



City of Galveston

Rehabilitation and Improvements of Lift Stations #34, #37, #49, #52 and #56

April 20th, 2020

To: Brian Maxwell, City Manager
Hon. Mayor and City Council Members

From: Daniel Christodoss, P.E., City Engineer

RE: Please select **HRGreen** for Professional Engineering Services for Rehabilitation and Improvements of Lift Stations #34, #37, #49, #52 and #56. Authorizing the City Manager to execute all necessary documents upon final approval by the City Attorney after the engineering fee is negotiated and the scope is finalized with the selected firm.

I. Background

- A. The City engaged another Consultant to evaluate 34 out of 58 Lift Stations around the Island.
- B. The conditions of Lift Stations were categorized as Critical, Major, Minor and Cosmetic.
- C. Evaluation identified existing damage and corrosion.
- D. The City has identified the following Lift Stations as part of this next round of rehabilitation: #34, #37, #49, #52 and #56

II. Current Situation

- A. No other evaluations or improvements have been performed to these Lift Stations.
- B. Once the scope is approved by the City, HRGreen will be asked to provide a final technical scope and cost proposal.
- C. After review of the final scope and cost proposal by the City, and subsequent negotiations, the professional services contract will be developed and submitted for City Council Approval.





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III. **Impact or ramifications:**

If not awarded:

- A. Lift Stations will continue to deteriorate.
- B. Further deterioration could cause a greater negative financial impact on the City of Galveston.

IV. **Alternatives in order of priority**

- A. Approve the Professional Services for Rehabilitation and Improvements of Lift Stations #34, #37, #49, #52 and #56.
- B. Do not approve the request and risk having these Lift Stations continue to deteriorate and incur in violations based on TCEQ requirements.

V. **Recommendation**

Approve the Professional Services to the Rehabilitation and Improvements of Lift Stations #34, #37, #49, #52 and #56 by HRGreen.

VI. **Fiscal Impact Report**

Requested by:	Daniel Christodoss, P.E. City Engineer
Funding Sources:	\$1701 Sewer CO 2017 Bonds Fund 42117 \$1701 Sewer CO 2019 Bonds Fund 42119

Fee	\$ 250,000.00
Construction Cost	\$ 2,500,000.00
Contingency	\$ 500,000.00
Construction Administration	\$ est. 80,000.00
Material Testing (estimated)	\$ <u>est.50,000.00</u>
Total Cost of Implementation	\$ 3,380,000.00

Respectfully Submitted,

Daniel Christodoss, P.E.
City Engineer



PROPOSED SCOPE OF SERVICES

Professional Engineering Services for Rehabilitation and Improvement of Lift Stations #34, #37, #49, #52 and #56 for the City of Galveston, TX

GENERAL

The City of Galveston (CLIENT) engaged a consultant to evaluate 34 of the 58 lift stations (LS) owned and operated by the City. The remaining LS were not evaluated due to their recent rehabilitation within the last 5 years and were considered in good operating condition by the CLIENT. The evaluated LS were categorized as Tier 1 – Critical, Tier 2 – Major, or Tier 3 – Minor and Cosmetic based on lift station importance, identified damage and existing corrosion. The CLIENT is in the process of rehabilitating the evaluated LS and currently working through the list based on the rating system identified in the above evaluation. The CLIENT has identified the following LS as the next round of LS rehabilitations.

1. Lift Stations #34
2. Lift Stations #37
3. Lift Stations #49
4. Lift Stations #52
5. Lift Stations #56

HR Green, Inc. (COMPANY) proposes to provide preliminary design, final design, and bidding services as well as engineering services during construction to rehabilitate the above listed LS. The work will include the following: (1) prepare final design documents for the rehabilitation of the LSs, (2) provide bidding assistance, and (3) provide engineering services as the engineer of record during construction.

PHASE 1 – FINAL DESIGN AND BIDDING ASSISTANCE

TASK A - PROJECT MANAGEMENT

1. Project Management. Provide on-going project management during this phase. Project management to include review of budget and schedule, project staffing, invoicing to the client, and internal/sub-consultant coordination. Assume design and bidding will last for twelve (12) months. COMPANY shall schedule meetings as well as share documents and information through SMARTSHEET along with follow-up e-mails. Invoices will be submitted with appropriate documentation that substantiates work/amount invoiced.
2. Project Kickoff Meeting. Conduct a project kickoff meeting to clarify and identify specific project elements and objectives. Discuss the project staffing and organization, as well as the project schedule and deadlines. COMPANY will prepare and sign meeting minutes/ memorandum of understanding for this meeting.
3. Project Progress Meeting. Conduct periodic meetings and conference calls to keep CLIENT informed of progress on the project. Provide summary of the project tasks, schedule and budget. Assume up to six (6) progress meetings and conference calls (1 meeting and 5 conference calls) with CLIENT in addition to those included below.

