



City of North Port

PURCHASING

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WORK ASSIGNMENT

CHA Consulting, Inc.

CONSULTANT

CONTINUING CONTRACT NO. & TITLE

Continuing Contract 2020-58-11 Continuing Services for City of North Port Utilities

THIS WORK ASSIGNMENT

2023-04

SHORT TITLE

Water Reclamation Facility Effluent Chamber and Pumping System Expansion

DATE SUBMITTED

12/5/2022

AMOUNT (LUMP SUM)

\$396,969.00

SCHEDULED COMPLETION

TBD - see attached schedule

CONTRACT AND BUDGET OVERVIEW FOR FISCAL YEAR 2023

TOTAL OF PREVIOUS ASSIGNMENTS	DEPARTMENT	CITYWIDE (completed by Purchasing)
\$0		\$0
\$396,969.00		\$396,969.00
\$396,969.00		\$396,969.00
ACCOUNT NO/PROJECT NO		420-6062-535-6300 - U23EPS
		420-6062-535-6300-U23EPS

All work assignments require City Manager approval. In presenting this work assignment, it is understood that:

1. All associated supporting documentation and justification for this work assignment is attached hereto.
2. Unless specified herein, work does not involve watercraft, boat piers and/or other activities requiring additional workers compensation endorsements.
3. Contact or involvement with hazardous materials is not anticipated, should hazardous materials be encountered, the City shall be informed.
4. THIS WORK ASSIGNMENT SHALL NOT EXCEED \$500,000 & ANY RESULTING CONSTRUCTION SHALL NOT EXCEED \$4,000,000 PER FLORIDA STATUTE 287.055 AS AMENDED.

SUBMITTED BY:

Reiss, Charles

R.

Digitally signed by Reiss, Charles R.
DN: cn=Reiss, Charles R., ou=WI-WSFL112,
email=CReiss@chacompanies.com
Date: 2022.12.08 07:57:50 -05'00'

CONSULTANT

DATE

APPROVED BY:

Nancy Gallinaro

Digitally signed by Nancy Gallinaro
Date: 2022.12.12 12:45:03 -05'00'

DEPARTMENT DIRECTOR

Ginny Duyn

Digitally signed by Ginny Duyn
Date: 2022.12.21 13:56:53
-05'00'

PURCHASING

[Signature]
Date: 2022.12.22
09:59:30 -05'00'

ASSISTANT CITY MANAGER

Lisa Herrmann

Digitally signed by Lisa Herrmann
Date: 2022.12.21 14:19:51 -05'00'

BUDGET ADMINISTRATOR

Lisa Herrmann

Digitally signed by Lisa Herrmann
Date: 2022.12.21 14:20:04 -05'00'

FINANCE DIRECTOR

CITY MANAGER

Print Form

Clear All Fields

EXHIBIT “A”

CITY OF NORTH PORT AGREEMENT NO 2020-58 PROFESSIONAL ENGINEERING SERVICES – CONTINUING CONTRACT FOR NORTH PORT UTILITIES NOVEMBER 18, 2022

WA #2 – WATER RECLAMATION FACILITY EFFLUENT CHAMBER AND PUMPING SYSTEM EXPANSION (RLOI 2023-04)

SCOPE OF SERVICES

A. INTRODUCTION

The City of North Port (CITY) owns and operates a water reclamation facility on Pan American Boulevard, which operates under FDEP permit FLA013378-018. The facility currently disposes of effluent via beneficial reuse and deep injection well. The existing effluent chamber and pumping system delivers reclaimed water from the facility to the offsite Class I Deep Injection Wells (DIWs) via a 16-inch diameter pipeline that is approximately 3 miles in length. The effluent chamber and pumping system capacity are being expanded to meet increasing demands on the system.

The DIW pump station (effluent chamber) consists of a clearwell with an operational volume of approximately 46,000 gallons and three (3) vertical turbine pumps, each with a rated capacity of 1,500 gallons per minute (GPM), or ~2.16 million gallons per day (MGD), and a total dynamic head (TDH) of 168 feet.

