



**CITY OF CORPUS CHRISTI
AMENDMENT NO. 1 to the
CONTRACT FOR PROFESSIONAL SERVICES
18087A – Whitecap Wastewater Treatment Plant Improvements**

The City of Corpus Christi, Texas, hereinafter called "CITY," and **Lockwood, Andrews & Newnam, Inc.**, hereinafter called "CONSULTANT," agree to the following amendment to the Contract for Professional Services **Whitecap Wastewater Treatment Plant (WWTP) Improvements (Project No. 18087A)** as authorized and administratively amended by:

Original Contract	August 8, 2018	Administrative Approval	\$49,300.00
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IN THE ORIGINAL CONTRACT, EXHIBIT A, SCOPE OF SERVICES, shall be modified as shown in the attached Exhibit A.

IN THE ORIGINAL CONTRACT, COMPENSATION shall be modified as shown in the attached Exhibit A for an additional fee not to exceed **\$906,888.00** for a total revised fee not to exceed **\$956,188.00**.

All other terms and conditions of the August 8, 2018 contract between the "CITY" and "CONSULTANT" and of any amendments to that contract which are not specifically addressed herein shall remain in full force and effect.

CITY OF CORPUS CHRISTI

LOCKWOOD, ANDREWS & NEWNAM, INC.

Michael Rodriguez Date
Chief of Staff

DocuSigned by:
Steven A. Gilbreath 8/10/2020
SAEFAA2D600A42B...
Steven A. Gilbreath, P.E. Date
500 N. Shoreline, Suite 905
Corpus Christi, TX 78401
(361) 882-2257 Office
smharris@lan-inc.com

APPROVED AS TO FORM

Legal Department Date

ATTEST

City Secretary Date

Attachment A

Scope of Services & Fee Estimate

Whitecap WWTP Improvements

SITUATION:

According to the 2018-2019 City of Corpus Christi's Capital Improvement Plan, this project will provide for improvements to the Whitecap WWTP influent lift station/headworks, aeration basins, and clarifiers. The influent lift station/headworks includes replacing the bar screens and installation of a new grit removal system and replacement of the existing dry pit influent pumps and piping. The project also includes: rehabilitation of the aeration basin diffusers and air piping; rehabilitation of clarifiers 1 and 2, including necessary electrical and lighting improvements; replacement of the existing belt filter press system; and adding necessary facilities, specifically a portable centrifuge or other dewatering equipment.

The Whitecap Wastewater Treatment Plant (WWTP) was originally constructed in 1974 as a traditional Activated Sludge (AS) wastewater treatment plant with the capacity of 0.5 million gallons per day (MGD) to serve the residents of Padre Island. The plant was expanded in 1991 to 0.8 MGD followed by another expansion in 1997 to a capacity of 2.5 MGD. The plant continues to operate as a traditional Activated Sludge (AS) wastewater treatment plant permitted for an average daily flow of 2.5 MGD with a 2-hour peak hourly flow 7.5 MGD.

On August 9, 2018 LAN was contracted by the City of Corpus Christi (City) to provide a Preliminary Engineering Report (PER) to assess existing conditions and make recommendations for proposed improvements. The PER included a summary of observations, an evaluation of existing plant unit processes, summary of facility deficiencies and needed improvements, recommendations for improvements, and preliminary opinions of probable costs. The final PER was delivered to the City of Corpus Christi on May 24, 2019.

The Preliminary Engineering Report identified several operational and maintenance, facilities, and energy savings improvements at the Whitecap WWTP.

The unit processes identified in the PER for improvements include:

- Bar Screen Building
- Influent Lift Station/Headworks
- Aeration Basins and Blowers
- Secondary Clarifier #1
- Secondary Clarifier #2
- RAS / WAS Pump Station
- Aerobic Digesters and Blowers
- Solids Handling Facility

Additionally, the Plant currently does not have a grit removal system. Grit removal is an invaluable asset to any plant and should be considered necessary for plants that serve coastal communities. Due to the location of the plant on Padre Island, significant amounts of sand and grit enter the collection system

and are conveyed to the headworks in the influent flow. Without a grit removal system at the headworks, grit makes its way through the plant processes and settles out in channels and basins, reducing their effective treatment volume and capacity. Grit also causes premature wear and failure of mechanical equipment. This project will add a new grit removal system consisting of fine screening, hydraulically induced vortex grit chamber, and grit concentrator / classifier with conveyor.

