



## **REQUEST FOR PROPOSALS**

### **ENGINEERING SERVICES**

Proposals due August 22, 2024 at 2:00 p.m. ET

Edgefield County Water & Sewer Authority  
100 Water Works Road, Edgefield, SC 29824

## Table of Contents

|                              |    |
|------------------------------|----|
| Background Information ..... | 3  |
| Scope of Work.....           | 4  |
| Proposal Requirements .....  | 8  |
| Evaluation Criteria.....     | 10 |
| Schedule .....               | 11 |
| Terms.....                   | 12 |
| Bidder’s Conference .....    | 13 |

## Background Information

The Edgefield County Water & Sewer Authority (ECWSA) is requesting statements of qualifications for professional engineering services to deliver engineering design in support of a series of capital improvement projects. Consultants who submit proposals should be licensed as a Professional Civil Engineer in the State of South Carolina and be experienced in the field of water distribution and water treatment, capable of performing system condition assessments, and knowledgeable about planning for future upgrades and expansion for this type of infrastructure.

The projects within the capital improvement plan offer the potential to support implementation of water distribution/water treatment system improvements. This will allow ECWSA to maintain a high level of water distribution and water treatment reliability as well as efficiency for current demand, future growth, future regulations, and emergency situations.

The ECWSA, being adjacent to Augusta GA and North Augusta SC, is in a prime location for both residential, commercial, and industrial development and growth. To be prepared for this potential growth and have sustainable utility infrastructure and resources for decades to come, the ECWSA has determined that it is necessary to prepare for capital improvement efforts to guide future utility and economic development decisions.

## Scope of Work

ECWSA is seeking engineering design to support its upcoming capital improvement projects. Below is a list of the targeted projects:

- **Division 3 Upgrades**
  - **New 24" High Service Main** - To enhance system resiliency, it is recommended to install a new parallel 24-inch finished water line from the HSPS to the intersection of Springhaven Drive and Murrah Road. The existing finished water main represents a single point of failure for the drinking water system. A new parallel water line will allow ECWSA to maintain service should the existing finished water main be taken out of service for repairs. The new parallel finished water line will reduce the dynamic system head to improve the actual firm capacity of the existing HSPS from 7.1 MGD to 7.8 MGD, and the actual total capacity from 7.8 MGD to 8.9 MGD. A system curve is included in Appendix A. In addition to the piping improvements, a new surge relief valve will replace the existing surge arrestor tank. The discharge piping for the surge relief valve will return to the HSPS wet well.
  - **New Booster Station & Tank** – Construction of a new elevated water tank and booster pump station near the intersection of Springhaven Drive and Murrah Road. The high service pumps will operate based upon the water level in the proposed tank and the new booster pumps will operate based upon the water level in the Murphy Village booster tank. The new tank and booster pump station will significantly reduce the system head for the high service pumps. With the new pumps, new elevated tank, and new booster pump station in operation, the HSPS will have a nameplate firm capacity of 16 MGD and an actual firm capacity of 12.5 MGD. One pump slot will remain vacant for future WTP capacity upgrades.
- **Division 2 Upgrades**
  - **Raw Water Pump Station** - The Raw Water Pump Station will receive two (2) new 4-MGD constant speed vertical turbine pumps. The new pumps will replace the existing 2-MGD (Pump No.1 and No.2) constant speed vertical turbine pumps, which are more than 30 years old, and near the end of their serviceable life. This will provide a firm nameplate capacity of 14 MGD. At a capacity of 12.5 MGD, the RWPS 18-inch header piping will experience velocities reaching approximately 10.3 ft/sec, which is well above the typical maximum recommended pipe flow velocity of 6-7 ft/sec. The increased velocity at 12.5 MGD will increase the frictional headloss through the 18-inch header pipe, however, the headloss resulting from the short length of single 18-inch pipe is insignificant. Due to the current unidirectional pipe arrangement, it is not possible to replace the header piping with a larger size and still maintain raw pumping service, without the use of bypass pumping. The header pipe does not need to be replaced for an expansion to 12.5 MGD, however, the header piping should be replaced during future WTP expansions. The surge arrestor tank is more than 40 years old and is approaching the end of its serviceable life. A surge relief valve is recommended to replace the arrestor tank and will be sized for a flow of 12.5 MGD. The discharge piping from the surge valve will be directed back to the raw water pump station wet well. The existing parallel 18-inch raw water transmission main is adequate to meet the needs of

