

ALTOONA WATER AUTHORITY

Request for Qualifications

Study Phase Engineering Services (per EJDC E-525)

for

The Upgrade & Rehabilitation of the Easterly and Westerly CSO Facilities

Issue Date: December 1, 2021

Due Date: January 14, 2022

at 2:00 pm

Public Notice
Request for Proposals

Notice is hereby given that the Altoona Water Authority (AWA), 900 Chestnut Avenue, Altoona, PA 16601, in the Commonwealth of Pennsylvania will receive Qualification Packages for conducting an Engineering Study on The Alternatives for the Upgrade & Rehabilitation of the Easterly and Westerly Combined Sewer Overflow Facilities. Responses will be received until 2:00 p.m. on, Friday, January 14, 2022 at the Authority's address listed above.

The Request for Qualifications packages will be opened and available for public inspection at the AWA's Purchasing Office at 900 Chestnut Avenue, Altoona, PA between the hours of 8:00 am and 3:00 pm; daily except for Saturdays, Sundays and Holidays. Prospective bidders may obtain copies of documents during these hours, by mail upon written request or by phone to (814) 949-2213 for a fee of \$15.00. Checks must be made out to the "Altoona Water Authority" and all payments must be submitted to the Authority.

A Prebid Meeting will be held for prospective bidders to review the facilities on December 14th at 9:00 AM. The meeting will begin at the Westerly Water Pollution Control Facility at 144 Westerly Treatment Plant Road, Duncansville, PA 16635-7814. Additional tours of the facilities may be scheduled by contacting Mr. Todd Musser, Director of Wastewater Operations, (814) 949-2218 ext. 2202. Questions must be submitted in writing, before close of business on December 17th, to Todd Musser via email at tmusser@altoonawater.com and Mr. Brian Book, PE at brian@cb3solutions.com. All questions will be compiled and written answers along with the questions will be returned to all RFQ holders of record prior to the bid date. If necessary, addenda will be issued.

Respondents are required to submit complete responses to this Request for Quotation ("**Responses**") as instructed in this document.

By Order of

Todd Musser

Director of Wastewater Operations

TABLE OF CONTENTS

1. Purpose
2. General Information
3. Available Resources
4. Required Elements to be Submitted
5. Additional Information
6. Selection Process

PURPOSE

The purpose of this “request” is to determine the most desirable Engineering Firm or Engineering Team who will assist the Altoona Water Authority in evaluating the necessary project elements for the Rehabilitation and Upgrade of the existing Easterly and Westerly Combined Sewer Overflow (CSO) Facilities.

In general, the existing CSO Facilities are part of the Altoona Water Authority’s Long-Term Control Plans (LTCP) which have been implemented to comply with the EPA’s Guidance. This LTCP is currently being updated by the Authority’s Retained Engineer – Gwin, Dobson & Forman, Inc. The existing Plans are available for review. The CSO Facilities are aging and in need of rehabilitation to continue operations as currently conceived. It is therefore the intent of this “request” to find a firm who will evaluate the existing systems and propose new mechanical systems to match and potentially improve the existing functions as listed below:

Easterly CSO Facility

- Interceptor Control Valve and Diverter – These mechanical systems are designed to control and divert the flow in order to maximize the flow going to the interceptor system while capturing the “first flush” to the Easterly Water Pollution Control Facility (WPCF).
- Existing Front Cleaned Screens – There are four screens in total with a capacity to screen peak flows and exclude materials greater than 1 ¼ inches in size.
- 1.6 mgd Holding Tank with Mixers – The tanks are designed to hold excessive flows, storing them until they can be pumped toward the treatment facility. The mixers are intended to keep solids in suspension and the wastewater “fresh” until treatment. After a CSO event, there is to be a flushing system which will automatically clean the tanks.
- Pumps, with Control Valves and Meters - These systems are designed to discharge the held wastewater from the Holding Tanks and force the flow toward the Easterly WPCF as flows allow.
- Overall Supervisory Control and Data Acquisition (SCADA) system.

Westerly CSO Facility

- Interceptor Control Valve and Diverter – These mechanical systems are designed to control and divert the flow in order to maximize the flow going while capturing the “first flush” to the Westerly Water Pollution Control Facility (WPCF).
- Existing Front Cleaning Screens– There are four screens in total with a capacity to screen peak flows and exclude materials greater than 1 ¼ inches in size.
- 1.3 mgd Holding Tank with Mixers– The tanks are designed to hold excessive flows, storing them until they can be pumped toward the treatment facility. The

mixers are intended to keep solids in suspension and the wastewater “fresh” until treatment. After a CSO event, there is to be a flushing system which will automatically clean the tanks.