Summary of Proposed Improvements:

Bar Screen Building

- The building will be demolished down to the foundation / slab.
- Remove existing climber screen and conveyor and replace with a continuously raked, ¼ -inch fine screen.
- Install a new screenings conveyor that will include a covered washer compactor to reduce vectors and odors.
- Install a second continuous-raked ¼ inch fine screen for redundancy.
- Both screens and equipment will be enclosed allowing for a separation between the vapor space of the raw wastewater and the at-grade work area.
- Both screens and equipment will be connected to the existing odor control system to mitigate odors and reduce nuisance odor complaints from surrounding residents.
- Upgrade electrical and controls as necessary for new equipment and move all controls to the new ECR building.
- A new canopy structure will be installed over the equipment which will include a screening wall to block the view of the equipment from the neighborhood.

Influent Lift Station

- Replacement of the three existing drive shaft dry well pumps and the existing monorail system.
- Replace existing dry well pumps with Flygt N-series pumps or equivalent.
- Install concrete protective coating system in the wet well / dry well.
- Install a new movable jib crane inside building. Abandon in place the existing monorail crane.
- Concrete ramp and loading dock on the exterior of the building.
- Pump Platforms (steel walkway) at pump level & concrete pads for new pumps to support submersible pumps
- Connection of the lift station facility to the proposed Odor Control system to mitigate odors, reduce nuisance odor complaints from surrounding residents, and reduce the potential for corrosion of equipment and materials within the building.
- Install electromagnetic flow meters downstream of the pumps and include a chart recorder in the ECR for the new meters.

Proposed Grit Removal System

- Construction of a new hydraulically induced grit removal system with grit concentrator, classifier, and conveyor.
- Includes associated piping, valves, gates, channels, basins, access stairs, electrical, controls, slab on grade, and other miscellaneous improvements for a complete working system.
- Yard piping and valve modifications to accommodate new facility.
- Slab on grade type foundation to support the new hydraulically induced grit removal system.

- A new canopy structure will be installed over the equipment which will include a screening wall to block the view of the equipment from the neighborhood.

Aeration and Clarifier Distribution Structures

- Replace existing weirs on the aeration distribution structure to even the flow between the two aeration tanks.
- Replace all existing crank handle sluice gate actuators with wheel actuators and new gear reducer actuators on both distribution structures and those located on the aeration basin structure.
- Replace sluice gates, stems and stem guides as required on both distribution structures and the aeration basin structure.

Aeration Basin

- Install a new DO control system for improved aeration control and energy savings.
- Replace the orifice meters with mass air flow meters, a newer technology. These meters would be strategically located along with new DO control to provide for proper blower control.
- Replace the air piping and diffusers within the basin as needed.
- Modify the basin effluent weirs to improve flow spit between basins. NOTE: LAN will evaluate the best method to modify the weirs during preliminary design.
- Coat, patch / repair concrete basins, where necessary.
- Replace electrical conduit, where necessary.

Blower Houses and Air Supply System

- Evaluate possible connection (for redundancy) of the two blower houses during preliminary design.
- Provide for the procurement of a spare blower and motor for the plant to use a stand-by in the event that the existing equipment becomes inoperable.

Secondary Clarifier #1 (Flat Bottom)

- Re-coat or replace the interior clarifier mechanism's, as necessary.
- Repair the clarifier effluent boxes.
- Repair / replace the stairs.

Secondary Clarifier #2 (Sloped Bottom)

- Remove and replace existing standard rake and replace with a spiral rake only.
- Re-coat or replace the additional interior clarifier mechanism's, as necessary.
- Repair the clarifier effluent boxes and repair/replace stairs, if necessary.

RAS / WAS Pumping System

- Replace the existing RAS Pumps with Flygt N-series pumps or equivalent.

Aerobic Digesters

- Add an interior wall to create a separate mixing zone.
- Install jet mixers or mixing aerators where mechanical energy is used for mixing and air is provided at a rate needed for endogenous respiration. This encourages the nitrification / denitrification process allowing energy to be reduced.
- Install a gravity sludge pre-thickener inside existing structure.

- Add post-thickener process equipment
- Replace air diffusers, as necessary.

Solids Handling Building

- Demolition of the wood framed control room to accommodate a drive-thru access in the bay for sludge disposal trucks and use of larger dumpsters (9Y or 12Y).
- Replace the belt press access platforms with stainless steel platforms.
- Compare the cost to refurbish the existing belt press to the cost of purchasing ring press units, similar to the work performed at the Allison plant.
- Replace the existing belt filter press equipment, if necessary.
- Modify piping and interior of the building to accommodate a second belt press.