It is anticipated that a new effluent chamber and pump station will be designed and implemented as part of this project. Based on the Preliminary Engineering Report (PER) developed by Brown & Caldwell in 2007, the new pump station will be comprised of up to five (5) 2,500 GPM pumps capable of achieving approximately 400 ft TDH. According to the PER, the equivalent of a 30-inch pipeline will be required to facilitate delivery of the water to the DIW site. The pipeline will be designed and permitted by others. The CITY also wishes to evaluate the surge (hydropneumatic) tank adjacent to the effluent pump station to determine whether it can be eliminated.

This Work Assignment provides for CHA Consulting, Inc. (CHA) to complete design, permitting, bidding, and limited construction administration services for the expansion of the effluent chamber and pumping station, as outlined in the following tasks. It is anticipated that CHA will also support the CITY in early procurement of some long-lead material/equipment.

B. SCOPE OF SERVICES

CHA's Scope of Services will include the following services, by appropriate Task:

TASK 1 – PROJECT ADMINISTRATION AND MEETINGS

1.1 Project Administration and Invoicing

Project Coordination: The effort in this task includes conference calls, emails, and discussions with the CITY necessary to coordinate, plan, and manage the project.

CHA will develop and submit monthly invoices with status reports and updated schedule.

1.2 Meetings

CHA will prepare for and lead a kick-off meeting with the CITY staff. CHA will prepare an agenda and provide a meeting summary following the meeting. It is anticipated that, in addition to review of the scope, schedule, and budget for the project, the PER will be reviewed in detail, as well, to discuss any changes that have taken place with respect to installed infrastructure, CITY needs, etc. that may impact the improvements to be implemented under this project.

CHA will prepare for and lead review meetings with CITY staff at the alternative analysis/design development, 30%, 60%, and 90% design stages. CHA will prepare an agenda and provide a meeting summary following each meeting. It is anticipated that the 30% and 60% design review meetings will be in person, while the balance of the meetings will be virtual (MS Teams).

Deliverables

- Kickoff meeting agenda and summary – one (1) electronic pdf file
- Review meeting agenda and summary – one (1) electronic pdf file
- Monthly Progress Reporting

TASK 2 – ALTERNATIVES ANALYSIS AND DESIGN DEVELOPMENT

CHA will develop a Design Development Report, which will include identification and analysis of the alternative approaches that are evaluated, via the following steps:

2.1 Data Request and Review

CHA will prepare and submit a data request list to the CITY. The CITY will provide available data to CHA in support of the project. Requested data is anticipated to include record/as-built drawings of the water reclamation facility (focus on existing effluent chamber, associated pumping system, and effluent pipeline), existing pump station/pipeline hydraulic data (flows and pressures over the past 12 months), target flow/head conditions, etc.

2.2 Hydraulic Model Review and Alternative Surge Mitigation Development

CITY will provide desired system curve and/or confirm flow and head conditions at the connection point to the proposed pipeline. CHA will review the hydraulic model of the pump station and piping (previously developed by Kimley-Horn). Based on the data

gathered above, CHA will determine the appropriate size for the proposed effluent facilities (piping, pumps, clearwell) to accommodate the increased flows.

CHA will identify viable alternative options to mitigate surges in the discharge pipe system to allow for elimination of the hydropneumatic tank and present considerations and relative cost of design and implementation of these options.

Results of the hydraulic modeling and surge analysis will be set forth in a section of the Design Development Report (see **Task 2.3**).

2.3 Alternatives Analysis and Design Development Report

CHA will develop a report, which will set forth the alternatives identified to increase the capacity of the effluent pump station, the relative conceptual cost of each alternative, the permits/regulatory approvals necessary for each alternative, and benefits/drawbacks of each alternative. It is anticipated that up to three (3) alternatives will be evaluated, two of which include expanding the existing effluent chamber or constructing a new stand-alone effluent chamber near the existing unit.

