



**CITY OF HALLANDALE BEACH
RFP #FY2015-2016-025**

HAZEN AND SAWYER

**Phase 2
Water Treatment Plant Transfer Pumps Replacement
March 12, 2018**

BACKGROUND

The CITY has successfully maintained the water treatment plant's transfer pumps (TPs) which transfer treated water to the CITY's storage tanks. However, this equipment is now nearing the end of their useful lives. The CITY previously retained CONSULTANT to complete the conceptual evaluation of the replacement of the TPs. The CITY has decided to install three TPs equipped with variable frequency drives as described in the conceptual evaluation and CONSULTANT's response to RFP #FY2015-2016-025. This Scope of Work presents the services CONSULTANT shall provide the CITY for the design, permitting, assistance with bidding and construction oversight assistance for the replacement of the TPs.

SCOPE OF SERVICES

TASK 1 – DESIGN

CONSULTANT shall prepare detailed design drawings and technical specifications that detail the character and extent of the project. The key elements of the design are as follows:

- **Scope Definition:**
 - The design scope for the TPs shall be as defined in the memorandum title "Transfer Pumping Evaluation" dated May, 30 2014.
 - The design documents shall include removal of existing equipment, piping, electrical, and structural components as required for a complete and operable project. The design shall include new pumps, piping, valves, controls, electrical, structural, mechanical, civil, and upgrades required for a complete and operable system. Hazen shall prepare plans, specifications, and a construction cost estimate, and shall develop prequalification criteria and prequalification form.

- **50% and 90% Submittals:**
 - Broward County Environmental Protection and Growth Management Department (BCEPGMD) requires a lead survey and an asbestos survey prior to the demolition. CONSULTANT shall retain a specialist to perform the lead and asbestos surveys and document the findings in reports.
 - CONSULTANT shall submit drawings and specifications to the CITY staff for review at the 50 percent and 90 percent stages of the design process. Two weeks will be given at each stage for the City's review. Three hard copies of the plans, specifications, and related documents shall be submitted at each stage and all digital files on a thumb drive.
 - CONSULTANT shall meet with the CITY at the 50 percent and 90 percent design stage to receive its comments on the submittals. CONSULTANT shall prepare the agenda and chair the design review meetings.

- **100% Submittal:**
 - Electronic specification files in Microsoft Word format and Adobe Acrobat (PDF)
 - One (1) full size set scanned imaged in Adobe Acrobat (PDF)
 - Electronic files in Autodesk AutoCAD DWG and DWF format
 - An opinion of probable construction cost estimate shall be provided with the 100% submittal. The opinion shall be Class 3 as defined by AACE International. The accuracy of a Class 3 estimate, as defined in AACE Recommended Practices 18R-97, is +30% and -15%. The of opinion probable construction cost estimate shall be provided in an Excel spreadsheet in both digital and hard copies.
 - AutoCAD drawing files shall be exported out of AutoCAD using eTransmit function so that any special or custom font files, pen setting files, xrefs, etc. are included
 - All electronic files shall be copied to two (2) thumb drives, and the different file types (i.e., *.dwg, *.dwf, *.pdf, *.doc) shall be organized into named folders (i.e., DWGs, DWFs, PDFs, DOCs),
 - CITY staff will assemble the CONSULTANT prepared drawings and technical specifications with the CITY prepared front-end documents.

TASK 2 – PERMITTING

CONSULTANT shall coordinate and attend meetings with the following regulatory agencies to discuss the requirements for acquiring pre-bid construction permits for this project:

- Broward County Environmental Protection and Growth Management
- Broward County Health Department (BCHD)
- City of Hallandale Beach Building Department "dry run"

CONSULTANT shall coordinate the contact with these agencies. CONSULTANT shall prepare permit applications to the BCEPGMD and the BCHD. Permit application submittal shall include submittal of signed and sealed drawings, specifications and completed application forms.

CONSULTANT shall prepare responses to the regulatory agencies request for additional information (RAI) regarding each permit application referenced above.

CONSULTANT shall meet with the City of Hallandale Beach Building Department to review the drawings and technical specifications. The City of Hallandale Beach Building Department will perform a "dry run" review of the 100% design documents. All comments received in a timely manner shall be addressed by inclusion in the bid documents or by inclusion through an addendum.