BASIC SERVICES:

LAN proposes the following BASIC SERVICES tasks:

- Task 1 – Preliminary Engineering / Design Criteria
- Task 2 – 60% Design Services
- Task 3 – 90% Design Services
- Task 4 – 100% Design Services
- Task 5 – Bid Phase Services
- Task 6 – Construction Phase Services

Task 1 – Preliminary Engineering / Basis of Design

1. Participate in one (1) Project Kick-off Meeting and prepare meeting agenda and distribute meeting minutes to attendees within five working days of the meeting. The intent of this meeting is to complete a “Design Concept Review” based on the outcomes of the May 2019 Preliminary Engineering Report. A minimum this meeting will include: Engineering Services Project Manager; Director of Wastewater Utilities, Treatment Supervisor, and Plant Supervisor.
2. Operational and Maintenance Requirements - Coordinate with the City’s Project Manager, Utility Department, and Whitecap WWTP Operations and Maintenance staff to identify needs and key coordination events, including construction phasing and bypass operations.
3. Governmental Requirements / Permitting - Identify and analyze requirements of governmental authorities (TCEQ, etc.) having jurisdiction to approve design of the Project including permitting, environmental, and construction and assist the City’s Project Manager with coordination efforts with those agencies.
4. Provide coordination services concerning the geotechnical and concrete non-destructive/destructive testing requirements for the project. It is assumed the City will select and contract with the geotechnical/testing engineer, licensed in the State of Texas. LAN will provide the following during this coordination:
 - Once proposed site plan for new facilities has been approved by the City, LAN will prepare a boring plan showing locations of recommended borings.

- Provide scope of work (in an electronic mail format) for the field exploration, laboratory testing and geotechnical analysis for input into the City prepared scope of work document.
- 5. Topographic / Hydraulic Data Collection – LAN will collect limited topographic data including locations (X,Y,Z) of plant infrastructure to confirm elevations of at key points within unit process structures and facilities (e.g. top of wall, bottom of basin, weir crests, channel inverts, pipe inverts, etc.) in the plant in order to assist with determining the hydraulic profile.
- 6. Preliminary Structural Engineering
 - Establish design criteria based on applicable national, state and local codes and standards, as deemed appropriate for the development of the construction documents.
 - Review of the geotechnical engineering report prepared for the specific site and consultation with the geotechnical engineer as necessary to ensure LAN's interpretation of the report is appropriate and accurate.
 - Evaluation of code-required environmental loads imposed by wind, flood, and/or seismic events
 - Limited Structural Condition Assessment - visual observations only except where specifically noted in the process improvement items.
 - Specify a testing plan including Non-Destructive Testing (NDT) & limited Destructive Testing (DT) as necessary to develop construction documents.
- 7. Process Diagrams - LAN will review current processes and controls and prepare a preliminary Piping & Instrumentation Diagram (P&ID) which shows the piping and process equipment together with the instrumentation and control devices. LAN will also prepare a preliminary Process Flow Diagram (PFD) which will graphically show the general flow of wastewater through the treatment plant unit processes and equipment. The PFD will indicate the relationship between major equipment of a WWTP facilities and include design flow rates, loadings, and capacities.
- 8. Mechanical/Electrical/Process Analysis and Design – LAN will complete engineering design of the proposed improvements listed above. This task includes the use of software or calculations that will be documented via hand-written notes, drawings, exhibits, sketches, etc. Tasks will include:
 - a. Influent Lift Station – Pump System Design / Calculations for New Pumps
 - b. Grit Removal System Sizing & Screening
 - c. Modifications to the Effluent Weirs at the Aeration Basin
 - d. Evaluate connecting the two blower houses at the plant and provide a redundant air supply for the plant.
 - e. Evaluate the electrical power requirements for the proposed equipment and electrical safety and code requirements to accommodate the proposed improvements.
- 9. Equipment Selection – LAN will consult with City of Corpus Christi staff to determine acceptable manufacturers of proposed equipment. LAN will then contact appropriate equipment vendors and request specifications, cut sheets, preliminary drawings, and budgetary costs for proposed equipment. LAN will document the equipment that will be included, as part of the final design.