The report will be submitted to the CITY in draft format. CHA will then facilitate a review meeting with the CITY, budgeted under **Task 1.2**, to discuss review comments. Following the review meeting, CHA will finalize the report by incorporating CITY comments.

TASK 3 – DESIGN SERVICES

Following completion of the Alternative Analysis and Design Development, CHA will commence with final design of the selected alternative. As previously mentioned, it is anticipated that the alternatives that will be evaluated during conceptual design include upsizing of the pumps and piping in the existing effluent chamber; expanding the existing effluent chamber; or constructing a new stand-alone effluent chamber near the existing unit. For purposes of scope development, it is anticipated that the selected alternative will include expansion of the existing effluent chamber/pump station to handle the peak flow condition, a new electrical building, a new electrical drop (dedicated to the new effluent structure/pump station), a new dedicated engine generator (also dedicated to the new effluent structure/pump station), and approximately 200 linear feet of 30” pipe (from the location of the proposed effluent chamber to the fence line, as coordinated with the pipeline design firm). However, the scope will be reviewed upon selection of the preferred alternative to determine whether adjustments are necessary.

3.1 Survey

With support from subconsultant ECHO UES, Inc., CHA will perform a topographic survey and subsurface utility engineering (soft digs) within the project area. CHA will review survey data collected and maps generated for completeness and accuracy in supporting the design requirements and provide the CITY with one (1) final survey drawing and one (1) electronic copy (original files and PDF).

3.2 Geotechnical Borings

CHA will perform geotechnical investigations sufficient to establish the geotechnical parameters necessary for the new or expanded effluent pump station structure. CHA will review geotechnical data collected and reports generated for completeness prior to

providing the CITY with final reports of the investigation. The results of the analyses of the borings will be included in a report. The scope for this task generally includes the following:

- Review soil information from the “Soil Survey of Sarasota County, Florida” published by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS).
- Review topographic and potentiometric information published by the United States Geological Survey (USGS).
- Perform a site reconnaissance to ascertain site access and establish a geotechnical field investigation plan.
- Coordinate utility clearances with Sunshine One Call. Subsurface utilities outside of Sunshine One Call’s jurisdiction, such as privately owned utilities, will be located based on review of record drawings and by ECHO UES, Inc. (subsurface utility engineering, or SUE) prior to the geotechnical excavation work.
- Conduct geotechnical program, generally including:
 - Effluent Chamber Expansion - Perform two (2) Standard Penetration Test (SPT) borings to a depth of approximately 25 feet below grade.
 - Electrical Building - Perform one (1) SPT boring to a depth of approximately 25 feet below grade.
 - Pipe Alignment - Due to the depth of the pipeline (approximately 10 feet) and potential for shallow groundwater levels, hand auger borings are likely not be able to be advanced to adequate depths. Therefore, Tierra recommends performing three (3) SPT borings to depths on the order of 15 feet below grade along the proposed pipe-line alignment and/or pipe connections.
- Evaluate the feasibility of utilizing slab on grade and a shallow foundation system for support of the proposed Effluent Chamber and Electrical Building.
- Provide design parameters required for design of the proposed shallow foundation system, including allowable bearing pressures, foundation levels, and soil compaction recommendations.
- Prepare a geotechnical report that summarizes the course of study pursued, the field data generated, laboratory test results, subsurface conditions encountered, and geotechnical recommendations.

3.3 Final Design

- 3.3.1 **Preliminary Design** – Based on the selected alternative, CHA will develop a Preliminary Design Report (PDR) that contains sufficient detail to establish the parameters of the project, as well as support permit applications for the Minor Modification of the facility Operating Permit, and the environmental resource permit exemption. CHA will attend a preliminary design review meeting, budgeted under **Task 1.2**, via Microsoft Teams, with the CITY, and prepare a

meeting agenda, summary, and action items resulting from the meeting. Following the preliminary design review meeting, CHA will incorporate all comments and submit a signed and sealed Final Preliminary Design Report.

