



November 21, 2025

J.H. Edmonds, P.E.  
Director of Engineering Services  
City of Corpus Christi  
P.O. Box 9277  
Corpus Christi, TX 78469-9277

**Re: CITY OF CORPUS CHRISTI  
Hewitt Dr / Santa Fe St WW Line Upsizing Project  
City Project No. 23007  
Ardurra Project No. 2025-0622-00  
Exhibit 'A-1' – LARGE AE CONTRACT (PRELIMINARY DESIGN, DESIGN, BID, &  
CONSTRUCTION PHASES)**

Dear Mr. Edmonds:

We are pleased to submit this scope of services and accompanying fee proposal for the Large AE Contract associated with the *Hewitt Dr / Santa Fe St WW Line Upsizing* project (City Project No. 23007). The Scope of Services included in this Contract include Preliminary Design, Design, Bid, and Construction Phase Services plus listed Additional Services, as authorized. These Engineering services shall be provided in accordance with the attached Large AE Exhibit 'A-1'.

If you have any questions or need any additional information, please do not hesitate to contact me at [LBurton@ardurra.com](mailto:LBurton@ardurra.com) or 361-883-1984.

Thank you for selecting Ardurra to meet your engineering needs for this project.

Sincerely,  
Ardurra Group, Inc.

W. Logan Burton, P.E.  
Water Practice Director – Central Region

**EXHIBIT “A-1”  
CITY OF CORPUS CHRISTI, TEXAS**

**HEWITT DR / SANTA FE ST WW LINE UPSIZING  
PROJECT NO. 23007**

**I. Project Description**

The objective for City CIP Project No. 23007 Hewitt Place / Santa Fe Street WW Line Upsizing is to perform design, bid, and construction phase services to resolve the confirmed capacity constraints (CCCs) indicated in **Exhibit 1**. In February of 2024 the City contracted Ardurra through TA-01 of Contract No 4237 to perform modeling services with the intention of identifying and screening potential solutions to address the capacity constraints and to better define the scope of work under Project 20037. As a result of TA-01, the City requested design, bid, and construction phase services for two (2) new lift station and force mains to relieve the SSOs of Project 20037. The City also requested that residential mains adjacent to the scoped interceptors which appear to be undersized based on the model results be included in the design phase. An overview of the proposed scope may be found in **Exhibit 2** attached to this proposal.

Lift station and force main size, location, force main alignment, installation method, and constructability, and feasibility will be analyzed in the Preliminary Design Phase. Up to three (3) lift station alternatives will be presented for the City’s consideration to proceed with design. Upon approval of an alternative, the A/E will proceed with Design, Bid, & Construction Phase services.

The following assumptions and estimations have been made for the project scope and limits. If scope changes are discovered during Preliminary Design the A/E will notify the City immediately before proceeding. If the City agrees that the change in scope warrants an amendment the A/E will provide a proposal within two (2) weeks of notice to incorporate additional scope into the contract.

**Project Scope/Assumptions:**

Scope assumptions at this time are based on Alternative LS 4 from the technical memo titled “Hewitt Place / Santa Fe Street WW System Hydraulic Modeling Services” and dated 03-20-2025 provided under TA-01 of Contract No 4237. This project will be broken into three (3) separate bid packages as described below:

**Santa Fe Bid Package:**

The Santa Fe bid package is assumed to consist of gravity upsizing of the existing wastewater interceptor along Santa Fe Street between Chandler Lane and the proposed Santa Fe Lift Station near Brawner Parkway. The proposed Santa Fe Lift Station is assumed to be located near Brawner Parkway adjacent to Santa Fe Street. The force main from the Santa Fe Lift Station is assumed to be routed along Santa Fe Street, Grant Place, Center Drive, Carmel Parkway, Estate Drive, Robert Drive, Gaines Street, Airline Road, Monette Drive, Paloma Street, Alameda Street, Cape Romain Drive, Cape Cod Drive, and Kentner streets to the Kentner Lift Station; however this alignment will be evaluated and updated during preliminary design. The Santa Fe bid package improvements are assumed to consist of the following:

- **Santa Fe Improvements Assumptions:**

- Existing Gravity Interceptor Upsize
  - 3100 LF of existing 12" gravity upsize
  - 1780 LF of existing 15" gravity upsize
  - 2580 LF of existing 18" gravity upsize
  - 3400 LF of existing 21" gravity upsize
- New Lift Station near Brawner Parkway
- 16540 LF of new 14" force main

**Kentner Bid Package:**

The Kentner bid package is assumed to consist of a proposed Lift Station on Kentner Street near the abandoned Montclair Elementary School property. The Kentner Lift Station is assumed to be the termination point of the proposed Santa Fe Lift Station. The force main from the Kentner Lift Station is assumed to be routed along Kentner Street, Claremore Street, across Alameda to the Oso Municipal Golf Course. From there it will continue to the Oso Water Reclamation Plant (WRP). This alignment will be evaluated and updated during preliminary design. The Kentner bid package improvements are assumed to consist of the following:

- **Kentner Improvements Assumptions:**

- New Lift Station on Kentner Street near abandoned Montclair Elementary School.
- 7660 LF of new 16" force main

**Residential Gravity Collector Capacity Evaluation:**

The Residential gravity collector capacity evaluation is assumed to consist of analyzing portions of existing residential wastewater collector pipes along Ocean Drive between Airline and Mitchell Street, Aberdeen and Robert Drive between Ocean Drive and Santa Fe Street, and on Robert Drive from Gaines Street to Gollihar Road. The required improvements will be further evaluated in Preliminary Design.

- **Gravity Collector Assumptions:**

- 5720 LF of existing 8" gravity line
- 2040 LF of existing 10" gravity line
- 100 LF of existing 12" gravity line

**Gravity Upsize Design Assumptions:**

- Pipe burst installation will be assessed as the preferred installation method to reduce costs and disturbance to the public. Factors determining where pipe burst may be acceptable include if the existing pipeline existing conditions are acceptable for pipe bursting and the existing pipe alignment and grade is consistent with the overall conveyance plan for the system improvements to increase system capacity; facilitate tie-into the existing system and lateral connections; and to address system surcharging. Open trench and trenchless bore installation recommendations will be considered where pipe burst is not acceptable.
- Pipe slope will also be considered during preliminary design as a means of achieving required capacity in existing gravity lines currently assumed to be upsized.

**Force Main Design Assumptions:**

- New force main is assumed to be open trench installation method. Additional installation methods will be evaluated in Preliminary Design Phase.
- Alignment and length may change during Preliminary Design Phase.

**Lift Station Design Assumptions:**

- Lift Station design may be discussed and reviewed in Preliminary Design Phase to determine aesthetics and layout preferences of the City.

**Exclusions:**

- Materials testing services required during construction will be provided through a separate contract.
- “Special Inspections” for buildings required by the International Building Code (IBC)
- Legal review, fees, interpretation, or additional research related to right of ways, easements or encumbrances not specified in the scope of services.
- Any services not part of the scope of services herein.

**Anticipated Subconsultants:**

- |                  |                                  |
|------------------|----------------------------------|
| ○ CCTV:          | AIMS Companies                   |
| ○ Environmental: | Coastal Environments Inc. (CEI)  |
| ○ Geotechnical:  | UES                              |
| ○ SUE:           | Cobb, Fendley & Associates, Inc. |

## **II. SCOPE OF SERVICES**

### **A. BASIC SERVICES**

For the purpose of this Contract, Design Phase services may include Design Development as applicable to Architectural/Engineering (A/E) services. The following Subtask Lists provide detailed descriptions of services to be provided under a more general task. These subtasks may be common between the bid packages in many cases and therefore have been condensed into a single list. Each bid package task will reference relevant subtasks in these lists that were considered in the level of effort (LOE) for that bid package.

#### **➤ Project Management Subtask List:**

- a. Internal Kickoff Meeting: Conduct one (1) internal kickoff meeting with A/E project team. Purpose of this meeting is to orient the team members to the work, review project scope, schedule, and budget, and make initial task assignments.
- b. Project Kickoff Meeting: Conduct one (1) project kickoff meeting with City staff. Purpose of this meeting is to introduce the project team to City staff, establish project communications protocols, confirm project goals and objectives, review scope, schedule and budget, and coordinate initial project tasks. A/E will prepare and distribute a kickoff meeting agenda prior to the meeting. A/E will schedule and attend the kickoff meeting. A/E will prepare and distribute meeting minutes within one week following the project kickoff meeting.
- c. Monthly Invoicing: A/E will prepare and submit monthly invoices to City for payment during all phases of the project. Project duration is anticipated to be six (6) years from NTP.
- d. Monthly Progress Reports: A/E will prepare and submit monthly status reports to the City with A/E's monthly invoice. Monthly status reports will comprise a one page summary of the progress to date on the project, work completed during the prior month, work anticipated to be completed during the upcoming month, and discussion of any scope, schedule, or budget issues that may need to be resolved. Monthly reports will be provided during all phases of the project. Project duration is anticipated to be six (6) years from NTP.
- e. Project Schedule & Updates: A/E will prepare and submit a project schedule and make revisions as necessary to submit to the City throughout preliminary design and design phases.
- f. Project Team Coordination: A/E will provide additional coordination efforts and meetings between all subconsultants, third parties, internal team members, independent material testing consultants and City staff as required to ensure all work is in agreement with the City's objectives and project requirements. City Staff coordination meetings will include data gathering sessions with public works department on planned street bond projects. A/E will also maintain a decision log for the project to include decisions made during all comments, correspondence, meetings, and other forms of communication throughout the project.
- g. Coordination With Other Agencies: A/E will coordinate any required meetings with the City and other agencies. Agency coordination will include AEP for an electrical service plan (if any). On the Environmental side, effort is anticipated to be focused on US Army Corps of Engineers (USACE) if a permit is required for crossing wetlands south of the Oso Beach Municipal Golf Course. In addition, resource agencies such as Center for Archeological Research (CAR) in San Antonio, Texas may be involved depending upon the findings of the jurisdictional delineation and the project

footprint. Typically, coordination with other agencies such as existing utilities, and Railroad Commission of Texas, can be handled with direct correspondence, emails, or telephone conferences. The City's project manager will be included on all communication to ensure the City is fully aware of any issues.