10. Plant Hydraulics - LAN will complete hydraulic calculations to establish the proposed preliminary hydraulic profile of the plant. Calculations will be performed using a combination of industry standard software, hand written calculations, and MS Excel spreadsheets.
11. Opinion of Probable Construction Costs (OPCC) – LAN will revise and update the opinion of probable construction costs delivered as part of the May 24, 2019 PER.
12. Design Progress Workshop – LAN will participate in one (1) Design Progress Workshop prior to delivery of the DRAFT Basis of Design Report with the Utilities Department and Whitecap WWTP staff. Due to the various unit processes and multiple disciplines involved in this project, LAN is assuming two days for this task. The main purpose of the meeting is to stimulate discussion between City personnel and the design team (all design discipline leads) to make sure our team has thought of everything and have all major design decisions accepted by the City so that LAN can progress with the final design efficiently. The driver/benefit of this is to avoid costly re-work and to maintain schedule and budget. LAN will prepare a meeting presentation (PPT), agenda, and distribute meeting minutes to attendees within five working days of the meeting.
13. Basis of Design Report - LAN will complete a Draft Basis of Design Report that includes the results of the preliminary engineering designs, analyses, hydraulic calculations, structural condition assessment & design requirements including interpretation of testing results provided by testing laboratory contracted by City of Corpus Christi as described in item 6 above, construction phasing & bypassing requirements, and selection of equipment.
14. 30% Construction Drawings - LAN will prepare applicable 30% Construction Drawings for the improvements listed above under this task. 30% drawings (22 sheets) will include:
 - a. Overall Site Plan
 - b. Yard Piping Plan
 - c. Process Flow Diagram
 - d. Process & Instrumentation Diagram
 - e. Hydraulic Profile
 - f. Bar Screen Building – Overall Plan (2 Sheets)
 - g. Influent Lift Station – Overall Plan (2 Sheets)
 - h. Grit Removal System – Overall Site Plan
 - i. Grit Removal System – Sections / Elevations (2 Sheets)
 - j. Aeration Basin Process Improvements (3 Sheets)
 - k. Secondary Clarifier Improvements (2 Sheets)
 - l. Aerobic Digester Process Improvements – Overall Plan (2 Sheets)
 - m. Solids Handling – Overall Plan (3 Sheets)
15. Quality Control / Fatal Flaw Review & 30% Deliverable – Per LAN Quality Assurance / Quality Control program we will include a detailed internal fatal flaw analysis at the conclusion of this task. This review will be led by our Water/Wastewater Practice Leader. LAN will address internal comments and deliver a 30% set of deliverables to the client which include:
 - a. Progress Workshop Presentation / Minutes / Notes
 - b. Basis of Design Report
 - c. 30% Construction Drawings

- d. 30% OPCC
- e. Executive Summary
- f. City of Corpus Christi Design Review Checklist

16. City of Corpus Christi Review Meeting - At the conclusion of the tasks above, it is assumed the City will review the LAN submittal and provide comments and those comments will be incorporated into the 60% Design Phase. As part of this task, LAN will attend one (1) project review meeting with City staff to review and receive City comments on the deliverables. Any significant modifications or additions to the work will be addressed at this time.

Task 2 – 60% Final Design Services

1. Participate in one (1) Project Progress Meeting with Utilities Department and Whitecap WWTP staff prior to commencement of 60% Design to confirm the results of the Basis of Design Report. LAN will prepare meeting agenda and distribute meeting minutes to attendees within five working days of the meeting.
2. Structural Engineering - LAN will complete structural engineering, analysis, and design to accommodate the proposed improvements. This task includes:
 - Preparation of calculations for the development of construction documents.
 - Preparation of structural construction drawings (AutoCAD format) and specifications in one, (1) deliverable package.
 - Preparation of an opinion of probable construction cost for the process improvements.
 - The construction drawings will include plans, sections and details.
 - The technical specifications will be prepared and will include reference to applicable municipal or client standard specifications, if any.
3. Final Basis of Design Report - LAN will assimilate City review comments and provide one (1) Final Report (electronic and hard copies using City Standards as applicable) suitable for reproduction.
4. 60% Construction Drawings - LAN will prepare applicable Construction Drawings for the improvements listed above under this task. LAN will bring the 30% drawings up to 60% level and include the following as part of this deliverable (55 additional sheets):
 - Cover Sheet
 - Drawing Index
 - Testing Schedule / Estimate of Quantities
 - General Notes
 - Stormwater Pollution Prevention Plan
 - Yard Piping Profile
 - Bar Screen Building – Demolition Plan
 - Bar Screen Building – Detailed Plan
 - Bar Screen Building – Sections and Details
 - Influent Lift Station – Detailed Plan
 - Influent Lift Station – Sections and Details (2 Sheets)
 - Grit Removal System – Detailed Site Plans
 - Grit Removal System – Details (2 Sheets)