- Pumps, with Control Valves and Meters – These systems are designed to discharge the held wastewater from the Holding Tanks and force the flow toward the Westerly WPCF as flows allow.
- Overall Supervisory Control and Data Acquisition (SCADA) system.

While this Request is for the study of systems which will Rehabilitate and Upgrade the existing Easterly and Westerly Combined Sewer Overflow (CSO) Facilities, all respondents are notified that the Altoona Water Authority is currently updating their Long-Term Control Plans. It is anticipated that the successful respondent will interact with the Authority’s Engineer and Staff on both the LTCP and the Rehabilitation Study. In fact, this interaction will be a key to the overall success of both projects.

GENERAL INFORMATION

The Altoona Combined Sewer Overflow control systems have been in continuous operation for almost 30 years. Their design is based on PADEP criteria after an extensive CSO modeling and monitoring program conducted by the Authority. The modeling program focused on reducing the “first flush” of organic loading to the receiving stream from the combined sewer system (CSS) which typically occurs within the first 1-2 hours of overflow. As a result, the Easterly CSO was designed to capture 1.61 mgd, while the Westerly CSO was designed to capture 1.34 mgd. The overall operation is as follows:

1. At the beginning of increasing sewer flow, the interceptor sewer control valve is open. When the interceptor reaches allowable capacity, the control valve will begin to close and the storage tank will begin to fill.
2. At a preset level in the storage tank, the control valve will close completely and the pumps may be activated concurrently. The pumping rate will be controlled by the available capacity in the interceptor sewer via a level sensor.
3. Tank pumping may occur as the storage tank fills. When the tank reaches capacity, the excess flow will be discharged to the receiving stream via the existing CSO conduit.
4. At the end of an event, a decrease in flow will result in the storage tank being pumped to a level when the pumps will shut-off. The control valve will open and normal gravity flow to treatment will resume.
5. The Supervisory Control and Data Acquisition (SCADA) system at the treatment plant monitors the status of the CSO control facility including all level and flow data and the run status of the mechanical equipment. Operation can be performed remotely at the treatment plant via telemetry equipment or via on-site control.

There are some operational considerations which must be considered and the optimum solutions found with new systems. For the responding engineer’s information, the AWA’s concerns include:

- The maintenance and serviceability of the screens related to the exposed bearings.
- The binding of the screens associated with materials becoming lodged within the cleaning mechanism.
- Overall reliability of the screens.
- Odor mitigation and vector control.
- The integration of the system telemetry to anticipate upcoming CSO events allowing plant staff to make arrangements to accommodate higher flows.
- Arrangement, function and reliability of the raw sewage pumps.
- Continued maintenance, reliability and function of the control valves and sensors.

- Access, maintenance, reliability of the tank mixers.
- Ease of automatic clean up and access to the systems for maintenance.
- Access to the tanks and CSO structures.

The Authority is therefore seeking an Engineering Firm or Team to Study Alternatives for the Rehabilitation and Upgrade of the Easterly and Westerly CSO Facilities. This Study shall include:

- An evaluation of alternatives to complete the listed functions.
- All necessary plans and schematics to illustrate the functionality of alternatives.
- An Engineer's Opinion of Probable Cost with a variability of +10% to -20% (AACE Class 4).
- A set of conclusions and observations regarding the work.
- A recommendation of the appropriate implementation of improvements.
- Any "holistic" suggestions for the Authority's Long-Term Control Plan which may come up during the progress of this study.