TASK B - DESIGN PHASE SERVICES (January 2020 to the end of September 2020)

1. Design for improvements to the above listed LS will be based on existing evaluations, previously prepared by CLIENT and documented within the CLIENT's LS masterplan, and deficiencies noted during site visits by the COMPANY. Improvements to include:
 1. Equipment (pumps, valves, piping, guide rails, controls) replacement,
 2. Elevation of control panels as required,
 3. Site/civil (paving, fencing) improvements,
 4. Decommissioning of valve vaults (as applicable),
 5. Addition of valves for temporary pump connection,
 6. Addition of wet well bypass manhole(as applicable),
2. Existing data review for geotechnical investigations, property information, and existing easement information. Identification of permits required or agency coordination for the project sites.
3. Survey Services. Survey of the project locations in order to collect additional information on water services, sanitary sewer, storm sewer, private utility information, and other surface features. The survey will be completed by a sub-consultant and incorporated into the design. Survey will include the following:
 1. Data collection of utilities at the project sites will be performed only as marked in the field through Texas One-Call or readily visible on the surface. This includes the location of utility appurtenances (e.g., telephone pedestals, power poles, guy wires, valves, manholes, intakes, etc.). Locations of all un-marked utilities will be based off paper and/or digital maps available through Texas One-Call.
 2. Coordinate with utility companies to determine the location of their existing facilities within the project limits and any specific construction requirements (e.g., crossing, separation, etc.).
 3. Topographic survey, partial boundary surveys for adjacent property, right-of-way lines, and easements.
 4. Title research, includes research of current owners, adjoining property owners, and available easements on property.
4. COMPANY will work with Client to establish future LS design flows based on historical performance, projected growth in the area, and service area changes. .
5. Develop conceptual designs (30% Design Technical Memo and Engineer's Opinion of Probable Construction cost (EOPCC)) for each LS improvements. Submittal to CLIENT to include Technical Memorandum, conceptual design drawings, EOPCC, and survey findings. Technical memorandum will document pump and other equipment sizing, regulatory review and compliance, flood elevations, and design criteria. COMPANY will complete QA/QC review prior to submission. QA/QC documentation will be prepared and signed by a professional that is not directly involved with the design. A Client meeting will be completed to review the documents

and gather any comments. Discuss any changes to assumptions made during scoping.

6. Prepare construction specifications and contract documents for the LSs. A mix of CLIENT'S and COMPANY's standard specifications and contract documents will be used. All LS sites will be included in one bid package. Contract documents will be submitted for review at the 60%, 90%, and Design Completion (100%) Milestones following internal Company QA/QC review. CLIENT meetings will be held after each milestone to discuss content and schedule of project, and receive comments to be incorporated into the contract documents.

1. 60% Design generally is defined to include the following:

- i) Preparation of final site plans including locations of structures, access roads, equipment, major piping, and the site plans are all finalized during this phase to allow final detailing in the next phase of design.
- ii) Preparation of preliminary site grading drawings, traffic control, and storm water control concepts, as needed. Floor levels and finished grades will be finalized.
- iii) Preliminary LS plan and sections.
- iv) Establish foundation design criteria based on available geotechnical information. Prepare structural drawings.
- v) Develop electrical/control panel layouts and elevations for lift stations. Develop preliminary P&IDs.
- vi) Draft specifications for major equipment.

2. 90% Design generally is defined as adding final details to drawings and completing the specifications; 90% design includes the following:

- i) Prepare remaining general specifications. Finalize specifications for civil and structural elements as well as mechanical and electrical equipment.
- ii) Finalize drawings and complete detail sheets, traffic control, and notes sheets.
- iii) Design Completion generally is defined as the final review of documents prior to submittal to permitting agencies and prior to bidding. Final documents are submitted to CLIENT for review and comments are incorporated into final bid set documents. Bid set documents are submitted to regulatory agencies.