- Aeration Basin Process Improvements Sections and Details
 - Secondary Clarifier #1 – Detailed Plan
 - Secondary Clarifier #1 – Sections and Details (2 Sheets)
 - Secondary Clarifier #2 – Detailed Plan
 - Secondary Clarifier #2 – Sections and Details (2 Sheets)
 - RAS/WAS Pump System Improvements
 - Aerobic Digester Process Improvements – Detailed Plan
 - Aerobic Digester Process Improvements – Sections and Details (3 Sheets)
 - Solids Handling – Detailed Plan
 - Solids Handling – Sections and Details (2 Sheets)
 - Structural General Notes (2 sheets)
 - Structural Typical Details (5 sheets)
 - Bar Screen Building Canopy Plan
 - Bar Screen Building Sections and Details (2 Sheets)
 - Lift Station Structural Plan (2 sheets)
 - Lift Station Structural Sections and Details (3 sheets)
 - Grit Removal System - Foundation Plan
 - Grit Removal System – Structural Sections and Details (2 Sheets)
 - Aerobic Digesters – Structural Plan
 - Aerobic Digesters – Structural Sections and Details (2 Sheets)
 - Bar Screen Building - Electrical / Instrumentation Plan
 - Lift Station - Electrical / Instrumentation Plan
 - Grit Removal System - Electrical / Instrumentation Plan
 - Aeration Basin Electrical / Instrumentation Plan
 - Aerobic Digester - Electrical / Instrumentation Plan
 - Solids Handling - Electrical / Instrumentation Plan
5. Technical Specifications – LAN will prepare a list of technical specifications (Part T of the City Standard Construction Documents) for those sections required for the project that are NOT included in the standard specifications from the City of Corpus Christi, including but not limited to mechanical, structural, and electrical equipment sections.
 6. Contract Documents – LAN will prepare a 60% Bid Form in City of Corpus Christi standard format for the bid items associated with the proposed improvements.
 7. Opinion of Probable Construction Costs – LAN will update the preliminary design opinion of probable construction costs to the 60% level.
 8. Conduct Internal Quality Control (QC) Review – LAN will complete quality control checks in accordance with our internal quality control plan which includes: plans, specifications, calculations, and all written and/or electronic deliverables.
 9. City of Corpus Christi Review Meeting - At the conclusion of the tasks above, it is assumed the City will review the LAN submittal and provide comments to LAN. Those comments will be incorporated into the 90% Design Deliverable. LAN will attend one (1) project review meeting

with City staff to review and receive City comments on the 60% Design. Any significant modifications or additions to the work will be addressed at this time.

Task 3 – 90% Final Design Services

1. 90% Construction Drawings - LAN will address the comments received at the conclusion of the 60% deliverable and prepare Construction Drawings under this task to 90% level. Civil, Mechanical, Electrical, and Structural standard details (not included in 60% submittal) will be included (approximately 10 additional sheets).
2. Prepare Contract Documents – LAN will review City of Corpus Christi standard contract documents, general requirements, and standard specifications (Part S) and complete those sections that require project specific input.
3. Prepare and Submit TCEQ Letter – LAN will prepare and submit a “Project Summary Letter” to the Texas Commission on Environmental Quality (TCEQ) in support of this project.
4. Technical Specifications – LAN will develop the technical specifications (Part T) for those sections required for the project that are NOT included in the standard specifications from the City of Corpus Christi including but not limited to mechanical, structural, and electrical equipment sections.
5. Opinion of Probable Construction Costs – LAN will update the 60% opinion of probable construction costs to the 90% level.
6. Conduct Internal Quality Control (QC) Review – LAN will complete quality control checks in accordance with our internal quality control plan which includes: plans, specifications, calculations, and all written and/or electronic deliverables.
7. City of Corpus Christi Review Meeting - At the conclusion of the tasks above, it is assumed the City will review the LAN submittal and provide comments to LAN. Those comments will be incorporated into the 100% Design Deliverable. LAN will attend one (1) project review meeting with City staff to review and receive City comments on the 90% Design. Any significant modifications or additions to the work will be addressed at this time.

Task 4 – 100% Final Design Services

1. 100% Construction Drawings - LAN will address the comments received at the conclusion of the 90% submittal and finalize the Construction Drawings under this task to 100% level, ready to be Issued for Bid (IFB).
2. Finalize Contract Documents – LAN will finalize those sections of the City of Corpus Christi standard contract documents, general requirements, and standard specifications (Part S) that require project specific input.
3. Technical Specifications – LAN will finalize the technical specifications (Part T) to 100% level.

4. Opinion of Probable Construction Costs – LAN will finalize the opinion of probable construction costs.
5. Conduct Internal Quality Control (QC) Review – LAN will complete quality control checks in accordance with our internal quality control plan which includes: plans, specifications, calculations, and all written and/or electronic deliverables.
6. City of Corpus Christi Review Meeting - At the conclusion of the tasks above, it is assumed the City will review the LAN submittal and provide comments to LAN. LAN will receive and address those comments and prepare the FINAL Issued for Bid (IFB) Documents.

Task 5 – Bid Phase Services

1. LAN will participate in one (1) pre-bid conference to discuss scope of work and to answer scope questions. It is assumed that the City of Corpus Christi will prepare the meeting agenda and minutes.
2. Review all questions concerning the bid documents and prepare revisions to the plans, specifications and bid forms that may be necessary. For the purposes of this proposal, LAN assumes not more than six (6) major questions to be answered via CIVCAST. Major questions are those that require 4-8 hours to process and answer.
3. Attend one (1) bid opening and assist with the evaluation of bids.
4. Assist with the review of the Contractor's Statement of Experience and confirm it meets Contract requirements.
5. For bids over budget, the A/E will confer with City staff and provide and, if necessary, make such revisions to the bid documents as the City staff deems necessary to re-advertise the Project for bids. For the purposes of this proposal, LAN assumes a total of 40 hours to revise bid documents.
6. Provide two (2) hard copy set and one (1) electronic set of conformed drawings and conformed Contract Documents (PDF and original [CAD/Word/etc.]) to the City.

Task 6 – Construction Phase Services

1. LAN will participate in one (1) pre-construction meeting. It is assumed that the City of Corpus Christi will prepare the meeting agenda and minutes.
2. Respond to Requests for Information (RFI) during the construction process. LAN assumes six (6) RFI's for this task.
3. Review Submittals – LAN will review contractor submittals as required in City of Corpus Christi General Conditions and Specifications. LAN assumes thirty-five (35) submittals for this task.
4. Testing – LAN will review materials testing reports and coordinate with the City's third-party testing firm to ensure testing schedules are met for the project.
5. Prepare Requests for Proposals (RFP) / Change Orders – LAN will assist in preparing RFP's, review/negotiate pricing and prepare change orders. LAN assumes six (6) Change Orders for this task.
6. Construction Observation – LAN will provide limited construction observation to monitor progress on the project and ensure construction is being completed in accordance with the contract documents. This includes delivery and installation of special equipment and contractors testing, start-up, and commissioning of special equipment. LAN assumes one visit per month (4 hours/each) for eighteen months, or 72 hours.

7. Coordinate Contractor/vendor-provided Owner/Operator training and review lesson plan and O&M manual prior to training for special equipment. Special Equipment will include:
 - a. Bar Screen & Screenings Conveyor
 - b. Submersible Pumps
 - c. Grit Removal System, Fine Screening, Pumps, and Conveyors
 - d. Dissolved Air Control System & SCADA
 - e. Belt Filter Press System
8. Complete one (1) substantial and one (1) Final Inspection and project close-out effort (ex., completion certificate, review as-built drawings, review of as-built O&M manuals).
9. Project Record Drawings – LAN will coordinate with City/Owners Representative to receive redlines from contractor and prepare one (1) PDF set of record drawings.

ADDITIONAL SERVICES:

This section defines the scope of additional services that may only be included as part of this contract if authorized by the Director of Engineering Services. LAN will not begin work on these services without specific written authorization by the Director of Engineering Services. Fees for Additional Services are an allowance for potential services to be provided and will be negotiated by the Director of Engineering Services as required.

LAN proposes the following ADDITIONAL SERVICES tasks:

- Task 1 - Permit Preparation
- Task 2 - Warranty Phase Services

Task 1 - Permit Preparation

LAN will furnish the City all engineering data and documentation necessary for all required permits. LAN will prepare this documentation for all required signatures. LAN will prepare and submit identified permits as applicable to the appropriate local, state, and federal authorities including the Texas Commission on Environmental Quality (TCEQ).

Task 2 - Warranty Phase Services

LAN will provide a 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.

ITEMS NOT INCLUDED IN THE SCOPE OF SERVICES:**Documents / Services to be provided by the City**

The City shall do the following in a timely manner so as to not delay the services of LAN:

- a. Provide all criteria and full information as to the City's requirements for the project, including design objectives and constraints, space, capacity, and performance requirements, flexibility and expendability, and any budgetary limitations, and furnish copies of all design and construction standards which the City will require to be included in the Drawings and Specifications.
- b. Assist LAN by placing at LAN's disposal all available information pertinent to the Project including previous reports and any other data relative to design or construction of the Project.
- c. City of Corpus Christi will directly contract with an independent, qualified testing agency which is licensed in the State of Texas to carry out any testing which is recommended by LAN following visual inspections. City shall provide testing report to LAN which will be a prerequisite for basis of design report and construction documents.
- d. Environmental assessments, audits, investigations and impact statements, and other relevant environmental or cultural studies as to the Project, the site and adjacent areas;
- e. Property, boundary, easement, right-of-way, topographic and utility surveys or data, including relevant reference points;
- f. Arrange for access to and make all provisions for LAN to enter upon public and private property as required for LAN to perform these services.
- g. Examine all alternate solutions, studies, reports, sketches, drawings, specifications, proposal, and other documents presented by LAN and render in writing decisions pertaining thereto.
- h. Provide approvals and permits from all governmental authorities having jurisdiction to approve the portions of the Project designed or specified by LAN and such approvals and consents from others as may be necessary for completion of such portions of the Project.

Exclusions

LAN shall consider the following items to be outside of the scope of work for the basic services tasks. LAN's completion of all or a portion of the services outlined below shall require detailed scope development, the provision of additional fee, and formal, written authorization by the City.

