3/31/23	Sat 7/29/23
8	90% Design	122 days	Sat 7/29/23	Tue 11/28/23
9	Bid ready Pacakge	60 days	Tue 11/28/23	Sat 1/27/24
10	**Bid Phase**	**122 days**	**Sat 1/27/24**	**Tue 5/28/24**
11	Bid Phase	60 days	Sat 1/27/24	Wed 3/27/24
12	Council Approval	62 days	Wed 3/27/24	Tue 5/28/24
13	**Construction Phase**	**855 days**	**Tue 5/28/24**	**Wed 9/30/26**
14	Construction Phase	660 days	Tue 5/28/24	Thu 3/19/26
15	Substaintial Completion Inspection	0 days	Thu 3/19/26	Thu 3/19/26
16	Final Completion Inspection	0 days	Wed 9/30/26	Wed 9/30/26



Project: Lynns Bayou WWTP Exp
Date: Thu 10/20/22

Task	External Milestone	Manual Summary Rollup
Split	Inactive Task	Manual Summary
Milestone	Inactive Milestone	Start-only
Summary	Inactive Summary	Finish-only
Project Summary	Manual Task	Progress
External Tasks	Duration-only	Deadline