a capacity upgrade to 12.5 MGD. A new portion of 36-inch raw water main will be connected to the existing 24-inch x 18-inch cross fitting to convey the raw water flow to a new rapid mix basin, which is discussed in a later section. The new section of larger diameter pipe will reduce frictional headloss at 12.5 MGD and counteract the increased headloss in the header pipe, resulting in an overall decrease of system total dynamic head (TDH) from 265-ft to 252-ft when operating at an upgraded capacity of 12.5 MGD.

- **Raw Water Meter & FM** - A new rate of flow (ROF) control vault will be installed with a new 36-inch venturi meter and electric actuated butterfly valve. The ROF vault will be installed upstream of the new rapid mix basin. Since the RWPS lacks sufficient space to add variable frequency drives (VFDs) a ROF control will allow WTP staff to modulate the flow rate of the constant speed pumps.
- **Rapid Mix Basin**- The rapid mix basin needs to be replaced due to structural deterioration and the increased likelihood for failure. Upgrades to the rapid mix process are based upon a 40-50 year design service life, which is likely to meet the expected full WTP buildout capacity of 20-MGD. It is recommended to relocate the new rapid mix basin closer to the treatment basins. The new location of the rapid mix basin will provide a symmetrical piping arrangement that will help to proportion the flow more equally between the treatment basins and reduce headloss at higher flow conditions, which would cause the rapid mix to backup.
- **Filtration Improvements** - Filters No.1 – No.4 will be rehabilitated with new granular media and stainless steel underdrains. Filter No.7 will be constructed next to Filter No.6 and the pipe gallery will be extended. Additionally, an air scour system is proposed to assist with the agitation of the filter media during backwash. An air scour system can significantly improve the backwashing process by better removing particulates embedded deeper within the filter media, thus improving filter run times. The proposed location for the air scour blowers is near the filter pipe gallery. It is recommended to construct an additional filter to provide a firm filter capacity of 8.8 MGD, and a total filter capacity of 10.3 MGD. The additional filter will allow the WTP to maintain rated capacity during backwashing or should a filter be placed out of service for maintenance, which will be necessary while Filters No.1 – No.4 are rehabilitated. For a WTP upgrade to 12.5 MGD capacity, there are three potential options for upgrading the filters. *New Filters* - In this option, two (2) additional new filters are recommended for the WTP expansion to 12.5 MGD. At a hydraulic loading rate of 4 gpm/ft<sup>2</sup>, with a filter area of 256 ft<sup>2</sup>, nine (9) total filters will provide a filter capacity of 13.2 MGD. The additional filters will include necessary piping, granular media, underdrains, and an expansion of the filter pipe gallery. *High-Rate Granular Media Filters* -In this option, ECWSA may consider high-rating their existing filters from a standard loading rate of 4 gpm/ft<sup>2</sup> to an allowable high-rate of 6 gpm/ft<sup>2</sup>. This option will require a pilot study with approximately 1-year of data to show the filters are able to meet their performance goals at the increased loading rate. At the 6 gpm/ft<sup>2</sup> hydraulic load rate, six (6) filters with the seventh filter out of service would have a rated capacity of 13.2 MGD. *Membrane Gravity Filters* -In this option, ECWSA may consider replacing the existing granular media filters with membrane gravity filters (MGF) and then increasing the production of the existing filters to meet the filtration capacity needs. Production