CONSULTANT shall provide responses associated with meeting with the CITY's Building Department and responding to its requests for additional information.

TASK 3 - BID SERVICES

CONSULTANT shall provide the following services during bidding:

- **Pre-Qualification of Construction Bidders:** CONSULTANT shall recommend criteria for pre-qualification process, minimum qualification and experience. The qualification and experience requirements shall be included by the CITY in its instructions to bidders.

- Pre-bid meeting: CONSULTANT shall attend a pre-bid meeting for the construction project. The meeting shall be held at the Water Treatment Plant.
- Revisions to Scope and Addendums: CONSULTANT shall answer questions and provide revisions to the scope of work that may result through vendor inquiries during the bidding process.
- Recommendation to City: CITY will provide a copy of the completed bid forms for the apparent low bidder deemed by the by CITY to be responsive. CONSULTANT shall review the responsibility of the apparent low bidder and offer a written opinion regarding the responsibility of the apparent low bidder.

CITY's responsibilities during bidding include the following:

- Reproduce and distribute bid documents to Contractors requesting documents;
- Maintain a list of plan holders;
- Issue addenda to plan holders; and
- Provide CONSULTANT with a copy of the bid tabulation prepared by the CITY.

TASK 4 - CONSTRUCTION SERVICES

The CITY will provide overall project management and coordination between the CITY, Contractor and CONSULTANT. The CITY will provide for continuous inspection services of the TPs and associated equipment installation. Services to be provided by CONSULTANT shall be as follows:

- 4.1. Pre-Construction Meeting: CONSULTANT shall chair a pre-construction meeting to be held at the Water Treatment Plant located at 630 NW 2nd Street, Hallandale Beach, Florida 33009.
- 4.2. Shop Drawings: CITY will receive and log submittals from the Contractor. CITY will forward technical submittals for CONSULTANT's review. CONSULTANT shall review technical submittals and provide CITY the technical review electronically for return to the Contractor. CITY will review other submittals that the Contractor is required to submit. This scope of services assumes up to 60 submittals will require CONSULTANT's technical review.
- 4.3. Construction Progress Meetings: CONSULTANT shall participate in bi-weekly construction meetings/inspections with the Contractor and CITY at the project site.
- 4.4. Certifications: CONSULTANT shall provide signed and sealed completion certification statement/letters required by the BCHD to certify that the project has been completed in substantial accordance with the contract documents and request permission to place the facility into service.
- 4.5. Request for Information Response: CONSULTANT shall provide interpretations of the contract documents, plans and specifications. CONSULTANT shall respond to up to thirty (30) contractor technical requests for information (RFI). Non-technical RFIs shall be the responsibility of the CITY.
- 4.6. On-site Observations: CONSULTANT shall perform periodic site-visits by civil, mechanical, electrical, structural, and instrumentation engineers during construction to confirm that the work is in substantial compliance with the contract documents, plans and specifications.
- 4.7. Change Documentation: CONSULTANT shall develop and process field orders, work change directives, and construction contract change orders.

- 4.8. Startup Assistance: CONSULTANT shall provide startup assistance for field testing of the following. 1) pumps; 2) electrical components and 3) control system. Startup assistance shall include the following:
- Confirm instrument calibration and obtain copies of contractor calibration sheets
 - Witness signal loop checks
 - Witness control strategies tests
 - Witness proper functioning of operator work station graphic displays, including: 1) activation of alarm set points; 2) historian data collection and automatic creation of charts for run time, cumulative flow and other key data; and 3) graphic displays match approved shop drawings and specified features are functional
 - Verify function of daily, monthly, and other specified reports (pump run time)
 - Confirm electrical equipment protection settings
 - Operational testing of all pumps
- 4.9. Final Inspections and Punch Lists: CONSULTANT shall conduct final inspections to ensure compliance with the Contract Documents, plans and specifications. CONSULTANT shall prepare a punch list of uncompleted and unsatisfactory work. The contractor will address each item. The CITY will confirm that the contractor addresses the punch list items. Once the punch list items are completed, CONSULTANT shall perform a final inspection.
- 4.10. Certificate of Substantial Completion: CONSULTANT shall prepare and issue the certificate of substantial completion.
- 4.11. Final Contractor Payment Approval: CONSULTANT (with input from the CITY) shall provide written approval of the final payment to the contractor.
- 4.12. Record Drawings: CONSULTANT shall prepare record drawings that incorporate the Contractor's redline markups. The record drawings shall be CAD files in AutoCad (.dwg) and Adobe (.pdf) formats.