3.3.2 60% Design – CHA will prepare 60% Design Phase documents for the selected alternative. The 60% design submittal will include a partial set of drawings and specifications (representing a 60% level of completion), and an opinion of probable construction cost (OPCC). CHA will attend a 60% design review meeting, budgeted under **Task 1.2**, via Microsoft Teams, with the CITY, and prepare a meeting agenda, summary, and action items resulting from the meeting.

3.3.3 90% Design – CHA will prepare 90% Design Phase documents for the project. The 90% design submittal will include complete drawings and specifications, with comments received at the 60% design review meeting incorporated, and an updated OPCC. CHA will attend a 90% design review meeting, budgeted under **Task 1.2**, via Microsoft Teams, with the CITY.

3.3.4 100% Design – CHA will prepare 100% / Issued for Bid Construction Phase documents including construction drawings, technical specifications, and use CITY front-end sections for the project. CITY comments on the 90% design will be incorporated into the 100% documents, and the OPCC will be updated for this submittal. At the end of the 100% design completion level, CHA will assemble and submit documents, included estimated construction duration, to the CITY for use in bidding.

Deliverables

- Survey – one (1) electronic pdf file and DWG file
- Geotechnical Report – one (1) electronic pdf file
- Draft Preliminary Design Report – one (1) electronic pdf file
- Final Preliminary Design Report – one (1) signed and sealed electronic (pdf) file
- 60% design submittal – one (1) electronic pdf file
- 90% design submittal – one (1) electronic pdf file
- 100%/Issued for Bid design submittal – one (1) signed and sealed electronic (pdf), spreadsheet bid form, and AutoCAD (DWG) files

TASK 4 – PERMITTING

4.1 FDEP Wastewater Treatment Plant Operating Permit Minor Modification

CHA will develop and submit to the FDEP an Operating Permit Minor Modification package, comprised of an application form, two sets of signed and sealed drawings, and two sets of signed and sealed specifications.

CHA will respond to up to two requests for additional information from FDEP.

It is anticipated that the CITY will pay permit application fees.

4.2 Environmental Resource Permit

It is anticipated that the proposed improvements will not impact wetlands and will not add sufficient impervious area to the site to require an environmental resource permit (ERP). CHA will develop a request for exemption from environmental resource permitting on these merits.

If it is determined that environmental resource permitting is required, CHA can support those activities as supplemental services.

4.3 City of North Port Building/Trade Permits

CHA will support the selected contractor in obtaining the required building/trade permits for the project by providing up to five (5) sets of signed and sealed conformed drawings and/or specifications (see **Task 7.1**).

CHA will respond to up to two requests for additional information from the building department.

It is anticipated that the Contractor will pay permit application fees.

Deliverable

- FDEP Wastewater Treatment Plant Operating Permit Minor Modification application package – one (1) electronic pdf file
- Environmental Resource Permit exemption request – one (1) electronic pdf file
- City of North Port Building/Trade Permits – two (2) hardcopy sets of signed/sealed drawings and specs

TASK 5 – EARLY PROCUREMENT SUPPORT SERVICES

CHA will support the CITY in procurement of long-lead equipment/materials. CHA will provide technical content (e.g. specifications) for up to three (3) stand-alone bid packages that will be sent to multiple suppliers to solicit proposals for the subject equipment. It is understood that CITY staff will develop the administrative/contractual content for the early procurement packages.

Upon receipt of proposals, CHA will review documents submitted by the apparent low bidder and provide a letter indicating whether the apparent low bidder meets the requirements of the contract documents as related to the experience and qualifications of the supplier to provide the subject equipment or material. It is understood that CITY staff will perform legal, financial, and administrative reviews of the bids received.

It is understood that identification of material or equipment to be procured by CITY must be identified as design is progressing, such that the final bid documents can relay to the bidders what material will be provided to them for installation, as opposed to procured and installed by the bidder.