capacity for MGF is determined by flux, which is a measure of the gallons filtered per day per membrane surface area (GFD). Typical flux for an MGF module is between 9 – 15 GFD. Each module has a membrane surface area between 550 and 700 square feet. The modules are loaded into a cassette which is then installed in the filter box. Actual production capacity for the existing filters boxes will be dependent upon how many cassettes can be installed in the existing space. Approximately 350 modules would be needed to reach an equivalent capacity of 6.0 gpm / ft<sup>2</sup> for each filter box. This option will require a pilot study to show the filters are able to meet their performance goals at the proposed capacity. It is also possible that the membrane filters can be rated above the equivalent of 6 gpm/ft<sup>2</sup>, providing additional future capacity.

- **Chemical Treatment** - The chemical treatment facilities will require minimal upgrades. It is recommended to replace the permanganate, alum, and phosphate metering pumps as well as the filter and post-filter chlorinators to meet the capacity upgrade to 12.5 MGD, based upon the maximum doses shown on the MORs from 2010 - 2020. The sodium permanganate will require an additional tote to provide 30 days of storage. Consideration was given to adding a bulk storage tank; however, there is not sufficient space at the RWPS for a chemical delivery truck to access the tank for filling. It is also possible to move the location of the permanganate feed to the rapid mix. Impact of moving the permanganate feed location should be evaluated on a bench scale / pilot scale basis prior to full scale implementation.
- **Residuals Handling** - No additional capacity is required for the residuals handling facilities. The sludge lagoons and spray fields have sufficient capacity for a future WTP capacity of 12.5 MGD. However, due to slope stability issues, some structural improvements are required along the embankment of Sludge Lagoon No.2. A slope stability study is recommended to determine the necessary reinforcement for the failed embankment such as anchoring, cementitious soil additives, or retaining wall. Additionally, it is recommended to dredge the existing sludge lagoons as they appear to have accumulated sludge.
- **Miscellaneous Improvements - Laboratory** - It is recommended to relocate the laboratory to the second floor of the chemical building, which has ample room for lab equipment. Some of the existing chemical feed equipment (i.e. old fluoride and alum powder feed stacks, potassium permanganate feeder, powder activated carbon feeder, polymer tanks) should be removed, depending on the proposed layout of the laboratory. Some structural modifications will be necessary, such as removing concrete pads and filling holes in the floor, depending on the layout of the laboratory. The new laboratory facility will also require some electrical, HVAC, and plumbing modifications, as well as new benchtop surfaces and storage cabinets. *Access Road* -A new paved asphalt entrance drive and automated gate are recommended to improve ingress/egress of trucks making chemical deliveries to the WTP, as shown in Figure 3-1. The new drive will connect to Freeland Drive near the chemical building. *Site Work* – All other additional erosion control, stormwater, and landscaping improvements.

The scope of services will include the following services:

- Preliminary Engineering
  - Evaluate easement and land acquisition requirements
  - Complete environmental and archaeological investigations and reports
  - Provide assistance with permit acquisition
- Design Engineering
  - Complete design topographical surveys
  - Prepare draft and final engineering design documents including plans, specifications, contract documents, and cost estimates
  - Submit final design plans, specifications, and other documents to ECWSA for review and approval
  - Prepare all permit and approval applications for the project as needed
- Construction Engineering
  - Complete advertisement for bids
  - Attend a pre-bid conference, respond to technical questions from potential bidders, and issue addenda, as required
  - Assist in bid opening, provide recommendations to the ECWSA for bid award, and assist in contract development
  - Attend pre-construction meeting(s)
  - Provide engineering support during construction including submittal reviews, contract administration, applications for payment, change order preparation, etc.
  - Review the selected contractor's progress payment requests and certify that amounts/quantities claimed accurately reflect work performed and materials supplied during the payment period
  - Provide services related to change orders such as preparation of change order proposal description and justification documentation, assistance with negotiation of change orders with contractor, making recommendations to ECWSA regarding any change orders, and processing the formal change order documents
  - Provide construction observation as provided in consultant's contract
  - Complete contract closeout process including substantial completion walk-through, development of a "punch list," final completion walk-through, and recommendation for final payment
  - Advise ECWSA and the contractor of the dates for any warranty periods established in contract documents
  - Maintain files and document tracking system throughout the entire project
  - Coordinate with the contractor and ECWSA for final testing and startup of facilities
  - Prepare and submit to ECWSA as-built drawings upon completion of construction