ASSUMPTIONS

The following assumptions were made in preparation of the above scope:

1. City Inspector: In accordance with the City's normal practice, the City of Hallandale Beach will provide an inspector during construction. The City of Hallandale Beach's inspector will document construction in daily, written reports and digital photographs. The City of Hallandale Beach will electronically transmit the daily reports to Hazen on a periodic basis.
2. Existing pad mounted transformer 2 (located near the Generator Building) is already wired to Florida Power and Light (FPL) power supply. Hence, design of a new FPL power feed is not required.
3. Permitting comments from regulatory agencies shall be incorporated in the design documents after the 100% design submittal and prior to bid.
4. CITY will provide the 100% design documents to the Building Department for a "dry run" review.
5. The Front End documents (Contract Requirements) will be prepared by CITY.

6. CITY will incorporate Front End documents to produce Bid Documents (CONSULTANT shall provide a pdf version of the technical specifications for CITY's use).
7. The CITY will pay for all permitting fees.
8. A survey or a geotechnical report is assumed to not be required for permitting.
9. The design documents shall be prepared as a single construction project.
10. Numbering of technical specification sections shall follow CONSULTANT's normal practice.
11. A construction field office for the Engineer's use is not required under this project.
12. The CITY will maintain a hard (or digital) copy of all shop drawings at the WTP for CONSULTANT's use during construction.
13. The design of this project assumes that existing building upgrades to meet current Building Codes, outside of major design elements noted, are not required.
14. The design of this project assumes that electrical upgrades are limited to the plant transfer pumping facilities.
15. CITY will review and approve payment applications by the Contractor.
16. CITY will provide daily routine inspections of the project. CITY will send summary emails with photos to CONSULTANT.
17. CONSULTANT shall specify that the proposed transfer pumps shall be factory tested and that a report be issued documenting the results of the factory testing and factory test pump curves.
18. CONSULTANT attendance of the pump factory test is not included in the scope of services. If desired by the CITY, the CITY can witness the factory pump testing. In this case, the specification will require that the CONTRACTOR pay for the per diem, travel and lodging expenses for one person from the CITY to attend the pump factory test.
19. The manufacturer supplied equipment, valves, instruments and controls operations and maintenance manuals shall be supplied by the Contractor in Adobe Acrobat PDF format.
20. The CITY will perform bacteriological clearance testing required by the BCHD.
21. Materials testing called for in the specifications, such as concrete slump testing, asphalt compaction testing, etc. shall be performed by a testing lab retained by the Contractor.
22. **Soil in vicinity of the excavations needed for this project are not contaminated.**
23. **Special inspection services, if required by the Building Department, will be provided by the CONTRACTOR.**
24. **The construction period is estimated to be eight months from the CONTRACTOR's notice to proceed to final completion.**

SCHEDULE OF COMPLETION

The Schedule for the major work tasks is summarized below:

Task	Description	Duration for task/subtask (days)	Calendar Days From Notice To Proceed
1	Design		
	• 50% Design	120	120
	• City Review of 50% Design	20	140
	• 90% Design	100	240
	• City Review of 90% Design	20	260
	• 100% Design	20	280
2	Permitting	80	360
3	Bid Services	60	420
4	Construction Services	230	650

COMPENSATION

Compensation shall be made to CONSULTANT as indicated in the table below.

Task	Description	Compensation Type	Estimated Fee
1	Design	Lump Sum	\$135,065
2	Permitting	Lump Sum	\$20,606
3	Bid Services	Lump Sum	\$15,383
4	Construction Services	Not to Exceed	\$126,327
099	Lead and Asbestos Testing	Not to Exceed	\$2,319
TOTAL (not-to-exceed)			\$299,700

AUTHORIZATION - HAZEN AND SAWYER



Accepted: Janeen M. Wietgreffe, P.E.
Associate Vice President

March 12, 2018

Date: