

REQUEST FOR PROPOSALS
Professional Engineering Services
City of Galax Water Treatment Plant Preliminary Engineering Report
July 11, 2021

1.0 INTRODUCTION

The City of Galax (City) is seeking proposals from qualified professional engineering firms (Firm) to provide services for preparation of a preliminary engineering report for the City of Galax Water Treatment Plant (GWTP). The preparation of a preliminary engineering report will primarily consist of an evaluation of the GWTP, pump stations and reservoirs for the purpose of rehabilitation and/or replacement. Proposals received from interested Firms will be evaluated for their professional qualifications, experience, and competence necessary for the completion of services.

2.0 PROPOSAL INFORMATION

Proposals are due no later than 5:00pm on August 11, 2021 in the City Manager's office located at 111 East Grayson Street, Galax, VA 24333. Clarification of the terms and conditions of this proposal should be directed to Edwin Ward, City Engineer, at 276-236-2422 or eward@galaxva.com . All inquiries that affect the nature of the proposed contract or proposal contents will be conveyed to all parties receiving this Request for Proposals. The City shall not be responsible for any information given by way of verbal communication.

3.0 BACKGROUND INFORMATION

The City of Galax is located in the Blue Ridge Mountains of southwest Virginia near the border of North Carolina. Galax covers approximately 7.5 square miles and has a population of approximately 7,000 people. Galax is a commercial and industrial hub for Carroll County, Grayson County and neighboring communities of North Carolina.

The City of Galax Water Treatment Plant and water distribution system consists of a conventional surface water treatment plant, with two booster pump stations and five atmospheric ground level reservoirs. A low water dam creates a small impoundment on Chestnut Creek from which raw water

is withdrawn. The water treatment process consists of coagulation, flocculation, sedimentation, chlorine disinfection, sand/carbon filtration, fluoridation and phosphate corrosion control.

The GWTP was initially constructed in 1960 with a capacity of 2 MGD. An upgrade project was completed in 1984 to increase the capacity to 4 MGD. The plant uses three vertical turbine raw water pumps each rated at 1414 gpm at 26 feet TDH. Treated water is settled in three rectangular sedimentation basins each providing a settling volume of 83,250 cubic feet.

Filtration of settled water is accomplished by two high-rate sand filters with mixed media and Wheeler Bottom underdrain capable of sustained operation rates of 4 gpm/ft². A sand filter rehabilitation project was completed in 2008. The sand filter media was replaced, along with new porcelain spheres and a rehab of the Wheeler Bottom underdrain.

Filtered water is stored in a baffled clearwell having a total volume of 245,600 gallons. Finished water is delivered to the distribution system by three vertical turbine pumps each with a capacity of 1414 gpm at 378 feet TDH.

The water distribution system consists of approximately 80-miles of water distribution piping, two pump stations and five reservoirs operating within four pressure zones. The booster pump stations were constructed in 1984. The five ground level reservoirs are 40 to 60 years old. The water distribution system includes three pressure regulating stations and two altitude valves.

4.0 SCOPE OF WORK

The Firm shall provide the following services for preparation of a thorough preliminary engineering report in compliance with Virginia Department of Health regulations. The primary objective will be to provide the necessary detailed information that will allow planning and decision making on the recommended improvements. Specific tasks are described, but not limited to the following items:

4.1 GENERAL INFORMATION

- 4.1.1 The preliminary engineering report shall include consideration of the Galax Water Treatment Plant, Pump Stations, Reservoirs and water distribution piping network. It is the intent to have a comprehensive preliminary engineering report that evaluates the current condition and age of all components throughout the waterworks system. The primary focus shall be on rehabilitation and/or replacement of the water treatment plant, pump stations and reservoirs.

- 4.1.2 The Firm's staff shall evaluate existing waterworks system plan drawings, specifications, GIS data, and other historical documents as provided by the City. The Firm's staff shall make necessary site visits to assess the condition of water system assets and to fully understand the water treatment plant structure, processes and water distribution system.
- 4.1.3 The preliminary engineering report shall be developed to establish a long-term capital improvement project to be handled through one or more phased projects as may be necessary for available revenue and planned funding resources.
- 4.1.4 The preliminary engineering report shall discuss the need for various projects to rehabilitate or replace the aging infrastructure to maintain system reliability along with consideration for future growth potential.
- 4.1.5 Alternatives, as appropriate, shall be provided with attention given to life cycle costs, operating costs, construction cost estimates, environmental impacts, land requirements, and potential benefits/disadvantages of the proposed alternatives.
- 4.1.6 Financial analysis for funding of projects shall include consideration of current revenue, rate structure, operation and maintenance costs, and debt service. The financial analysis shall include a proposed reserve fund necessary to maintain the public drinking water system reliability into the future.
- 4.1.7 The Firm's staff shall attend and participate in public meetings to provide information on the preliminary engineering report conclusions, recommendations and proposed alternatives.
- 4.1.8 The Firm's staff shall assist with securing project financing through all available funding sources.