## Proposal Requirements

ECWSA requests that the vendor's proposal be submitted in the format outlined in this section. ECWSA reserves the right to require additional information or materials after the proposals are submitted. Please keep responses simple and economical, providing a straightforward and concise description of the proposed solution to satisfy the requirements of this request. Describe all services unambiguously and with precision. Costs incurred preparing and submitting a response to this request are entirely the vendor's responsibility and not chargeable to ECWSA.

All responses, documents, terms, and information related to the proposer's response to this RFP shall be submitted with the response package prior to the submission deadline. No separate schedules, agreements, terms, conditions, etc. shall be recognized or accepted if not submitted with the response to this RFP.

Proposals should include a table of contents listing all sections, figures, and tables. Major sections and appendices should be separated and labeled; pages should be numbered. Submitted proposals should address the requirements completely and accurately.

### A. Executive Summary

Provide the following information in the executive summary:

- Why your firm is qualified to handle this project – differentiators and strengths of your company and project team.
- Which subcontractors, if any, are part of the proposed project team.
- An affirmation of no conflict of interest.
- An original authorized signature.

### B. Company Overview

Provide the following information in your response:

- Name of firm and mailing address, phone and fax number of the proposer's principal place of business.
- A brief company history, including ownership, size, and number of national offices. Recent acquisitions or changes in ownership should be clearly disclosed.
- Confirmation that your company and personnel are legally allowed to work in the State of South Carolina.
- The company's capital position and financial health. Provide annual reports and/or financial statements for the division of the company directly responsible for the product or services proposed in this RFP for each of the last three fiscal years as an appendix.
- State whether there are pending or prior legal disputes or lawsuits with any existing or previous clients. If so, state all such disputes, including dates, as well as any facts and outcomes regarding these disputes.
- State the standard method or methods of resolving disputes, should they arise.
- Identify specific subcontractors and the specific requirements of this RFP for which each proposed subcontractor will perform services.
- Describe your experience in assisting with public funding opportunities.



- Describe the relationships amongst the different entities proposing jointly, how long you have worked together, what projects were successfully implemented jointly, projects that were not successful, and whether any of the companies submitting jointly have vested interest in one another.
- Depict any water utilities using your services in South Carolina.

### C. References

Vendors shall provide a minimum of five (5) references from similar projects performed for water utility clients within the last seven (7) years. Provide references of a similar nature for any/all sub-contractors you anticipate using during this project. These references shall be provided with the following information:

- Utility name
- Address
- Telephone
- E-mail address
- Project name
- Project start and end dates
- Project scope

### D. Proposed Services

Please provide the following information regarding the services you offer in support of the scope of work and your experience and capabilities in each of the areas listed below:

- Highlight the company's unique qualifications and relevant experience.
- Detail your understanding of the project and approach to the work. Include scope of work listing tasks, descriptions, methods, and techniques.
- Provide a staffing chart by job description or title. Indicate which staff are in-house and which are sub-consultants.
- Provide details on methods associated with initial design work with the elements listed in the scope of services.
- Detail methods utilized in preparing engineering estimates of project work.
- Provide details on your approach to support construction services.
- Prepare a draft work plan.
- Pricing for each phase of the project and for the overall project scope as described above

All questions and submissions should be directed to John Hare, ECWSA Administrator ([jhare@ecwsa.com](mailto:jhare@ecwsa.com)), and David Shpigler, President of The Shpigler Group ([shpigler@shpigler.com](mailto:shpigler@shpigler.com)). Submissions by the deadline will be accepted electronically; no paper submissions will be required.