TASK 6 – BIDDING SERVICES

6.1 Bidding

CHA will provide limited services during the bid phase of the project. It is anticipated that the project will bid with an advertisement period of up to 30 days. It is understood

that the CITY will administer the bidding process, including advertisement, reproduction and dissemination of bid documents, maintaining a plan-holders list, scheduling and coordinating a pre-bid meeting, receiving bidder questions, assembling and disseminating addenda, and hosting the pre-bid meeting. Specific services to be provided by CHA during bidding include:

- Attend the Pre-Bid Meeting. It is understood that CHA staff involvement at the pre-bid meeting will be limited to assisting the CITY in describing the character of the work being contemplated, and noting questions posed by potential bidders at the meeting.
- Prepare written responses to questions from Contractors that arise during the bid phase, including those raised at the pre-bid meeting.
- Assist the CITY in preparing technical content for up to three (3) addenda. This may include preparing clarifications of the contract documents.
- Review the documents submitted by the apparent low bidder and provide a letter statement indicating whether the apparent low bidder meets the requirements of the contract documents as related to the experience and qualifications of the Contractor to perform the work required. It is understood that CITY staff will perform legal, financial, and administrative reviews of the bids received.

Deliverables

- Addenda responses – one (1) electronic pdf file
- Bid Recommendation Letter – one (1) electronic pdf file

TASK 7 – CONSTRUCTION ADMINISTRATION SERVICES

CHA will perform construction engineering and inspection (CEI) services during the construction phase of the project. By performing these services, CHA’s primary role will be to confirm that the observed work conforms with the contract documents. CHA shall not have responsibility to direct the Contractor’s work with respect to the Contractor’s means, methods, techniques, sequences, or procedures of construction. CHA also shall not have responsibility to develop or direct the Contractor’s safety programs.

For purposes of scope development, it is anticipated that construction period will last 9 months, with 6 months of onsite activity. This anticipated duration will be reevaluated once the selected alternative has been identified.

7.1 Conformed Documents

CHA will incorporate into the construction documents any revisions and clarifications that occurred during the bidding phase. CHA will provide to the CITY two (2) full size and two (2) half-size hard copy sets of the “Conformed” construction drawings and four (4) complete, bound Project Manuals (collectively referred to as the conformed Contract Documents) for CITY’s use during the construction phase of the Project.

The conformed Contract Documents will be disseminated to the contractor at the preconstruction conference.

7.2 Pre-Construction Conference

CHA will participate in one (1) pre-construction conference with the Contractor and CITY representatives to discuss the project, planned work, issues that may be encountered in the field, communication, safety, and other topics, as necessary and as requested by the CITY.

7.3 Shop Drawings/Material Conformance

CHA will coordinate with the Contractor to facilitate timely submittal and review of shop drawings for installed materials for the CITY's records. CHA will review identified material to confirm compliance with the design documents. CHA will maintain a shop drawing log. It is anticipated that up to fifty (50) shop drawings and 25 (twenty-five) resubmittals will be reviewed.

7.4 Request for Information (RFI)

CHA will coordinate with the Contractor to facilitate timely RFI review. CHA will maintain an RFI log. It is anticipated that up to ten (10) RFIs will be reviewed.

7.5 Change Orders

CHA will assist the CITY with preparing change orders, reviewing the changes for scope and increases/decreases to contract price and contract time. It is anticipated that two (2) change orders will be reviewed.

7.6 Monthly Construction Progress Meetings – CHA will participate in as-needed monthly meetings with the Contractor and the CITY representatives to discuss status of the project, planned work, issues encountered in the field, and other topics, as necessary and as requested by CITY. Six (6) such meetings have been budgeted (one per month, on average, during the period of onsite construction activity). It is anticipated that 3 meetings will be conducted in-person, and three will be conducted virtually.

7.7 Contractors Applications for Payment

CHA will review Contractor's applications for payment and reject or recommend payment by the CITY. Review/processing of up to nine (9) applications for payment have been budgeted.

7.8 Substantial and Final Completion Walk Throughs

CHA will conduct a substantial completion walk through following the completion of the project. During the walk-through, a punch list will be developed by CHA and provided to the Contractor and the CITY. CHA will conduct a final walk-through to confirm that all items have been addressed to achieve final completion.

7.9 Regulatory Clearance

CHA will provide support with respect to regulatory compliance, etc. associated with preparing documents and submit the partial and final certification of completion to the FDEP and other regulatory agencies to obtain approval for clearance of the project.

7.10 As-Built/Record Drawings

CHA will review contractor markups of the constructed improvements or an as-built survey (signed and sealed by a professional land surveyor) furnished by the Contractor.

CHA’s review will be to confirm that the modifications/improvements were documented adequately for the CITY’s records. CHA will develop electronic (AutoCAD) record drawings based on the Contractor’s markups.

Deliverable

- Record Drawings – one (1) electronic pdf file and AutoCAD files
- Regulatory Clearance Submittal (FDEP Minor Modification) – one (1) electronic pdf file
- Regulatory Clearance Submittal (ERP) – one (1) electronic pdf file

TASK 8 – CONSTRUCTION OBSERVATIONS

8.1 Construction Observation Services

CHA will provide construction observation services for construction activities during the period of onsite construction activity. Services are anticipated to include periodic site visits to observe the progressing work, track quantities, and confirm that the work is being performed in general conformance to the CITY’s specifications and details. Full-time observation is not anticipated. Sufficient budget is included to provide twenty-six (26) site visits (approximately a half day in duration, each), which allows one visit per week, on average, during the anticipated 6-month period of onsite construction activity, plus one substantial completion walk-through, and one final completion walk-through.

C. DATA OR COORDINATION ASSISTANCE TO BE PROVIDED BY THE CITY AS AVAILABLE

1. CITY will provide record drawings and existing utility information within the project area.
2. CITY’s consultant completing the design of the effluent pipeline will provide CHA with the size and route of the proposed pipeline early enough to support CHA modeling.

D. ASSUMPTIONS

1. CITY will provide design pressures for min, max, and average day flows at the property boundary/point of connection to the DIW transmission main
2. CITY will pay for the permit review fees
3. The project will be bid and awarded as one solicitation to be constructed by a single contractor on a competitive bid basis
4. The CITY’s existing SCADA system has sufficient capacity to handle the control/monitoring of the new pump station infrastructure
5. A new power drop (dedicated to the new effluent structure/pump station) will be required, as will a new, dedicated engine generator

E. PERFORMANCE SCHEDULE:

The service outlined above for this scope of services will be completed within 24 months from written Notice to Proceed. Schedule updates will be provided with each monthly invoice submittal or when a schedule change has occurred. The following table summarizes CHA’s anticipated schedule.

Activity	Duration (months) from Notice to Proceed
Task 1 – Project Administration and Meetings	24 months
Task 2 – Alternatives Analysis and Design Development	3 months
Task 3 – Design Services	10 months
Task 4 – Permitting Services	12 months
Task 5 – Early Procurement Support	10 months
Task 6 – Bidding Services	14 months
Task 7 – Construction Administration Services	24 months
Task 8 – Construction Observations	24 months
Total	24 months

F. COMPENSATION TO THE CONSULTANT:

For the Scope of Services described in this work assignment CHA shall be compensated on a lump sum as shown below in accordance with the terms of the agreement.

Activity	Fee
Task 1 – Project Administration and Meetings	\$23,960
Task 2 – Alternatives Analysis and Design Development	\$54,548
Task 3 – Design Services	\$185,866
Task 4 – Permitting Services	\$5,400.00
Task 5 – Early Procurement Support	\$20,180.00
Task 6 – Bidding Services	\$10,356.00
Task 7 – Construction Administration Services	\$69,049.00
Task 8 – Construction Observations	\$27,610.00
Total	\$396,969.00