3. Prepare an updated EOPCC for the project at the 60%, 90% and 100% complete milestones. Provide a final opinion of probable cost for the project to file with the completed documents.

7. Submit drawings, specifications, contract documents, and opinion of probable cost at the 60%, 90%, and Design Completion (100%) milestones to CLIENT for review. COMPANY shall submit hardcopies (100% Design) only as required for Bid.
8. Drawings anticipated to include the following sheets:
 1. Cover Sheet with Vicinity Map and Index
 2. Legend, Abbreviations
 3. General and Private Utility Notes (1 sheet)
 4. Process Symbols, Legends and Notes (1 sheet)
 5. Structural Symbols, Legends and Notes (1 sheet)
 6. Electrical Symbols, Legends and Notes (1 sheet)
 7. Traffic Control (5 sheets)
 8. SWPPP Details (2 sheets)
 9. Detail Sheets (5 sheets)
 10. Survey Control and Site Plan (5 sheets)
 11. Existing/Demolition Plans (5 sheets)
 12. Existing/Demolition Sections (5 sheets)
 13. Proposed Plans (5 sheets)
 14. Proposed Sections (5 sheets)
 15. Proposed Electrical Plans (5 sheets)
 16. Proposed Electrical Sections (5 sheets)
 17. Proposed Electrical One-Line Diagrams (5 sheets)
 18. Proposed Control Schematics (5 sheets)
9. Meet with CLIENT at each design milestone to discuss concepts and issues of project and findings to date. The CLIENT shall provide any requirements/concerns of the project.
10. Provide an internal quality assurance and quality control review of the design documents and make recommended changes as needed.
11. Prepare and submit construction permit application documents to the TCEQ for approval as applicable.
12. Develop a final project schedule for advertisement, bidding (letting date, time, and place), and construction completion. COMPANY shall add approximate rain days expected to the length of project construction schedule..

TASK C - BIDDING PHASE SERVICES (October 2020 to the end of December 2020)

1. Provide on-going project management for this phase of the project. This phase is expected to be complete within one to two (1-2) months.
2. Provide construction documents to CLIENT for distribution, to prospective bidders, contractors, sub-consultants, area plan houses, and material/equipment suppliers. Construction documents will be delivered electronically and by hardcopy as required.
3. Assist CLIENT in advertising for and obtaining bids for construction.

4. Correspond with prospective bidders, suppliers, and other interested parties with questions and comments during the bid period. Issue addenda as appropriate to interpret, clarify, or expand bidding documents.
5. Consult with and advise CLIENT as to the acceptability of subcontractors, suppliers, and other persons and organizations proposed by the Contractor for those portions of the work where such acceptability is required by the bidding documents.
6. Attend pre-bid meeting (one meeting). COMPANY's role will include the technical elements of the construction projects, construction sequencing, etc. COMPANY will prepare meeting notes for incorporation into CLIENT-issued addenda.
7. COMPANY will prepare bid tabulation sheets, and assist CLIENT in evaluating bids and awarding contracts for construction.
8. Preparation, approval, and signatures for construction contract documents, to be performed by the CLIENT.
9. Prepare conformed (As-bid) construction documents.

PHASE 2 – ENGINEERING SERVICES DURING CONSTRUCTION

TASK A – CONSTRUCTION PHASE SERVICES (Jan. 2021 to the end of Dec.2021)

1. Provide on-going project management for this phase of the project. This phase is expected to be complete in approximately 12 months from the date of bid.
2. Attend a pre-construction meeting with CLIENT, contractor, subcontractors, and other public and private utility companies. The CLIENT will prepare the agenda, conduct the meeting, and distribute meeting minutes to all attendees. The CLIENT will issue a Notice-to-Proceed to contractor.
3. Provide general correspondence with CLIENT, contractor, subcontractors, and suppliers throughout the project duration. Act as CLIENT'S representative, consult with and advise CLIENT, issue instructions to contractor, and have the authority to act on behalf of CLIENT.
4. Interpret the intent of the drawings, specifications, and contract documents to protect CLIENT against defects and deficiencies in construction on the part of contractor; however, COMPANY cannot guarantee the performance of any contractor.
5. Respond to requests for clarification, and review and recommend action on contractor-initiated claims. Prepare letter scopes of work for design based contract modifications, COMPANY's estimates for change orders, and process change orders.
6. Review contractor submittals required by the contract documents, and make appropriate responses. It is assumed that thirty (30) submittals will be received (all project sites) and 30% of the submittals will need to be re-submitted.
7. Review construction schedule and monthly updates for general compliance with design intent. Review will consist of verifying that the contractor creates a schedule to complete the construction by the date noted in the contract documents and that

the contractor maintains the schedule to reflect actual progress and updated forecast.