## Evaluation Criteria

ECWSA will review the proposals and identify the top respondents and invite those bidders to visit with the ECWSA team for an in-person interview. Criteria to be included in the evaluation process include:

- Vendor's background and capability to provide services requested
- Evaluation of references
- Experience working with systems near and/or similar to ECWSA
- Pricing
- Proposal responsiveness

## Schedule

The anticipated schedule for this project is shown below:

- Release of RFP July 1, 2024
- Bidder's conference July 15, 2024 at 11:00 am ET
- Deadline for questions related to RFP July 22, 2024
- Answers to questions provided July 26, 2024
- Deadline for proposal responses August 22, 2024 by 2:00 pm ET
- Invitations issued to finalists to interview August 30, 2024
- Interviews of finalists September 16 – 20, 2024
- Edgefield final evaluation September 23 – 27, 2024
- Project awards announced September 30, 2024

## Terms

- All communications should be communicated through John Hare, ECWSA Administrator, and David Shpigler, President of The Shpigler Group.
- ECWSA will issue responses to inquiries and any other corrections or amendments it deems necessary in written addenda issued prior to the due date. All questions must be submitted by the deadline for questions listed on the schedule.
- By submitting a response, the vendor represents and warrants that such bid is genuine and not a sham or collusive or made in the interest or on behalf of any person not therein named and that the vendor has not directly or indirectly induced or solicited any other vendor to put in a sham bid, or any other person, firm or corporation to refrain from submitting and that the vendor has not in any manner sought by collusion to secure to that vendor any advantage over any other vendor. By submitting a bid, the vendor represents and warrants that no official or employee of ECWSA has, in any manner, an interest, directly or indirectly in the bid or in the contract which may be made under it, or in any expected profits to arise there from.
- All expenses involved with the preparation and submission of this bid package ECWSA, or any work performed in connection there with is the responsibility of the vendor(s).
- All materials submitted in connection with this Request for Proposals will be public documents and subject to the laws of the State of South Carolina, the United States of America and the open records policies of ECWSA. All such materials shall remain the property of ECWSA and will not be returned to the respondent.
- All respondents to this Request for Proposals shall hold harmless ECWSA and any of their officers and employees from all suits and claims alleged to be a result of this Request for Proposals. ECWSA reserves the right to determine, at its sole discretion, whether any aspect of a respondent's submittal meets the criteria in this Request for Proposals. ECWSA also reserves the right to seek clarifications, to negotiate with any vendor submitting a response, to reject any or all responses with or without cause, and to modify the procurement process. In the event that this Request for Proposals is withdrawn or there is a need to cancel the contract services for any reason, ECWSA shall have no liability to any respondent for any costs or expenses incurred in connection with this request or otherwise.
- In case of failure to deliver goods or services in accordance with the contract terms and conditions, ECWSA, after due oral or written notice, may procure substitute goods or services from other sources and hold the vendor responsible for any resulting addition purchasing and administrative costs. This remedy shall be in addition to any other remedies which ECWSA may have.
- Any contract resulting from this Request for Proposals shall be governed in all respects by the laws of the State of South Carolina. The contractor shall comply with applicable federal, state and local laws and regulations.
- It is understood and agreed between the parties herein that ECWSA shall be bound hereunder only to the extent of the funds available or which may hereafter become available for the purpose of this agreement.

## Bidder's Conference

The bidder's conference will be held on July 15, 2024 at 11:00 a.m. ET. For bidders that would like to attend in person, the location of the meeting will be at the office of Edgefield County Water & Sewer Authority, located at 100 Water Works Road, Edgefield, SC 29824.

For those who are unable to attend in person, there will dial-in access to the meeting. Access to the dial-in is at <https://us06web.zoom.us/j/85855792734?pwd=Ww1UBYk4V3OwBqIM8bpvRNfE84tkva.1>

Meeting ID: 858 5579 2734

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