AVAILABLE RESOURCES

The following documents are on the Altoona Water Authority's web site for the review of responders:

- Easterly Combined Sewer Overflow Long-Term Control Plan Update (September 2019, revised April 2020)
- Westerly Combined Sewer Overflow Long-Term Control Plan Update (September 2019, revised April 2020)
- Record Documents of the Easterly Combined Sewer Overflow Facility Construction; 1988 - Contracts 120, 120A, 120B, & 121.
- Record Drawings of the Westerly Combined Sewer Overflow Facility Construction; 1987 – Contracts 115, 115A, 115B & 106.
- The Altoona Water Authority's NPDES Permit

REQUIRED SUBMITTAL ELEMENTS

Packages shall include the following elements:

1) General Information

- a) Firm Name – Please identify the lead firm and all others by name.
- b) State of Incorporation & Location of Managing Office – Indicate the location of the firm's incorporation and the office where the project manager (who will be the primary contact) is located.
- c) Type of Company

2) Project Organizational Chart

- a) Project Manager – This person is the primary point of contact between the Altoona Water Authority's project team lead by Todd Musser and your project team. The designated Project Manager must remain on the project team throughout the project and be available at the interview. This is a Key Individual.
- b) Lead Engineer – The Lead Engineer shall seal the final report and be in responsible charge of all engineering decisions. This is a Key Individual.
- c) Support Engineers, Technicians, and staff – At your discretion, please identify all support personnel.
- d) Firm Principal in Charge of Project – You should identify the Owner or Principal who is authorized to make any contractual decisions. This is a Key Individual.

3) Preliminary Scope of Work – The proposing firm or team should identify a preliminary scope of work which would be their initial basis of completing the project. This preliminary scope will be discussed with the AWA Team and is subject to change.

- a) Indicate any phases of the project, any deliverables, and project milestones to help indicate progress.
- b) Provide approximate hours for staff by billing category – Based upon your preliminary scope of work, indicate the hours of work and billing rate; ultimately providing an estimated total project cost.
- c) Indicate any Project Meetings with AWA Staff – The Altoona Water Authority staff has a broad range of capabilities and a vested interest in the successful completion of the

study. They would like to remain involved with the Engineer's Project Team and has a wealth of experience with the existing equipment. We would like you to indicate Project Team meetings as part your proposed scope and schedule. It would also be helpful if you would indicate the focus of each meeting.

- 4) Preliminary Schedule – Provide a simple time line or Gantt chart illustrating the draft schedule and major milestones.

In addition, the packages shall include the following:

- A. A sample contract based upon the Preliminary Scope and Schedule which clearly identifies any required terms, conditional or exclusions. It is the Altoona Water Authority's desire to follow the EJCDC's Agreement Between Owner and Engineer for Study and Report Professional Services (E-525) or similar.
- B. A minimum of five project examples completed within the last seven years, at least two of which involve the Project Manager and Lead Engineer. These examples shall include client contact information.
- C. A sample of a similar project report for the Authority's review.
- D. Resumes of Key Individuals.
- E. The package should be submitted bound, with five copies furnished. The Altoona Water Authority requests that the pages be limited to 50 total.

ADDITIONAL INFORMATION

The following statements are part of the request and proposal process and are offered on behalf of the Altoona Water Authority. Any objections to these statements shall be submitted in writing to the Authority before the deadline of January 14, 2022.

- The Altoona Water Authority reserves the right to waive any ambiguities and negotiate with any firm that they feel is in the best interest of the Authority. The Authority also reserves the right to reject all responses.
- The Altoona Water Authority will not provide any compensation to any offering firm, and by submitting a package all firms agree to this provision.
- It is the responsibility of the offeror to familiarize themselves with the project sites, and by submitting a package, the firm acknowledges that they have done their due diligence in that regard.
- It is the intent of the Altoona Water Authority to partner with one firm or team as a result of this RFQ process. Any offeror may withdraw their package and cease to be considered for the project with written notification sent to the Authority prior to award.
- The response should include a copy of the respondent's insurance certificate.
- All packages will become the property of the Authority and will not be returned.
- The governing law will be the laws of the Commonwealth of Pennsylvania.

SELECTION PROCESS

The Altoona Water Authority reserves its rights to award a contract to any respondent which is in the Authority's best interest or to reject all responses. In general, the Authority intends to do the following:

1. Conduct a staff review and rank the responses. This may include the contact of any and all references provided.
2. Invite several responders to one-on-one interview sessions.
3. Select the most desirable firm, and conduct negotiations on a study contract. If the Authority is unable to negotiate an acceptable contract, the Authority will revisit items No 1 & 2 of the selection process and can begin negotiation with another respondent.
4. The Authority staff intends to present a review of the selection process to the Altoona Water Authority at their public meeting on March 24, 2022. The recommended firm shall make their Project Manager and Principal in Charge available for attendance at this meeting. If the Authority Board acts to execute the contract, the firm or team shall be prepared to begin work on the study immediately thereafter.