- h. Quality Assurance/Quality Control: A/E will develop and implement a QA/QC plan for the work. Elements of the QA/QC plan will include the following:
  - i. A/E will develop a Quality Control Plan that will identify scheduled reviews of project deliverables, and individuals responsible for review.
  - ii. A/E will implement the quality control plan developed in the prior task, then monitor and document implementation of the QC plan through project completion. Implementation will include:
    - 1. Internal checks of deliverables prior to delivery to City.
    - 2. Checks of subconsultant prepared materials prior to delivery to City.
  - iii. A/E shall prepare for and conduct an internal quality assurance review prior to submittal of the draft and final Preliminary Engineering Report (PER) as well as the 60 percent, 90 percent and final deliverables to the City. The review will be performed by independent technical reviewers (engineers who are not part of the design team).

➤ **Design Services Subtask List:**

- a. Vendor Coordination: The Engineer will coordinate closely with product vendors throughout design to receive updated quotes and technical guidance on specific products, materials, and processes to be proposed in design.
- b. Hydraulic Calculations: For bid packages containing gravity improvements as described in the Project Scope Assumptions, the Engineer will perform hydraulic calculations on the proposed gravity improvements to optimize pipe size and slope and determine the impact on the connected system. For bid packages containing lift station and force main improvements as described in the Project Scope Assumptions the Engineer will perform hydraulic calculations to develop final system and pump curves for the proposed lift station and force main configurations. Surge and surge relief calculations as well as air release valve (ARV) sizing calculations will also be included. This task includes evaluation and recommendations of best management practices as applicable based on the hydraulic results. Calculations will be updated and maintained as the design progresses.
- c. Specifications and Contract Documents: The Engineer will prepare Specifications and Contract Documents including Submittal Register in City Standard Format as needed to construct the scoped work of each bid package. Each package will include City Standard Front End Documents maintained with Track Changes and City Standard Specifications. The Engineer will also develop and provide Technical Specifications as needed to complete work where City Standards do not apply or, at the Engineer's discretion, may be superseded.
- d. Plan Development: The Engineer will prepare typical General Sheets at the front end of the plan set including Cover Sheet, Project Location Map, Sheet Index, General Notes, and project specific notes as applicable. Estimated quantities will continually be updated and verified as the design progresses. The Engineer will develop a project control plan indicating project benchmark and control points for construction, provide pollution control measures and BMP layout for the Contractor's Storm Water Pollution Prevention Plan, using the City Standard Notes and BMP Detail Sheets as



- applicable, fill out the Stormwater EPIC Sheet per City Standard Requirements, coordinate with City's public works department to verify existing pavement sections within the project limits (including special items such as bus stops), Typical Sections drawings will be developed as needed to complete the project, develop pavement striping details as necessary to capture any site specific markings that will be disturbed during construction, develop a pavement repair plan based on anticipated typical sections and proposed scope of work. The Engineer will ensure the proposed pavement repair plan is in conformance with up-to-date City Ordinances, provide temporary Traffic Control parameters, sequencing and performance requirements for the Contractors to develop the construction TCP, develop a detailed bypass piping plan for the contractor's reference during construction, develop plan and profile (P&P) sheets for all subgrade utility improvements as necessary. Lift Station Sheets include any and all details, site layouts, section drawings, process drawings, one-lines, or any other required drawings associated with the proposed lift station scope of work (If Applicable).
- e. Constructability Review: Throughout design, the Engineer will evaluate constraints which may prevent or impair the Contractor's ability to complete the proposed work. The Engineer will develop solutions to constructability constraints as they are encountered and work them into the design in coordination with the City's Project Manager.
  - f. Civil Design: The Engineer will provide Civil Engineering design services. This includes developing construction notes, testing schedules, control plans, typical section requirements, traffic control plan parameters, pavement repair plans, gravity and force main profiles, repair requirements for construction activities, quantities calculations, lift station connection gravity sewer design and other miscellaneous design calculations required for proposed or impacted facilities within the Civil plan sheets. The Engineer will develop a site plan for the proposed lift station properties to include wet well, yard piping, odor control structures and piping alignments, electrical structures and duct bank alignments, pavement plans, security fencing and access gates, and other related structures as determined in preliminary design. Security fencing design will include non-typical or decorative type materials and will be dependent on final location or surrounding area of the proposed lift station. This task will also include miscellaneous coordination with the City on design related questions or action items.
  - g. Structural Design: The Engineer will provide Structural Engineering design services. This includes developing calculations, develop plans and specifications, details for proposed Lift Station wetwells, odor control facilities, equipment and generator pads, fencing, and other miscellaneous structures proposed within the lift station site. Engineer will ensure appropriate materials are selected for corrosion protection. This task does not include design of an on-site Lift Station Electrical Control Room Building. Task 16 under the Additional Services section of this proposal contains all efforts related to potential Lift Station Electrical Control Room (ECR) Buildings if required.
  - h. Mechanical Design: The Engineer will provide Mechanical Engineering design services. This includes developing calculations, developing plans and details for all equipment and mechanical processes proposed within the Lift Station site including size and quantity of pumps, headers, process piping, odor control facilities, and other miscellaneous mechanical improvements proposed within the lift station site. Engineer will ensure appropriate materials are selected for corrosion protection.
  - i. EI&C Design: The Engineer will provide EI&C Engineering design services. This includes preparing schedules, P&IDs, performing calculations, and developing plans and details for all

electrical, instrumentation, and control equipment and systems proposed within the Lift Station site. The design services will include AEP coordination of electrical service for new lift stations.

- j. **Everhart/Staples Lift Station Controls Strategy Development:** The A/E will develop a control strategy for the existing Everhart/Staples Lift Station to optimize operation with the proposed improvements. This does not include improvements to existing equipment and/or structures at the Everhart/Staples Lift Station. Minor adjustments to existing equipment may be included to implement the proposed control strategy. The A/E will develop appropriate construction drawings, specifications, and contract documents for the lift station improvements. Under this task, the drawings prepared will include conceptual, design 90% and 100% design level.
- k. **OPCC Development:** Develop and maintain an Engineer's Opinion of Probable Construction Costs (OPCC) throughout design to keep up with market fluctuations and trends of the proposed products.
- l. **Deliverables:** See Deliverables Subtask List Below
- l.1. **60% Submittal:** Assemble and submit the interim plans (60% submittal) in electronic format using City Standards as applicable to City staff for review and approval purposes with 60% estimates of probable construction costs. Identify distribution list for plans and bid documents to all affected franchise utilities and stakeholders.

**Required with the interim plans is:**

- i. Design Submittal Packet Checklist
  - ii. Executive Summary of the 60% submittal, which will identify and briefly summarize the Project by distinguishing key elements of the Project, decisions made, outstanding issues, items TBD, Opinion of Probable Construction Costs (OPCC) compared to construction budget and the schedule with changes identified.
  - iii. Project Submittal Checklist
  - iv. Drawing Review Checklist
  - v. OPCC
  - vi. Drawings
  - vii. Draft Table of Contents with specification list
  - viii. KMZ Files for proposed alignments
- l.2. **60% Submittal Review Meeting with City:** Participate in Project 60% review meeting. Prepare and distribute meeting minutes to attendees within five working days of the meeting. Assimilate all review comments, as appropriate, and upon confirmation from the City PM proceed to the 90% design.
  - l.3. **Address 60% City Comments:** Provide written responses to all City questions and incorporate changes as required for 90% Design Submittal.
  - l.4. **90% Submittal:** Submit the **pre-final plans and bid documents** (90% submittal) in electronic format using City Standards as applicable to City staff for review and approval purposes. Include the 90% estimate of probable construction costs, 90% submittal Executive Summary, Submittal Packet, Project, and Drawing Checklists, responses to previous review comments and the Contract Document Book with in-line Track Changes in red to identify all proposed edits to the City Construction Contracts. Submittal will include all items listed in 60% Submittal.
  - l.5. **90% Submittal Review Meeting with City:** Participate in Project 90% review meeting. Prepare and distribute meeting minutes to attendees within five working days of the meeting. Assimilate all review comments, as appropriate, and proceed to the final S&S submittal.



- 1.6. Address 90% City Comments: Provide written responses to all City questions and incorporate changes as required for the Final Design Submittal.
- 1.7. Pre-Final Submittal: Submit 100% Pre-Final plans and bid documents (Pre-Final submittal) in electronic format using City Standards as applicable to City staff for review and approval purposes. Include the final estimate of probable construction costs, final Executive Summary, Submittal Packet, Project, and Drawing Checklists, responses to previous review comments and the Contract Document Book with in-line Track Changes in red to identify all proposed edits to the City Construction Contracts.
- 1.8. Final S&S Submittal: Upon approval of the Pre-Final submittal documents, A/E will submit the final signed & sealed (S&S) plans and bid documents (S&S submittal) in electronic format as well as two (2) half-size hard copies using City Standards as applicable to City staff. Include the final estimate of probable construction costs, final Executive Summary, Submittal Packet, Project, and Drawing Checklists, responses to previous review comments and the Contract Document Book with in-line Track Changes in red to identify all proposed edits to the City Construction Contracts.

➤ **Bid Phase Services Subtask List:**

- a. Attend Pre-Bid Conference: Participate in the pre-bid conference to discuss scope of work and to answer scope questions. Task also includes a follow-up on-site meeting with City inspector and Contractor's team to discuss scope of work.
- b. Clarifications to Contractor Questions: Provide clarifications to contractor questions on the CivCast platform.
- c. Addendum Preparation: Assist the City with the preparation of addenda if contractor questions require modification to the Contract Documents.
- d. Bid Opening, Evaluation, and Bid Tabulation: Attend bid opening and review the final bid tabulation and bidder reference material. Prepare a bid tabulation for City's distribution.
- e. Statement of Experience Review: Review Contractor's Statement of Experience and bid documentation to determine lowest responsible bidder. This will include contacting bidder's project references and documentation of communications. Participate in administrative hearings (if required).
- f. Assemble Conformed Documents: Assemble all addenda and incorporate clarifications and modifications into conformed drawings and specifications. Mark contract docs as "Conformed". Reissue and deliver two (2) hard copy sets and one (1) electronic set of conformed drawings and conformed Contract Documents (PDF and original [CAD/Word/etc.]) to the City.
- g. Recommendation of Award: Provide the City with a recommendation of award based on the bidder qualification criteria outlined in the contract documents.

➤ **Construction Phase Services Subtask List:**

- a. Pre-Construction Meeting: Assist the City in conducting one pre-construction conference with the Contractor and prepare project meeting minutes. Time included for coordination & preparation efforts. Two (2) meetings (pre-construction and construction kick-off) meetings anticipated per bid package.
- b. Monthly Construction Progress Meetings: A/E will facilitate monthly progress meetings for the Project.

- c. Site Visits: A/E will attend site visits as needed to oversee construction progress and assist City inspector with conflict resolution. Site visits during concurrent construction will be completed in a single visit.
- d. Punchlist Items and Meetings: Conduct a final review of the Project with City staff for conformance with the design concept of the Project and general compliance with the Construction Contract Documents. Prepare a list of deficiencies to be corrected by the contractor before issuing certificate of completion and recommendation of final payment.
- e. Review Contractor Submittals: Review submittals and operating and maintenance manuals for conformance to Contract Documents.
- f. Review Field Tests (If Requested): Review and interpret field and laboratory tests if requested by the City.
- g. Clarifications & Interpretations:
  - i. Issue interpretations and clarifications of the Contract Documents, as requested by the Contractor(s) or as deemed necessary by the Owner's Project Team (OPT), to facilitate proper fabrication, construction, or installation of work. A/E will render interpretations or decisions in good faith and in accordance with the requirements of the Contract Documents (e.g., within 10-days). Interpret the drawings and specifications for City and Contractor.
  - ii. Consult with and advise the City during construction, make recommendations to the City regarding materials and workmanship, and prepare change orders with the City's approval.
  - iii. Review samples, catalog data, schedules, shop drawings, laboratory, shop and mill tests of material and test equipment, and other data pursuant to the General Conditions of the Construction Contract.
- h. Project Record Drawings: Review Contractor-provided construction "red-line" drawings. Provide a reproducible record drawing set and electronic file (both PDF and AutoCAD r.14 or later) within one (1) month of receiving the Contractor's red-line drawings. All drawings shall be CADD drawn using dwg format in AutoCAD, and graphics data will be in .dxf format with each layer being provided in a separate file. Attribute data will be provided in ASCII format in tabular form. All electronic data will be compatible with the City GIS system. The Record Drawings should incorporate the Contractor's red-lines and identify all changes made during construction. The Drawing Cover and each sheet should be clearly identified as the Record Drawing and should indicate the basis and date. One (1) set of Record Drawings per bid package is assumed for this task. Record Drawings will be provided upon completion of the final construction phase. A KMZ file of the final alignment will also be provided to the City with the Project Record Drawings.

#### 1.0 **Task 1: Preliminary Design Services.**

Upon approval of the preliminary design phase, designated by receiving authorization to proceed from the City Project Manager, the A/E will perform the following services:

- 1.01 Project Management: Provide project management tasks as described above in Section A Basic Services **Project Management Subtask List** items **a-h** throughout the Preliminary Design Phase.
- 1.02 Preliminary Field Visits, Inquiries, and Investigations: Conduct site visits to confirm parameters related to the alignment selection process. A/E will also conduct a thorough review of the potential lift station sites, including existing lift stations site(s) as it relates to the proposed work.

- 1.03 Data Gathering: Assemble all pertinent data related to the project including previously prepared Hewitt hydraulic model, current lift station operational data, available reports, record drawings, including water, wastewater, stormwater, gas, planned street bond projects, models, utility maps and other information provided by the City pertaining to the project area. A/E will also contact other utility providers in the area to obtain available records.
- 1.04 Lift Station Land Acquisition Feasibility: A/E will utilize public data to evaluate potential vacant properties in the general alignment. A/E will then coordinate with the City to discuss location preferences for the two (2) proposed Lift Stations. A/E will then provide high level schematic drawings of up to ten (10) prospective properties within 1000 ft of the proposed interceptor. The City shall make initial contact with up to three (3) landowners if deemed necessary for feasibility assessment. At which point A/E may assist with project communication efforts in an attempt to receive pre-authorization from land owners. These conversations will facilitate identification of owner specific restrictions that may not be inferred from past data. Preliminary costs for Lift Station connection and depth considerations will be made for each site to provide a recommendation. City must select lift station locations prior to moving to the next task.
- 1.05 Force Main Alignment Analysis: A/E will develop up to three (3) route alternatives and provide a feasibility study for each alignment. Findings of the alignment feasibility study will be presented to the City. An alignment workshop will then be held between A/E and the City to receive comments and select a final force main alignment. The alignment analysis will include the following:
- a. Route Evaluation Screening: A/E will evaluate a maximum of three (3) route alternatives for the proposed Santa Fe force main. The following tasks will be performed;
    - i. Review previously prepared reports, master plans, water models, construction plans, and/or other pertinent documents on file with the City and other appropriate agencies.
    - ii. Review record information on existing water, wastewater, storm drainage, floodplain, zoning, GIS data, aerial photography, topographic data, traffic information (if needed) and other information applicable to the project.
    - iii. Review plans and drawings from ongoing design work adjacent to the project.
    - iv. A/E will prepare overall aerial and property map showing existing property lines along the alignment corridor.
    - v. A/E will develop a maximum of three (3) schematic-level alignments for a new force and gravity main from the existing gravity main on Santa Fe Street. Alignments will be selected to avoid or minimize impacts to areas that may cause schedule delays or higher costs due to environmental, permitting, floodplain, easement, engineering issues or damage to property. Traffic impacts and impacts to businesses will also be considered. These alignment options will be presented to the City for review and comment.
    - vi. A/E will further develop the pipeline alignment options incorporating information and data gathered in the above tasks. GIS contours will be used to verify required elevations for the gravity main. Conflicts and constructability will be analyzed as well as proposed construction and planning of future projects from the City information and field visits to each of the proposed routes. The evaluation of pipeline alignment will also take into consideration other City planned projects such as street paving and bond projects.

- vii. A/E will also prepare Opinion of Probable Construction Costs for the maximum three (3) alignments. These will be included with the above-mentioned draft deliverable to the City.
  - b. Alignment Analysis Workshops: Participate in one (1) alignment analysis workshop with City personnel during preliminary design to present A/E's findings and proposed solutions to the City to receive regular feedback and input while developing alignment options to ensure cohesion between the design team and City objectives.
  - c. Results and Recommendations:
    - i. Evaluate the advantages, disadvantages, and hydraulic requirements of each alternative.
    - ii. Prepare high level preliminary quantity take offs, construction schedules and opinion of probable construction cost estimates for each alternative. These will be planning level estimates used to compare each alternative and to determine the most cost effective options.
    - iii. Provide a recommendation of alternative selection with justifications for the City's consideration.
- 1.06 Residential Gravity Collector Capacity Evaluation: A/E will evaluate residential gravity collectors adjacent to the scoped interceptor where modeling results resulted in a max HGL of less than three (3) feet of manhole rim elevation. This evaluation will include review of historical overflow data provided by the City, review of residential collector record drawings from past projects to modify and update the hydraulic model as necessary. A/E will also review any available flow data from the City. Preliminary capacity calculations will be developed in conjunction with survey of MH invert and rim elevations, verification of system connectivity, delineation of service area and a slope analysis to determine capacity requirements of each residential collector. Up to two (2) scenarios will be simulated to assess the existing system for potential solution(s) in addressing the capacity constraint. Recommendations for capacity improvements will be provided to the City. Design, Bid, and Construction Phase services will be determined based on the scope of the improvements required.
- NOTE: A technical recommendation of potential solution(s) will be provided to City Staff for review and acceptance. If it is determined that improvements are needed, Engineer will perform Design, Bid and Construction services tasks outlined in Additional Services Task 12, Task 13, and Task 14 respectively. If project limits increase, the scope/fee will be amended.**
- 1.07 Geotechnical Planning and Assistance: The A/E's selected Geotechnical Engineer will identify the extent of subsurface geotechnical investigations as required to support the design of the new facilities. The A/E and Structural Engineer will coordinate this effort with the Geotechnical Engineer to verify the design criteria. The Engineer will prepare a draft scope of work for the Geotechnical Engineer that includes a vicinity map for the site, identifies the number of bores and bore locations (the Geotechnical Engineer will be consulted in identifying bore locations), and creates the bore location exhibit. The Engineer also will review the draft geotechnical report findings and recommendations.

- 1.08 Subsurface Utility Exploration (SUE) Planning and Assistance: The Engineer will identify the extent of SUE as required to support the design of the new facilities and will coordinate this effort with the Engineer's selected SUE service provider. The Engineer will prepare a draft scope of work for the SUE service provider that includes a vicinity map for the site, and develop exhibits identifying approximate number of utilities to be located as well as approximate utility locations relative to the proposed alignment. The Engineer also will review the draft SUE report findings and recommendations.
- 1.09 Closed Circuit Television (CCTV) Planning and Assistance: The Engineer will identify the extent of CCTV as required to support the design of the new facilities and will coordinate this effort with the Engineer's selected CCTV service provider. The Engineer will prepare a draft scope of work for the CCTV service provider that includes a vicinity map for the site, and develop exhibits identifying the proposed facilities to be assessed. The Engineer also will review the draft CCTV report findings and recommendations.
- 1.10 Project Phasing Plan: A Project Phasing Plan will be developed in coordination with the City to divide work into manageable portions based on available City funds and project deadlines. This plan will divide the route into a maximum of two (2) portions that will be designed and bid separately. Up to two (2) sets of Signed Construction Documents will be prepared containing the work associated with each phase. This procedure will allow construction to begin much sooner and will expedite project completion. Contract document adjustments will be made as needed upon completion of each phase prior to repackaging scope for the subsequent phase. All contract documents will need to be resealed prior to bidding of the subsequent phase.
- 1.11 Conceptual Design: A/E will reference Hydraulic Institute and ANSI Standards, TCEQ requirements, and other institutional guidelines to evaluate design considerations such as materials, sizing, quantities, configuration, layout, products, hydraulic properties, odor control methods, emergency provisions including bypass pumping connections, and flood plain protection. Preliminary hydraulic calculations will be performed for the lift station, force main, interceptor, and residential lines to confirm required hydraulic design parameters and configurations. Lift station wetwell storage volume and diversion flow rate will be determined. A/E will develop anticipated system curves for the proposed lift stations for current and ultimate condition. All conditions will be considered including existing and ultimate dry and wet weather flow scenarios.
- 1.12 Conceptual Plan Development: Prepare schematic drawings and exhibits to indicate proposed improvements for all PER alternatives. Includes alignment schematics, and site layouts.
- 1.13 30% OPCC Development: Develop and maintain a high level Engineer's Opinion of Probable Construction Costs (OPCC) for design alternatives presented in the PER.
- 1.14 Conceptual Design Review Workshop: Participate in a conceptual design workshop with City personnel during preliminary design to present all draft alternatives to the City to receive feedback and input prior to draft and final PER submittals (2 total workshops) to ensure cohesion between the design team and City objectives. The engineer will prepare all exhibits and meeting minutes for the workshops.
- 1.15 Preliminary Engineering Report (PER) Preparation: Assemble all findings from the Preliminary Phase into a Preliminary Engineering Report (PER). Task will involve writing of



the report and development of all appendices required to supplement the main body text of the Draft and Final Reports.

- 1.16 **30% Deliverables:** Prepare and submit the assembled PER for City's review and comment. The following services and deliverables will be provided under this task:
- a. Draft Preliminary Engineering Report (DPER): Submit DPER including all exhibits, model results, calculations, findings, costs, schedules, and recommendations discussed above.
  - b. 30% Submittal Review Meeting: Participate in a 30% review meeting with City personnel to discuss the DPER submittal. Prepare and distribute meeting minutes to attendees within five working days of the meeting. Assimilate all review comments, as appropriate, and proceed to the FPER submittal.
  - c. Address City Comments: Incorporate City comments and questions into the preliminary design and provide written responses to the City PM.
  - d. Final Preliminary Engineering Report (FPER): Incorporate all City comments from the 30% review meeting and DPER submittal and submit FPER including all exhibits, model results, calculations, findings, costs, schedules, recommendations, and City comments discussed above.

**Deliverables:**

- a) Workshop Agendas & Minutes
- b) Draft Preliminary Engineering Report (DPER)
  - i. One (1) electronic copy in PDF format.
- c) Final Preliminary Engineering Report (FPER)
  - i. One (1) electronic copy in PDF format.

**The City staff will:**

- a) Attend project Kickoff Meeting.
- b) Participate in meetings and discussions as needed to complete the project.
- c) Provide existing record drawings and documentation
- d) Provide future development plans
- e) Provide comments from all workshops & review meetings

NOTE: 1) Topographic and Right-of Way (ROW) Surveys: Survey will be initiated after the final pipeline alignment and lift station sites are established and approved by the City. The Engineer will perform tasks outlined in Additional Services Task 10. If project limits increase, the scope/fee will be amended.

2) Subsurface Utility Exploration (SUE): SUE will be initiated after the final pipeline alignment and lift station sites are established and approved by the City. The Engineer will retain an SUE firm as a subconsultant to perform tasks outlined in Additional Services Task 12.

3) Geotechnical Services: Geotechnical Services will be initiated after the final pipeline alignment and lift station sites are established and approved by the City. The Engineer will retain a geotechnical firm as a subconsultant to perform tasks outlined in Additional Services Task 13.



## 2.0 Task 2: Design Services.

Upon approval of the recommendations in Task 1, designated by receiving authorization to proceed from the City Project Manager, the A/E will perform the following design services.

- 2.1. 60% Project Management: Provide project management tasks as described above in Section A Basic Services **Project Management Subtask List** items **c-h** throughout the 60% Design Phase.
- 2.2. 60% Site Visits: Attend site visits to gather additional information, identify conflicts, verify locations, and photograph existing conditions. Coordinate findings with the City and resolve conflicts identified in the site visits.
- 2.3. 60% Utility Coordination and Conflict Resolution: Coordinate with the utility companies, City's Project Manager and Operating Departments, for any necessary relocations/adjustments that may be required and indicate on these replacements on the plans. Assist City Project Manager in resolving unavoidable utility conflicts with other City utilities and with Third-Party utilities.
- 2.4. Santa Fe 60% Design Services: Provide detailed design services described above in Section A Basic Services **Design Services Subtask List** items **a-l** for the Santa Fe Bid Package described in the Project Scope Assumptions Section at the front end of this proposal.
- 2.5. Kentner 60% Design Services: Provide detailed design services described above in Section A Basic Services **Design Services Subtask List** items **a-i and k-l** for the Kentner Bid Package described in the Project Scope Assumptions Section at the front end of this proposal.

### **60% Deliverables:**

- a) Meeting Agendas & Minutes
- b) Monthly Progress Reports (Preliminary, Design, Bid, and Construction Phases)
- c) Monthly Invoicing (Preliminary, Design, Bid, and Construction Phases)
- d) Project Schedule & Updates (With each milestone submittal)
- e) 60% Santa Fe Submittal
- f) 60% Kentner Submittal

### **The City staff will:**

- a) Designate an individual to have responsibility, authority, and control for coordinating activities for the Project.
  - b) Provide the budget for the Project specifying the funds available for the construction contract.
  - c) Provide electronic copy the City's Standard Specifications, Standard Detail sheets, Front End Contract Documents, and forms for required bid documents.
- 2.6. 90% Project Management: Provide project management tasks as described above in Section A Basic Services **Project Management Subtask List** items **c-h** throughout the 90% Design Phase.
  - 2.7. 90% Site Visits: Attend site visits to gather additional information, identify conflicts, verify locations, and photograph existing conditions. Coordinate findings with the City and resolve conflicts identified in the site visits.

- 2.8. 90% Utility Coordination and Conflict Resolution: Coordinate with the utility companies, City's Project Manager and Operating Departments, for any necessary relocations/adjustments that may be required and indicate on the preliminary plans. Assist City Project Manager in resolving unavoidable utility conflicts with other City utilities and with Third-Party utilities.
- 2.9. Santa Fe 90% Design Services: Provide detailed design services described above in Section A Basic Services **Design Services Subtask List** items **a-l** for the Santa Fe Bid Package described in the Project Scope Assumptions Section at the front end of this proposal.
- 2.10. Kentner 90% Design Services: Provide detailed design services described above in Section A Basic Services **Design Services Subtask List** items **a-i and k-l** for the Kentner Bid Package described in the Project Scope Assumptions Section at the front end of this proposal.

**90% Deliverables:**

- a) Meeting Agendas & Minutes
- b) Monthly Progress Reports (Preliminary, Design, Bid, and Construction Phases)
- c) Monthly Invoicing (Preliminary, Design, Bid, and Construction Phases)
- d) Project Schedule & Updates (With each milestone submittal)
- e) 90% Santa Fe Submittal
- f) 90% Kentner Submittal

**The City staff will:**

- a) Designate an individual to have responsibility, authority, and control for coordinating activities for the Project.
  - b) Provide the budget for the Project specifying the funds available for the construction contract.
  - c) Provide electronic copy the City's Standard Specifications, Standard Detail sheets, Front End Contract Documents, and forms for required bid documents.
- 2.11. Pre-Final and Final S&S Project Management: Provide project management tasks as described above in Section A Basic Services **Project Management Subtask List** items **c-f and h** throughout the Final S&S Design Phase.
- 2.12. Pre-Final and Final S&S Site Visits: Attend site visits to gather additional information, identify conflicts, verify locations, and photograph existing conditions. Coordinate findings with the City and resolve conflicts identified in the site visits.
- 2.13. Pre-Final and Final S&S Utility Coordination and Conflict Resolution: Coordinate with the utility companies, City's Project Manager and Operating Departments, for any necessary relocations/adjustments that may be required and indicate on the preliminary plans. Assist City Project Manager in resolving unavoidable utility conflicts with other City utilities and with Third-Party utilities.
- 2.14. Santa Fe Pre-Final and Final S&S Design Services: Provide detailed design services described above in Section A Basic Services **Design Services Subtask List** items **a-i and k-l** for the Santa Fe Bid Package described in the Project Scope Assumptions Section at the front end of this proposal.
- 2.15. Kentner Pre-Final and Final S&S Design Services: Provide detailed design services described above in Section A Basic Services **Design Services Subtask List** items **a-i and k-l** for the

Kentner Bid Package described in the Project Scope Assumptions Section at the front end of this proposal.

**Pre-Final Deliverables:**

- a) Meeting Agendas & Minutes
- b) Monthly Progress Reports (Preliminary, Design, Bid, and Construction Phases)
- c) Monthly Invoicing (Preliminary, Design, Bid, and Construction Phases)
- d) Project Schedule & Updates (With each milestone submittal)
- e) Pre-Final 100% Santa Fe Submittal
- f) Pre-Final 100% Kentner Submittal

**Final S&S Deliverables:**

- g) Meeting Agendas & Minutes
- h) Monthly Progress Reports (Preliminary, Design, Bid, and Construction Phases)
- i) Monthly Invoicing (Preliminary, Design, Bid, and Construction Phases)
- j) Project Schedule & Updates (With each milestone submittal)
- k) Final S&S Santa Fe Submittal
- l) Final S&S Kentner Submittal

**The City staff will:**

- a) Designate an individual to have responsibility, authority, and control for coordinating activities for the Project.
- b) Provide the budget for the Project specifying the funds available for the construction contract.
- c) Provide electronic copy the City's Standard Specifications, Standard Detail sheets, Front End Contract Documents, and forms for required bid documents.

**3.0 Bid Phase.**

Upon receipt of authorization from the City Project Manager, the A/E will perform the following services:

- 3.01 Project Management: Provide project management tasks as described above in Section A Basic Services **Project Management Subtask List** items **c-e and h** throughout the Bid Phase.
- 3.02 Santa Fe Bid Phase Services: Provide services as described in items **a-g** in the **Bid Phase Services Task List** in Section A Basic Services for the Santa Fe Improvements described in the Project Scope Assumptions Section at the front end of this proposal.
- 3.03 Kentner Bid Phase Services: Provide services as described in items **a-g** in the **Bid Phase Services Task List** in Section A Basic Services for the Kentner Improvements described in the Project Scope Assumptions Section at the front end of this proposal.

**Deliverables:**

- a) Addenda
- b) Conformed Plans & Specifications (Three (3) Hard Copy, One (1) Electronic Copy)
- c) Bid Tabulation
- d) Recommendation of Award
- e) Participate in admin hearing(s) if required

**The City staff will:**

- a) Advertise the Project for bidding, maintain the list of prospective bidders, issue any addenda, prepare bid tabulation and conduct the bid opening.
- b) Review all received bids.
- c) Prepare agenda materials for the City Council concerning bid awards.
- d) Prepare, review, and provide copies of the Contract for execution between the City and the Contractor.

**4.0 Construction Administration Phase. (T&M)**

Upon receipt of authorization from the City Project Manager, the A/E will perform the following services:

- 4.01 Project Management: Provide project management tasks as described in Section A Basic Services **Project Management Subtask List** items **c-g** throughout the Construction Phase.
- 4.02 Santa Fe Construction Phase Services: Provide services as described in items **a-j** in the **Construction Phase Services Task List** in Section A Basic Services for the Santa Fe Improvements described in the Project Scope Assumptions Section at the front end of this proposal. Santa Fe construction is anticipated to take 40 months to complete.
- 4.03 Kentner Construction Phase Services: Provide services as described in items **a-j** in the **Construction Phase Services Task List** in Section A Basic Services for the Kentner Improvements described in the Project Scope Assumptions Section at the front end of this proposal. Kentner St. construction is anticipated to take 19 months to complete.

**Deliverables:**

- a) Project site visit memos
- b) Construction progress meeting minutes
- c) Monthly Updated Submittals Log
- d) Reviewed Submittals with Submittal Status
- e) Concrete Test Data and Post CCTV Inspection Video Reviews
- f) RFI Responses
- g) Contractor or City-Requested Change Reviews as necessary
- h) Contract Document Interpretations and Clarifications as necessary
- i) Substantial Completion Punch List
- j) Final Completion Punch List
- k) Project Record Drawings:
  - a. 1 sets of full size plans
  - b. 1 set of half size plans
  - c. 1 CD with Record Drawings in PDF Format

**The City staff will:**

- a) Prepare applications/estimates for payments to Contractor.
- b) Conduct the final inspection with the Engineer.

**B. ADDITIONAL SERVICES (ALLOWANCE)**

This section defines the scope of additional services that may only be included as part of this contract if authorized by the Project Manager. A/E may not begin work on any services under this section without specific written authorization by the Project Manager. Fees for Additional Services are an allowance for potential services to be provided and will be **negotiated** by the Project Manager as required. The A/E shall, with written authorization by the Project Manager, perform the following:

**5.0 Environmental Services**

Furnish the City all engineering data and documentation necessary for all required permits. The A/E will prepare this documentation for all required signatures. The A/E will prepare and submit identified permits as applicable to the appropriate local, state, and federal authorities, including:

5.01 Environmental Constraints Review and Report: Conduct preliminary desktop level environmental review for the proposed route and develop the Environmental Review portion of the PER. Desktop surveys will examine current and historic records and databases to determine the presence and potential impact of the following:

- a) **Threatened and Endangered Species Habitat**: The scope of this task include developing a list of potentially occurring federally listed species in the county protected under the Endangered Species Act. A/E will review the Texas Parks and Wildlife Departments (TPWD) Natural Diversity Database to evaluate previously recorded occurrences of protected species in the project area and determine if there is a need for further analyses. If needed, a field survey would be performed to identify the presence of any potential habitat for federally listed species. If this evaluation identifies the requirement or need for additional analyses, then those efforts would need to be authorized as described under Task 7.02.
- b) **Wetland Delineation**: The scope of this task includes reviewing publicly available information (e.g., USGS National Hydrography Dataset, FEMA floodplain maps, USGS topographic maps, National Wetland Inventory) and past and recent aerial imagery to evaluate the presence of “Waters of the United States” WOTUS. Following the desktop efforts, a field verification of WOTUS would take place if needed. Ultimately this effort will evaluate the potential need for a US Army Corps of Engineers (USACE) authorization under Section 404 of the Clean Water Act, and identify the appropriate permitting approach (if needed). If this evaluation identifies the requirement or need for additional analyses, then those efforts would need to be authorized as described under Task 7.02.
- c) **Cultural Resources**: A/E will perform a desktop review of the Texas Archeological Atlas to evaluate previously recorded cultural resources in the project area and determine if there is a need for further analyses to comply with Section 106 of the National Historic Preservation Act and the Texas Antiquities Code. If field surveys for cultural resources, or other additional analyses are needed, then those efforts will need to be authorized as an additional as described under Task 8.0.
- d) **Environmental Field Surveys**: Conduct field survey environmental investigations, impact assessment and analyses, permitting assistance for the final design route and



incorporate findings into the design. Field surveys will be conducted to verify the presence or absence of the following: i) Threatened and Endangered Species Habitat ii) Wetland Delineation

- 5.02 Environmental Field Surveys: Conduct field surveys as required by the Desktop surveys described in Task 7.01. Field survey findings will be incorporated into the environmental report and design considerations as needed.

## 6.0 **Archeological Intensive Field Survey**

- 6.01 Archeological Intensive Field Survey: The scope of this task will be based on the findings of the Cultural Resources desk-based assessment and the recommendations of the Texas Historical Commission (THC) . The purpose of this task is to complete an inventory of archeological resources and assess their potential to be adversely impacted by the proposed project. All work shall comply with Texas Historical Commission (THC) and Council of Texas Archaeologists (CTA) survey standards for hand excavation.

Any artifacts collected from publicly owned land shall be retained for processing and documentation. With THC approval, non-diagnostic artifacts shall be discarded once documented. Any artifacts that are determined to be diagnostic of a specific time, activity, or identity shall be prepared and submitted for permanent curation. Any artifacts discovered in excavations on private property shall be documented in the field and reburied. All archeological deposits and features shall be documented in accordance with CTA/THC survey standards and professional best practices.

- 6.02 Analysis and Report Preparation: Following field work, a draft report will be prepared in accordance with CTA/THC standards and guidelines for Cultural Resource Management Reports. This draft will be presented to City of Corpus Christi for review prior to its submission for regulatory review. Following regulatory review, a final report shall be prepared incorporating any changes requested by reviewing agencies. All paperwork, photographs, and artifacts, along with a copy of the final investigations report, shall be curated at the Center for Archeological Research (CAR) at University of Texas at San Antonio (UTSA), a state-certified curatorial facility.

## 7.0 **Topographic and Right-of-Way (ROW) Surveys**

- 7.01 Topographic and Right-of-Way (ROW) Surveys: All work must comply with Category 1-A, Condition I specifications of the *Texas Society of Professional Surveyors' Manual of Practice for Land Surveying in the State of Texas*, latest edition. All work must be tied to and in conformance with the City's Global Positioning System (GPS) control network. All work must comply with all TxDOT requirements as applicable. Include references tying Control Points to a minimum of two (2) registered NGS Benchmark Monuments in the vicinity of the Project that will not be disturbed by construction. Scope of survey data shall be for the following: 1) Proposed Force Main: Survey right-of-way to right-of-way along entirety of the proposed force main alignment. Survey flow line elevations for tie-in location to existing gravity main. 2) Proposed Gravity Main: Survey right-of-way to right-of-way along entirety of the proposed gravity main.



Survey sheets shall be sealed, provided to the City and included in the bid document plan set.

- a) Establish Horizontal and Vertical Control.
- b) Establish both primary and secondary horizontal/vertical control.
- c) Set project control points for Horizontal and Vertical Control outside the limits of area that will be disturbed by construction.
- d) Horizontal control will be based on NAD 83 State plane coordinates (South Zone), and the data will have no adjustment factor applied – i.e. – the coordinate data will remain in grid.
- e) Vertical control will be based on NAVD 88.
- f) All control work will be established using conventional (non-GPS) methods. Perform topographic surveys to gather existing condition information.
- g) Locate proposed soil/pavement core holes as drilled by the City's Geotechnical Engineering Consultant.
- h) Obtain x, y, and z coordinates of all accessible existing wastewater, storm water, water, IT and gas lines as well as any other lines owned by third-parties and locate all visible utilities, wells and signs within the apparent ROW width along project limits. Survey shall include utility marking from the Texas 811 request.
- i) Open accessible manholes and inlets to obtain information on structure invert, type, and size; and all related pipe size, type, invert, orientation, and flow direction.
- j) Everything up to and including Level B subsurface engineering (SUE) is to be included in Topographic Survey. Surveying services related to Level A SUE are not included in Topographic and ROW Survey services, but shall be provided as part of the scope of work for SUE below, if needed.
- k) Locate existing features within the apparent ROW.
- l) Locate and identify trees, at least five inches in diameter, and areas of significant landscape or shrubs within the apparent ROW.
- m) Generate electronic planimetric base map for use in project design.
- n) Research plats, ROW maps, deed, easements, and survey for fence corners, monuments, and iron pins within the existing ROW and analyze to establish existing apparent ROW.
- o) Provide a preliminary base map containing apparent ROW, which will be used by the A/E to develop the proposed alignment and its position relative to the existing and proposed ROW. This preliminary base map must show lot or property lines, addresses, and significant business/facility names.
- p) If the City selects an alternative which will utilize existing easements through private property, additional funds will be needed to coordinate access with owners and obtain right of entry. This will also be more time consuming due to quantity of conflicts and alignment impedance.

## 8.0 Easement and Land Acquisition Survey and Parcel Descriptions

8.01 Easement and Land Acquisition Survey and Parcel Descriptions: All work must be tied to and conform with the City's Global Positioning System (GPS) control network and comply with Category 6, Condition I specifications of the *Texas Society of Professional Surveyors' Manual of Practice for Land Surveying in the State of Texas*, latest edition.

- a) Assuming up to twelve (12) easement parcel descriptions for this project. If the City selects an alternative which will utilize existing easements through private property, additional funds will be needed to coordinate with owners, access and right of entry and additional temporary construction easement development.

- b) Set property corners and prepare right of way/easement strip parcel map depicting up to two (2) parcels proposed for acquisition. Metes and bounds descriptions must indicate parent tract areas based on the most accurate information available. Strip map will show entire parent tracts at a representative scale and for information only. All existing easements within the parcels to be acquired and those within adjacent parcels must be shown.
- c) Prepare Metes and Bound Instrument with supporting exhibits as required and agreed upon, subsequent to PER acceptance for ROW parcels, utility easements and temporary construction easements.
- d) Prepare individual signed and sealed parcel maps and legal descriptions for the required right of way acquisition for parcels and easements. A strip map showing all parcels required will be submitted along with parcel descriptions. If boundary conflicts between Owners are identified, additional fees may be authorized if needed. A/E shall submit parcel maps and legal descriptions prior to the 60% submittal.

## 9.0 Subsurface Utility Exploration (SUE)

9.01 Subsurface Utility Exploration (SUE): If needed, SUE will be initiated after the alignment is approved by the City. A/E will retain an SUE firm as a subconsultant to perform tasks outlined below. SUE will not proceed unless approved by the City.

- a) Provide subsurface utility engineering in accordance with ASCE Standard “ASCE C-I, 38-02, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data” including, but not limited to, hydro-excavation. The proposed subsurface utility investigation will be as follows:
- b) Excavation – The SUE scope includes working with a subsurface utility excavator to perform Quality Level A investigation of underground utilities in specified areas through the project limit. (Quality Level A involves the use of nondestructive digging equipment at critical points to determine the horizontal and vertical position of underground utilities, as well as the type, size, condition, material, and other characteristics.) Utilities located at this quality level will be physically located and tied to the topographic survey control. The utility will be identified and an elevation will be obtained to the top of the utility.
- c) Provide “Quality Level A” SUE at **up to forty (40) critical locations** to be selected by A/E and/or the City.
- d) Utility Location – **Task 8: Topographic & ROW Surveys** scope includes locating certain utilities to Quality Level B (Quality Level B involves surveying visible above ground utility facilities, such as manholes, valve boxes, posts, etc., and correlating this information with existing utility records.) These utilities will be located by obtaining a One-Call Notice and measuring the marked locations. The SUE contractor will provide a Quality Level B survey for the entire alignment which will include tracing existing utilities in the field for a more accurate reading without obtaining a Quality Level A investigation.
- e) Storm Water – Storm water facilities within the project limits will be located to Quality Level C. Locations will be based on the surveyed locations of accessible storm water manholes and drainage inlets.
- f) Wastewater – Wastewater facilities within the project limits will be located to Quality Level C. Locations will be based on the surveyed locations of accessible wastewater manholes. Wastewater lines that are not to be replaced as part of this project and that

fall within the footprint of construction-related excavation shall be located at Quality Level A.

- g) Water – Water facilities within the project limits will be located to Quality Level C.
- h) Gas – Gas facilities within the project limits will be located to Quality Level C by the A/E. The City of Corpus Christi Gas Department will provide Quality Level A. The A/E will coordinate this activity.
- i) Inform local franchises whose utilities fall within the footprint of construction-related excavation of the potential for encountering their utility lines during construction.

#### 10.0 Geotechnical Services

- 10.01 Geotechnical Services: The A/E will identify up to thirty-five (35) bores with an estimated depth of twenty-five feet for pipelines and up to two (2) bores with an estimated depth of thirty-five feet for lift stations. Scope assumptions will be reevaluated and updated as needed prior to executing the geotechnical investigations. The extent of subsurface geotechnical investigations as required to support the design of the new facilities will be provided by a Geotechnical Engineer selected by A/E team. The A/E and Structural Engineer will coordinate this effort with the Geotechnical Engineer to verify the design criteria. The Engineer will prepare a draft scope of work for the Geotechnical Engineer that includes a vicinity map for the site, identifies the number of bores and bore locations (the Geotechnical Engineer will be consulted in identifying bore locations), and creates the bore location exhibit. The Engineer also will review the draft geotechnical engineering report findings and recommendations. The engineering report prepared by the Geotechnical Engineer should include discussions on the laboratory and test analyses, findings and recommendations of the investigation, exhibits, boring logs, detailed descriptions of surface and subsurface conditions, seismic conditions, geotechnical profile, and recommendations for all required foundations (including piers, if necessary) and roadways, and recommendations of any additional geotechnical investigations that are required for design. Geotechnical findings and recommendations should include soil bearing loads, lateral earth pressures, trenching, excavation and over-excavation, fill and backfill, structural and foundation design parameters, soil corrosiveness, dewatering requirements, and design pavement section design criteria. The Geotechnical Engineer will also provide a data report with raw data and design recommendations to be included with the contract document submittals for each project.

#### 11.0 Residential Design Phase Services

- 11.01 Residential 90% Design Services: Provide detailed design services described above in Section A Basic Services **Design Services Subtask List** items **c, d, j, and k.4-k.6** for the Residential Bid Package described in the Project Scope Assumptions Section at the front end of this proposal.
- 11.02 Residential Final S&S Design Services: Provide detailed design services described above in Section A Basic Services **Design Services Subtask List** items **c, d, j, and k.8** for the Residential Bid Package described in the Project Scope Assumptions Section at the front end of this proposal.

#### 12.0 Residential Bid Phase Services

- 12.01 Residential Bid Phase Services: Provide services as described in items **a-g** in the **Bid Phase Subtask List** above for the Residential Improvements described in the Project Scope Assumptions Section at the front end of this proposal.

### 13.0 Residential Construction Phase Services (T&M)

- 13.01 Residential Construction Phase Services: Provide services as described in items **a-j** in the **Construction Phase Subtask List** in Section A Basic Services for the Residential Improvements described in the Project Scope Assumptions Section at the front end of this proposal.

### 14.0 Lift Station ECR Buildings

- 14.01 Lift Station ECR Buildings: This task includes additional services to provide an aesthetic CMU building at each lift station site. The CMU building would act as an Electrical Control Room (ECR) and house all lift station controls. CMU building addition would also require Windstorm Inspection and Certification Services outlined in Task 14.02. Services for Task 14.01 include the following:
- a. Structural, Architectural, and HVAC design, calculations, plan sheets, details, and specifications to be included in each lift station bid package upon request.
  - b. Construction Submittal and RFI review & responses
  - c. Construction Inspections
- 14.02 Windstorm Inspection and Certification Services: A/E will provide review windstorm related submittals, provide separate windstorm inspections, and certify up to two (2) lift sites for structures requiring windstorm. The following will be included with this service:
- a) Submittals
    - i. The Contractor/Owner shall be responsible for providing Submittal Documentation and notifications for each inspection for foundation reinforcing, anchor bolt material, concrete mix design, backfill material, soil compaction testing, window/door/louver systems, roofing systems, and other components/appurtenances, affecting the building envelope to the Windstorm Appointed Qualified Inspector (AQI). The AQI will ensure that submittal documentation conforms to the requirements of the Construction Documents (envelop wind pressures) and the Texas Department of Insurance. Submittal documentation, at a minimum, shall contain the following information as it pertains to this project: reinforcing steel & anchor bolt material certification, yield strength, sizes, lengths, embedment's, geometry as applicable, shop drawings as applicable, concrete mix designs with manufacturer support documentation and compression test results, select or structural fill material specifications from laboratory testing as applicable, soil compaction test results as applicable, roofing system testing, and testing/attachment documentation for any other components/appurtenances etc. affecting the building envelope.
    - ii. All Submittal Documentation must be approved in writing prior to fabrication and/or installation. During the construction phase, the installation of all approved materials/items shall be visually inspected by the AQI or their representative to verify compliance with the Construction Documents in order for Ardurra to submit the required WPI-2 form(s) to TDI for their consideration in issuing the WPI-8 Windstorm Certificate to the Owner.
    - iii. A/E shall review the Contractor's submittals and shall not unreasonably delay or withhold approval of the schedule. A/E's action in reviewing submittals shall be taken

in accordance with the approved submittal schedule or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time, in A/E's professional judgment, to permit adequate review.

- iv. Ardurra shall maintain a record of submittals and copies of submittals supplied by the Contractor in accordance with the requirements of the Construction Documents

b) **Windstorm Inspections**

- i. A/E shall perform inspections for structures on up to two (2) separate proposed lift station sites to visually verify WORK is being constructed as designed and detailed on the sealed Construction Documents, more specifically those items related to shear wall hold downs, wood straps and ties, sheathing nail size and nailing patterns, installation of components and cladding in accordance with the submitted and approved product evaluation or notice of acceptance.
- ii. A minimum of 48-hours' notice shall be provided to the A/E AQI to schedule the site visit to perform the requested inspections.
- iii. A/E will prepare field reports as necessary and coordinate with the Client for Work that does not conform to the Construction Documents.

c) **Windstorm Certification**

- i. A/E shall prepare and submit the WPI-1 form in accordance with the requirements of the Texas Department of Insurance (TDI) for Windstorm acceptance of the project WORK.
- ii. A/E shall prepare and submit WPI-2 form to the Texas Department of Insurance upon completion of construction for TDI's review and subsequent issuance of the WPI-8 Windstorm Certificate.

**15.0 Closed Circuit Television (CCTV)**

- 15.01 Closed Circuit Television: A/E will consult with a CCTV provider to obtain CCTV inspections of existing wastewater interceptors to be upsized via pipe-burst method. These inspections will be used to assess pipe condition, assess system connectivity and service connection locations, and determine overall feasibility of pipe-burst method. Scope is limited to 10,860 LF of "Gravity Interceptor" upsize outlined in the Project Assumptions.

**16.0 Warranty Phase Services**

- 16.01 Warranty Phase Services: A/E will provide maintenance guaranty inspection toward the end of the one-year period after acceptance of the Project. Note defects requiring contractor action to maintain, repair, fix, restore, patch or replace improvement under the maintenance guaranty terms of the contract. Document the condition and prepare a report for the City staff of the locations and conditions requiring action, with its recommendation for the method or action to best correct defective conditions and submit to City Staff. Complete the inspection and prepare the report no later than sixty (60) days prior to the end of the maintenance guaranty period.



### **SCHEDULE:**

The Consultant's services shall be performed in a timely manner consistent with sound professional practices. Any adjustments made to the agreed upon schedule shall be made in writing and accepted by both parties.

The Consultant shall begin work immediately upon receipt of the executed Contract and/or Notice to Proceed (written or emailed). The work under this project is expected to be completed as shown below.

#### **Santa Fe Bid Package Schedule Summary:**

Activity	Duration	Anticipated Schedule
PER Submittal (All Bid Packages)	8 Months	8 months after A/E NTP
60% Design Submittal	8 Months	16 months after A/E NTP
60% City Review & Comment Responses	1 Month	17 months after A/E NTP
90% Design Submittal	5 Months	22 months after A/E NTP
90% City Review & Comment Responses	1 Month	23 months after A/E NTP
Pre-Final and Final Signed & Sealed Plans & Bid Documents	2 Month	25 months after A/E NTP
Bidding & Construction Award	3 Months	28 months after A/E NTP
Construction Completion	40 Months	68 months after A/E NTP

#### **Kentner Bid Package Schedule Summary:**

Activity	Duration	Anticipated Schedule
PER Submittal (All Bid Packages)	8 Months	8 months after A/E NTP
60% Design Submittal	4 Months	14 months after A/E NTP
60% City Review & Comment Responses	1 Month	15 months after A/E NTP
90% Design Submittal	3 Months	18 months after A/E NTP
90% City Review & Comment Responses	1 Month	19 months after A/E NTP
Pre-Final and Final Signed & Sealed Plans & Bid Documents	2 Month	21 months after A/E NTP
Bidding & Construction Award	3 Months	24 months after A/E NTP
Construction Completion	19 Months	43 months after A/E NTP

#### **Residential Bid Package Schedule Summary:**

Activity	Duration	Anticipated Schedule
PER Submittal (All Bid Packages)	8 Months	8 months after A/E NTP
90% Design Submittal	5 Months	15 months after A/E NTP
90% City Review & Comment Responses	1 Month	16 months after A/E NTP
Final Signed & Sealed Plans & Bid Documents	1 Month	17 months after A/E NTP
Bidding & Construction Award	3 Months	20 months after A/E NTP
Construction Completion	9 Months	29 months after A/E NTP



**PROJECT NO: 23007**

[illegible]

1. Preliminary Design Phase will begin upon receipt of NTP from the City. Schedule is subject to change based on NTP date.
2. Schedule assumes two (2) months for City to select and approve an alignment from the options provided in the Final PER. Additional review time will impact the subsequent tasks in the schedule.

## FEES

### A. Fee for Basic Services.

The City will pay the A/E a fixed fee for providing all “Basic Services” authorized under this Large AE Contract as per the table below. The fees for Basic Services will not exceed those identified and will be full and total compensation for all services outlined in Section II.A.1-4 above, and for all expenses incurred in performing these services. The Construction Administration Phase services as outlined in Section II.A.5 will be provided on a Time and Material (T&M) basis in accordance with the Engineer’s standard hourly rates for a maximum not to exceed amount per the table below. **The fee for this project is subject to the availability of funds. The Engineer may be directed to suspend work pending receipt and appropriation of funds.** For services provided, A/E will submit monthly statements for services rendered. The statement will be based upon A/E’s estimate (and with City’s concurrence) of the proportion of the total services actually completed at the time of billing. City will make prompt monthly payments in response to A/E’s monthly statements.

### B. Fee for Additional Services.

For services authorized by the Project Manager under Section II.B. “Additional Services”, the City will pay the A/E a not-to-exceed fee as per the table below unless otherwise indicated:

## Summary of Fees

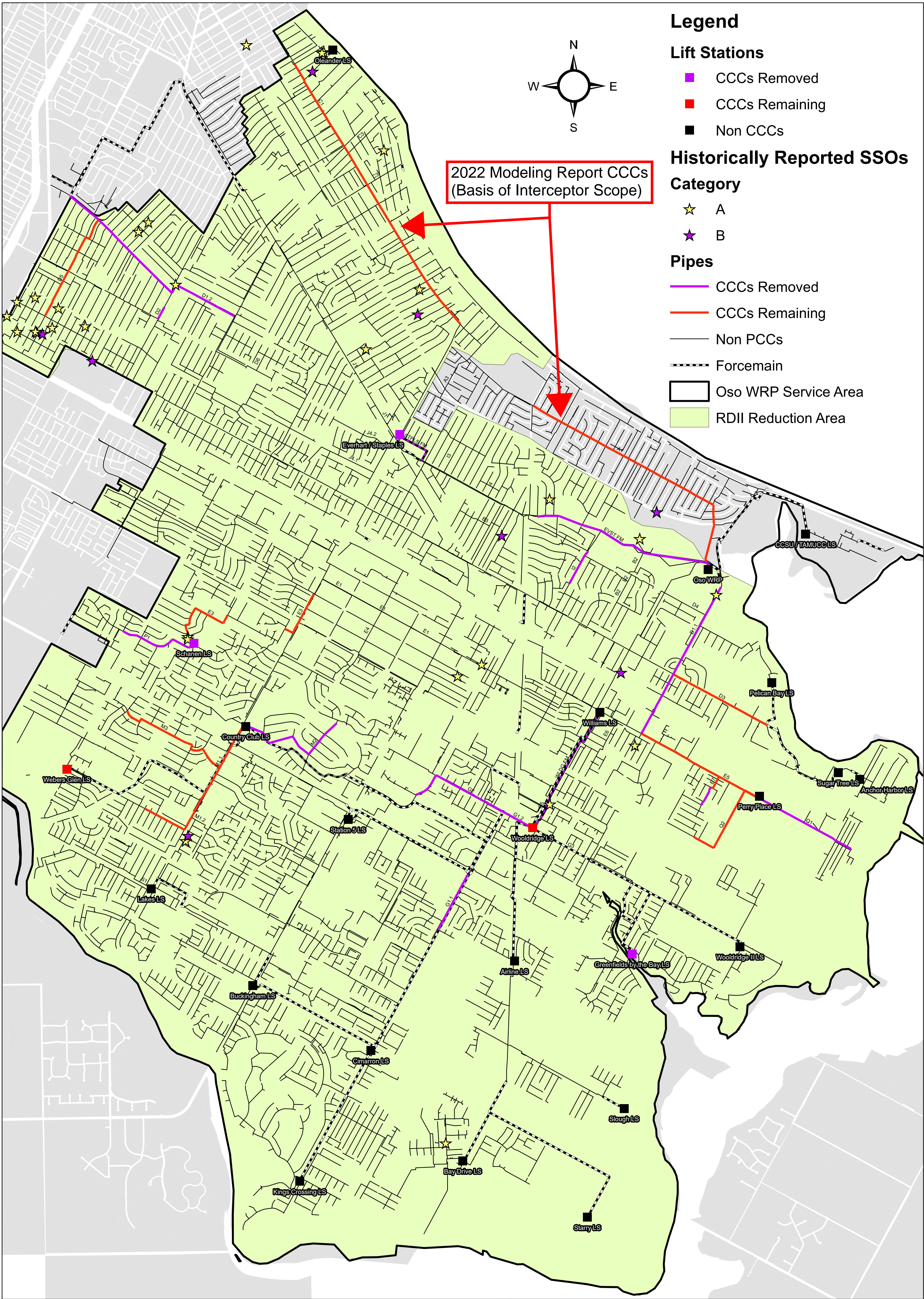
Basic Services Fees	Total Contract
1. Preliminary Design Phase	\$ 545,045
2. Design Services	\$ 1,295,380
3. Bid Phase	\$ 85,500
4. Construction Administration Phase (T&M)	\$ 614,730
<b>Subtotal Basic Services Fees</b>	<b>\$ 2,540,655</b>
Additional Services Fees	Total Contract
5. Environmental Services	\$ 70,625
6. Archeological Intensive Field Survey	\$ 75,664
7. Topographic & ROW Surveys	\$ 266,800
8. Easement and Land Acquisition Survey and Parcel Descriptions	\$ 70,800
9. Subsurface Utility Exploration (SUE)	\$ 140,521
10. Geotechnical Services	\$ 115,924
11. Residential Design Phase Services	\$ 165,500
12. Residential Bid Phase Services	\$ 16,050
13. Residential Construction Phase Services (T&M)	\$ 63,980
14. Lift Station ECR Buildings	\$ 81,240
15. Closed Circuit Television (CCTV)	\$ 68,816
16. Warranty Phase Services	\$ 9,500
<b>Subtotal Additional Services Fees</b>	<b>\$ 1,145,419</b>
<b>Total Fee</b>	<b>\$ 3,686,074</b>

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Exhibit 1

2022 Final Model Report RDII Confirmed  
Capacity Constraint (CCC) Map





engineers | architects | contractors  
TBPE Firm Reg No. F-366

**Oso WRP**  
**5yr-24hr Design Storm**  
**35% I/I Reduction Simulation**  
**January 15, 2021**

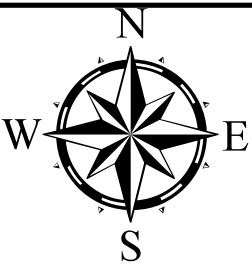
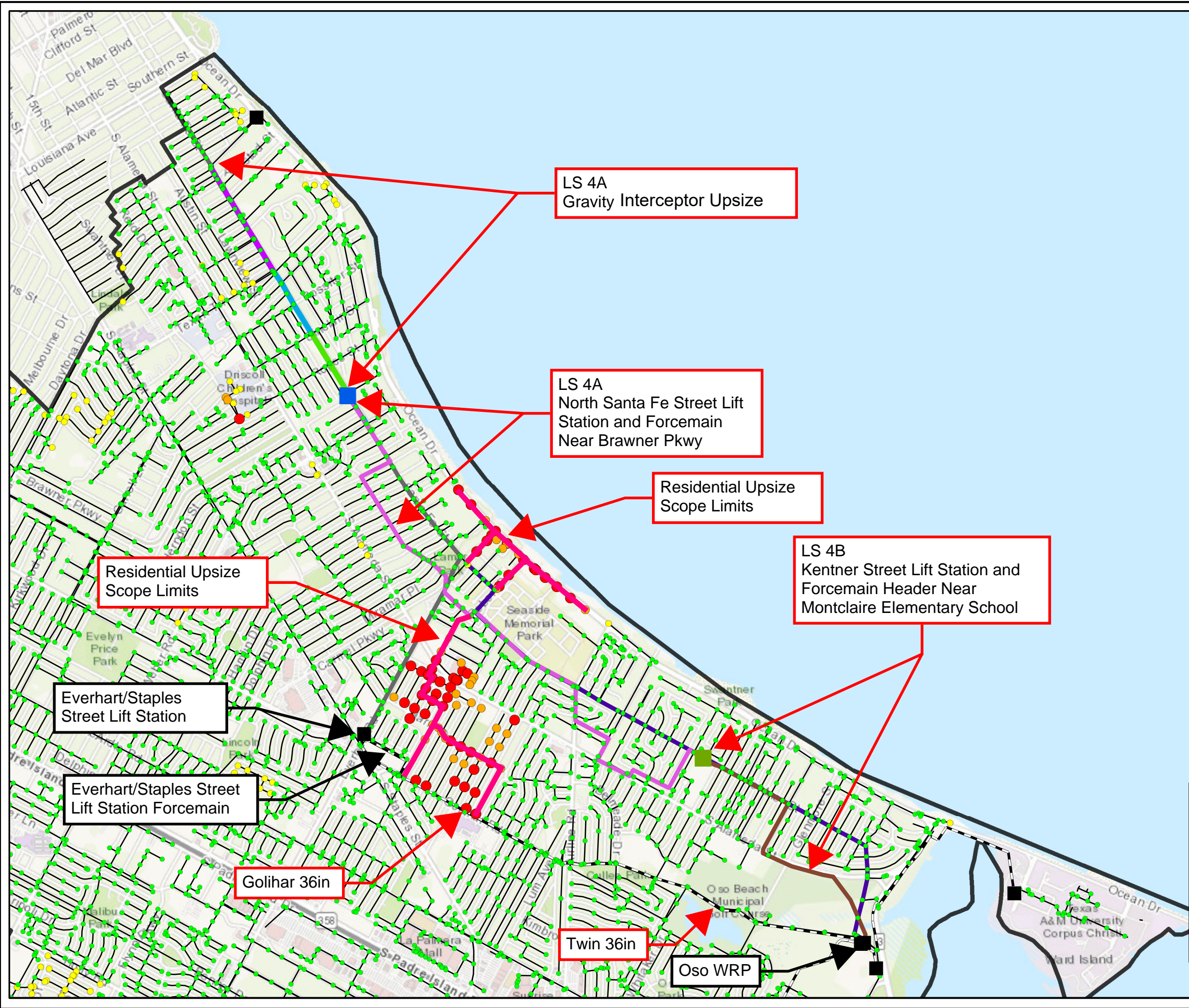


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## Exhibit 2

### Proposed Scope Overview





22" X 34" - 1" = 1200'  
11" X 17" - 1"=2400'

**Legend**

- Alternative LS 4A Lift Station
- Alternative LS 4B Lift Station
- Lift Stations
- Max HGL Within 3 ft of Manhole Rim**
  - Max HGL  $\geq$  3' Below Rim
  - 1' < Max HGL < 3' Below Rim
  - 0' < Max HGL < 1' Below Rim
  - Max HGL < 0' Below Rim
- Alternative LS 4B Force Main
- Alternative LS 4A Force Main
- Alternative LS 4B Force Main
- Force Mains
- Santa Fe Gravity Main**
  - Upsized to 15
  - Upsized to 18
  - Upsized to 21
  - Not Upsized
  - Kentner Gravity Main
  - Gravity Main
- Oso WRP Service Area
- Residential Scope Limits

**ALTERNATIVE LS 4**

HEWITT PLACE /SANTA FE STREET  
WW SYSTEM HYDRAULIC ANALYSIS  
CITY OF CORPUS CHRISTI



DECEMBER 2024