4.2 PROJECT PLANNING

The preliminary engineering report shall include evaluations on the waterworks system as follows:

- 4.2.1 Galax Water Treatment Plant structure, unit processes, flow capacity and water source.
- 4.2.2 City View Pump Station and East Galax Pump Station structure, flow capacity, electrical and mechanical systems.
- 4.2.3 Reservoir condition and distribution system location including hydraulic analysis of service pressure zones, effective volume capacity, and conceptual tank off-line plans.

- 4.2.4 Water distribution piping network hydraulic model analysis including altitude valves and pressure regulating stations.
- 4.2.5 Asset management inventory development of existing waterworks infrastructure.

4.3 PRELIMINARY ENGINEERING REPORT REQUIREMENTS

The preliminary engineering report shall include details on the following:

- 4.3.1 Provide maps and graphics of the water distribution system as necessary to understand the extent of the waterworks system.
- 4.3.2 Provide a description of population trends and future water consumption.
- 4.3.3 Provide description of the Chestnut Creek water source with summarized hydrological supporting information on stream flow, water quality and potential sources of contamination.
- 4.3.4 Provide description of existing water treatment plant, pump stations, distribution system and reservoirs, including but not limited to, present condition; suitability for continued use; adequacy of treatment, conveyance, and storage capabilities.
- 4.3.5 Provide a brief analysis of current energy consumption and potential energy conservation measures on proposed alternatives.
- 4.3.6 Provide information regarding current rate schedule, operation and maintenance costs, debt service, capital improvements and necessary reserve account funding.
- 4.3.7 Provide a description of needs and concerns for the waterworks system based on public health, infrastructure age, water loss, storage, security and growth capacity.
- 4.3.8 Provide a description of water treatment process, distribution and storage alternatives that were considered as solutions to meet identified needs.
- 4.3.9 Provide cost estimates for each technically feasible alternative, including a breakdown of construction, non-construction, contingency and annual operation & maintenance costs.
- 4.3.10 Provide a life cycle present worth cost analysis based on a time frame period as determined, by the design engineer, to be reasonable for the facility design life being evaluated.
- 4.3.11 Provide a recommendation on the alternative or alternatives that should be implemented.
- 4.3.12 Provide a thorough conceptual description of the proposed project based on the evaluation of alternatives. Include schematic drawings or other graphics as necessary for visual representation of treatment processes, pump stations, storage and pressure zones.

- 4.3.13 Provide evaluation on the feasibility of constructing an emergency water service connection to the Carroll County Public Service Authority water system.
- 4.3.14 Provide a detailed description of the recommended water treatment process, pumps stations, distribution piping and storage improvements.
- 4.3.15 Develop prioritization of recommended rehabilitation and replacement capital improvement projects.
- 4.3.16 Develop conceptual project schedule from planning, through design, construction, inspections and regulatory approvals to operate the system.
- 4.3.17 Prepare financial evaluation for funding improvements and rate structure requirements.

5.0 PROPOSAL CONTENT AND FORMAT

Qualified Firms shall provide appropriate information in accordance with the content and format requirements of this Request For Proposal. The Firm's proposal shall be organized in the following order:

- a. Transmittal letter
- b. Table of Contents
- c. Statement on understanding of Scope of Services
- d. Proposed work plan
- e. Firm qualifications
- f. Proposed Firm staff and their qualifications
- g. Statement on current workload of Firm and proposed staff
- h. Listing of proposed subconsultants and subcontractors
- i. Listing of similar projects with proposed Firm staff's experience
- j. Reference list

Proposals should, at a minimum, include a brief written description with graphics as deemed necessary for the following items:

- 5.1 The proposal should provide a concise description of the Firm's capabilities to satisfy the requirements of this Request For Proposals.
- 5.2 Provide a proposed work plan for accomplishing the scope of work that includes, but not limited to scheduling, team organization and their individual responsibilities.
- 5.3 Provide detailed personnel qualifications on the proposed staff to be used for accomplishing tasks requested under the scope of work services. Provide a statement describing their roles or duties within the organization.

- 5.4 Provide information on current workload of the firm and proposed staff for completing the scope of work.
- 5.5 Provide a listing of the Firm's experience on relevant projects with a brief description of the projects.
- 5.6 Provide information on the role of the Firm's proposed staff, including their years of experience on these projects with their responsibilities and participation in completing these projects.
- 5.7 Provide a listing of subconsultants and subcontractors to be used in accomplishing the scope of work.
- 5.8 Provide three or more governmental references on past work experience with similar projects.

6.0 SELECTION POLICIES

The City of Galax reserves the right to accept or reject any or all proposals received as a result of this request; to negotiate with any qualified firm or to modify or cancel in part or in its entirety the Request for Proposal if it is in the best interest of the City to do so. This Request for Proposal does not commit the City of Galax to award a contract, to pay any costs incurred in the preparation of a proposal for this request, or to procure or contract for services.

The City will select a consultant or Firm to provide the services requested using the Competitive Negotiation procedure for Professional Services as outlined in the Virginia Public Procurement Act.

A selection committee shall evaluate and rank each proposal based on the established selection criteria included within this Request for Proposal. Final ranking of the individual Firms shall be based on a majority decision. Negotiations shall begin with the highest-ranking Firm deemed to be fully qualified and best suited among those submitting proposals, on the basis of the factors stated in this Request for Proposal. In the event that negotiations with the highest-ranking firm cannot be concluded with agreeable terms, the City shall initiate negotiations with the next highest-ranking Firm until a satisfactory agreement is reached. The City shall select the offeror which, in its opinion, have the best qualifications and provides the best value, and shall award the contract to the offeror, as determined to be in the City's best interests.

The City of Galax prohibits discrimination and requires compliance with state and federal immigration laws as defined under the Code of Virginia Chapter 43 Virginia Public Procurement Act. The City is an equal opportunity employer and encourages participation of small businesses, minority owned

businesses, women owned businesses and service-disabled veteran owned businesses in all procurement activities.

The City of Galax does not discriminate against an offeror because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment.

The City of Galax reserves the right to enter into contractual agreements with other engineering firms outside of any executed Contract agreement obtained in response to this Request for Proposal.

Project orders for feasibility or planning studies issued under a contract agreement will not include the right for an automatic extension of the Firm's services for design and construction. However, the Firm will not be prohibited from participating in competitive negotiation procurement for continuation of project services.

Any offeror who desires to protest the contract award shall submit such protest in writing to the City of Galax no later than ten days after the announcement of the award. Public announcement of the award shall be posted on the City of Galax website at www.galaxva.com .

7.0 SELECTION COMMITTEE AND PROPOSAL EVALUATION CRITERIA

A selection committee will be formed to review the proposals. The selection committee evaluation and selection process will be used to determine the most qualified Firm. Evaluation criteria will generally involve relevant experience, specific expertise and performance references on previous projects. The following criteria will be considered in evaluating the proposals:

- 7.1 Firm's relevant qualifications and project experience on scope of work services
- 7.2 Experience and qualifications of proposed staff and subconsultants to be tasked with providing services.
- 7.3 Understanding of Scope of Services and quality of Work Plan proposal
- 7.4 Evidence of capability to meet schedules and project requirements
- 7.5 Firm's proposed staff's experience with relevant projects
- 7.6 Reference source comments and past record of performance on similar projects

8.0 SUBMISSION REQUIREMENTS

Submittals shall be prepared providing a straightforward, concise description of the Firm's capabilities to satisfy the requirements of the Request for Proposal. Emphasis should be on completeness and clarity of content. Elaborate brochures and other representations beyond that sufficient to present a complete and effective proposal are not required or desired. Submit three copies of the Firm's proposal in a sealed envelope or package that is clearly marked as response to this Request for Proposal. Deliver proposal submittals no later than 5:00 p.m. on August 11, 2021. Responses received after this time will not be considered. Proposals by hand delivery, US Postal Service express mail, or private delivery service (FEDEX, UPS, etc.), should be sent to:

Mr. Matthew Settlemyer
City Manager
City of Galax
111 East Grayson Street
Galax, VA 24333

9.0 INQUIRIES

Clarification of the terms and conditions of this proposal should be directed to Edwin Ward, City Engineer, at 276-236-2422 or eward@galaxva.com . All inquiries that affect the nature of the proposed contract or proposal contents will be conveyed to all parties receiving this Request for Proposals. The City shall not be responsible for any information given by way of verbal communication.