- a. Remediation of any hazardous materials uncovered on the site
- b. Services for other agency or local permits not mentioned above (i.e., TxDOT, railroad, Americans with Disabilities Act (ADA), building permits, etc.)
- c. Payment of any application or permitting fees
- d. Hydrologic and/or floodplain studies related to the site
- e. Services related to disputes over pre-qualification, bid protests, bid rejection, and re-bidding of the contract for construction
- f. Services necessary due to the default of the selected general contractor
- g. Services related to damages caused by fire, flood, earthquake or other acts of God
- h. Services related to warranty claims, enforcement and inspection after final completion

- i. Services to support, prepare, document, bring, defend, or assist in litigation undertaken or defended by Owner
- j. Services related to any significant deviations and/or additions to anticipated detailed design scope.
- k. Specialty hydraulic analysis including computational fluid dynamic modeling and/or physical modeling.
- l. Architectural services (TAS compliance, TDLR review/registration, permitting services, and any design and CA phase services)
- m. Any testing during the design phase and/or construction phase
- n. A full condition assessment of all facilities and prescription of repairs
- o. Field reconnaissance to validate accuracy of record drawings provided by the Owner
- p. The evaluation of floodway effects upon the proposed infrastructure improvements and/or additions for debris load and associated impact factors, and scour and erosion effects
- q. Recommendations for restoration or repair of any existing roofing systems or building finishes.
- r. Design and details associated with restoration of structural strength and/or serviceability of the existing infrastructure affected by the proposed process improvements or additions, if necessary, will be considered an additional service
- s. Dynamic Analysis
- t. Acoustical and/or Vibration Isolation
- u. Document Reproduction
- v. Special Inspection
- w. Submission of design calculations

SUMMARY OF FEES:

The following table summarizes the fees associated with each task:

BASIC SERVICES	Hours	Fee
Task 1 - Preliminary Engineering / Basis of Design	1746	\$ 262,055.00
Task 2 - 60% Design	1510	\$ 230,310.00
Task 3 - 90% Design	970	\$ 161,941.00
Task 4 - 100% Design	608	\$ 98,057.00
Task 5 - Bid Phase Services	82	\$ 14,251.00
Task 6 - Construction Phase Services	712	\$ 120,274.00
Total Basic Services	5628	\$ 886,888.00
ADDITIONAL SERVICES		
Permitting		\$ 10,000.00
Warranty Phase Services		\$ 10,000.00
Total Additional Services		\$ 20,000.00
Total Professional Services		\$ 906,888.00

LABOR RATES:

The following table summarizes the rates associated with each personnel category:

Personnel	Rate / Hr
Senior Structural Engineer	\$ 290.00
Program Manager / QAQC Manager	\$ 280.00
Senior Electrical Engineer	\$ 280.00
Electrical Engineer	\$ 235.00
Senior WWTP Engineer	\$ 226.00
Structural Engineer	\$ 205.00
Senior Construction Manager	\$ 188.00
Project Engineer VI	\$ 185.00
Project Manager	\$ 178.00
Project Engineer V	\$ 166.00
Senior Structural Designer	\$ 175.00
Structural Designer	\$ 150.00
Electrical Designer	\$ 142.00
Civil / Mechanical Designer	\$ 138.00
Project Engineer IV	\$ 124.00
Engineer-in-Training	\$ 110.00
Technician	\$ 107.00

PROJECT SCHEDULE:**TASK 1 – PRELIMINARY ENGINEERING / BASIS OF DESIGN = 24 WEEKS / 6 MONTHS**

Task 1 - Preliminary Engineering / Basis of Design															
		1,702		MONTHS						MONTHS					
		Total		1	2	3	4	5	6	7	8	9	10	11	12
Phase and/or		Hours													
Task Code	Task Description														
100.1	Project Kick-off Meeting / Design Concept Review	14													
100.2	Operational and Maintenance Requirements	20													
100.3	Governmental / Permitting Requirements	12													
100.4	Coordinate Geotechnical Engineering	14													
100.5	Topographic / Hydraulic Data Collection	9													
100.6	Preliminary Structural Engineering	28													
100.7	Process Diagrams (P&ID and PFD)	66													
100.8	MEP Analysis / Design	340													
100.9	Equipment Selection	240													
100.10	Plant Hydraulic Calculations / Proposed Hyd Profile	74													
100.11	Opinions of Probable Construction Costs	40													
100.12	Design Progress Workshop	38													
100.13	Basis of Design Report	433													
100.14	30% Construction Drawings	232													
100.15	LAN QC / Fatal Flaw Review & 30% Deliverable	42													
100.16	Client Review Meeting / Address Comments	100													
	-	-													

TASK 2 – 60% DESIGN = 28 WEEKS / 7 MONTHS

Task 2 - 60% Detailed Design																			
		1,304	MONTHS						MONTHS										
Phase and/or		Total	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Task Code	Task Description	Hours																	
200.1	Project Progress Meeting	8																	
200.2	Structural Engineering	64																	
200.3	Final Basis of Design Report	80																	
200.4	60% Construction Drawings	952																	
200.5	Technical Specifications	28																	
200.6	Contract Documents	8																	
200.7	Opinions of Probable Construction Costs	42																	
200.8	LAN QC / Fatal Flaw Review & 60% Deliverable	38																	
200.9	Client Review Meeting / Address Comments	84																	
		-																	

TASK 3 – 90% DESIGN = 16 WEEKS / 4 MONTHS

Task 3 - 90% Detailed Design																			
		918		MONTHS								MONTHS							
		Total		7	8	9	10	11	12	13	14	15	16	17	18				
Phase and/or Task Code	Task Description	Hours																	
300.1	90% Construction Drawings	492																	
300.2	Contract Documents	28																	
300.3	Prepare TCEQ Letter	16																	
300.4	Technical Specifications	188																	
300.5	Opinions of Probable Construction Costs	52																	
300.6	LAN QC / Fatal Flaw Review & 30% Deliverable	50																	
300.7	Client Review Meeting / Address Comments	92																	
		-																	

TASK 4 – 100% DESIGN = 8 WEEKS / 2 MONTHS

Task 4 - 100% Detailed Design														
		494	MONTHS						MONTHS					
		Total	13	14	15	16	17	18	19	20	21	22	23	24
Phase and/or		Hours												
Task Code	Task Description													
✓ 400.1	Issued For Bid Construction Drawings	208												
✓ 400.2	Final Contract Documents	20												
✓ 400.3	Technical Specifications	104												
✓ 400.4	Opinions of Probable Construction Costs	44												
✓ 400.5	LAN QC / Fatal Flaw Review & 30% Deliverable	38												
✓ 400.6	Client Review Meeting / Address Comments	80												
		-												

TASK 5 – BID PHASE SERVICES = 4 WEEKS / 1 MONTH

Task 5 - Bid Phase Services														
		207	MONTHS						MONTHS					
		Total	13	14	15	16	17	18	19	20	21	22	23	24
Phase and/or		Hours												
Task Code	Task Description													
✓ 500.1	Pre-Bid Conference	5												
✓ 400.2	Bidder Questions	56												
✓ 400.3	Bid Opening / Evaluation of Bids	10												
✓ 400.4	Review Contractors Statement of Experience	16												
✓ 400.5	Bid Document Revisions / Addenda	68												
✓ 400.6	Conformed Drawings / Contract Documents	52												
		-												

TASK 6 – CONSTRUCTION PHASE = 72 WEEKS / 18 MONTHS

Task 6 - Construction Phase Services														
		666	MONTHS						MONTHS					
		Total	13	14	15	16	17	18	19	20	21	22	23	24
Phase and/or		Hours												
Task Code	Task Description													
✓ 600.1	Pre-Construction Meeting	6												
✓ 600.2	Respond to RFIs	69												
✓ 600.3	Review Submittals	196												
✓ 600.4	Review Material Testing Reports	36												
✓ 600.5	RFP's / Change Orders	89												
✓ 600.6	Construction Observations	120												
✓ 600.7	Coordinate Contractor / Vendor / Owner Training	8												
✓ 600.8	Final Inspections	48												
✓ 600.9	Project Record Drawings	94												
		-												

TOTAL DESIGN PHASE DURATION = 76 WEEKS**TOTAL PROJECT DURATION = 152 WEEKS**

**WHITECAP WWTP IMPROVEMENTS
CITY PROJECT NO. 18087A
SUMMARY OF FEES**

	Original Contract	Amendment No. 1	Total Contract
Basic Services:			
Preliminary Phase	\$49,300.00	\$262,055.00	\$311,355.00
Design Phase		\$490,308.00	\$490,308.00
Bid Phase		\$14,251.00	\$14,251.00
Construction Admin Phase		\$120,274.00	\$120,274.00
Subtotal Basic Services	\$49,300.00	\$886,888.00	\$936,188.00
Additional Services:			
Permit Preparation		\$10,000.00	\$10,000.00
Topographic Survey			\$0.00
ROW Acquisition Survey			\$0.00
Environmental Issues			\$0.00
Public Meetings			\$0.00
Construction Observation			\$0.00
Traffic Control			\$0.00
Signalization Improvements			\$0.00
Warranty Phase		\$10,000.00	\$10,000.00
Construction Inspection (T&M)			\$0.00
Platting Survey			\$0.00
O & M Manuals			\$0.00
SCADA			\$0.00
Subtotal Additional Services	\$0.00	\$20,000.00	\$20,000.00
Summary of Fees:			
Basic Services Fees	\$49,300.00	\$886,888.00	\$936,188.00
Additional Services Fees	\$0.00	\$20,000.00	\$20,000.00
Total Authorized Fees	\$49,300.00	\$906,888.00	\$956,188.00