8. Review the accuracy and appropriateness of the Contractor's schedule of values and review, evaluate, and prepare recommendations with signature for submittal to the CLIENT regarding the contractor's request for progress payments. Recommendation will include discussion of their relation to the schedule of values, work completed, and materials and equipment delivered to the site.
9. Provide site visits by the Project Engineer to review construction progress and coordinate with Contractor. Included site visits are as follows:
 - a. Monthly progress site meetings with Contractor, based on estimated schedule of eight (8) site visits are included.
 - b. Four hours per progress site meeting (including travel).
10. Prepare construction progress logs and take photos to document the progress of the work during the site visits.
11. With confirmation by CLIENT, prepare a certificate of substantial completion to initiate the warranty period for the project.
12. Collate and bind submittal information provided by the equipment suppliers for each lift station.
13. With CLIENT make a pre-final inspection, prepare punch lists, conduct a final inspection, review contract closeout documentation and recommend final payment to close-out the construction contract. COMPANY will conduct start-up/tests for the facilities as defined in the specifications.
14. Prepare record drawings based on construction records provided by contractor. Provide to CLIENT one (1) reproducible hard copy drawings and a CD of electronic files. COMPANY shall submit record drawing information as per GIS requirements
15. Start-up services, warranty assistance and resident construction observation can be included as Supplemental Services.

SUPPLEMENTAL SERVICES

Services for the following items are considered supplementary to the work included within Phase 1 and Phase 2 of this proposal. These Supplementary Services are not included in the proposal but may be negotiated and added separately. Supplemental services shall include, but are not limited to the following.

1. Preparing the design documents for multiple construction contracts.
2. Additional or extended services during construction made necessary by work damaged by fire or other cause during construction.
3. Additional or extended services required to respond to defective or neglected work by any Contractor, default by any Contractor, and failure of the Contractor to complete the work within the construction contract time
4. Evaluation of unusually complex or unreasonably numerous claims submitted by Contractor or others in connection with the work.

5. Resident Construction Observation (Phase 2): Resident construction observation can be provided as a part-time, full-time, or combination thereof at an hourly rate mutually agreed to.
6. Start-up Services (Phase 2): HR Green can assist CLIENT and Contractor with startup of the new facilities. Up to 8 hours and two (2) trips to the site for startup assistance is included for \$4,000.00.
7. Warranty Assistance (Phase 2): HR Green can provide up to 40 hours of warranty assistance for \$7,000.00. No trips are included for warranty assistance.

ITEMS NOT INCLUDED IN SCOPE or SUPPLEMENTAL SERVICES

The following items are not included as part of this scope of services or supplemental services.

1. Hard copies of contract documents (specifications, drawings) other than defined herein.
2. Utility coordination in addition to survey coordinated marking and location identification.
3. Property owner discussions.
4. Public meetings or meetings with Local, State, or Federal agencies to discuss the project other than listed herein.
5. Investigation of laterals or sewer on private property including downspouts or sump pumps.
6. Easement appraisals, negotiation of easements with property owners, and payment of easements.
7. GIS data collection or additional surveying other than the design data collection, base mapping and as-built services as outlined above.
8. Environmental Investigations including Phase I Site Assessments. Environmental, archeological, historical, or cultural resources investigations, assessments, tests, studies, and reports.
9. Environmental coordination for federal funding.
10. Wetlands investigations, assessments, tests, studies, and reports
11. Floodplain investigations, assessments, tests, studies, and reports
12. Traffic control for survey and geotechnical investigations to be provided by the survey and geotechnical service providers as part of their service.
13. Any evaluation or modification to the City's water system or storm sewer system.

14. Any significant street repairs and/or modifications.
15. Bypass pumping of work for this contract not defined as part of the design
16. Additional meetings with CLIENT other than completed herein.
17. Supplemental engineering work required to meet the requirements of regulatory or funding agencies that become effective subsequent to the date of this agreement.