



Purchasing Department
140 Stonewall Avenue West, Ste 204
Fayetteville, GA 30214
Phone: 770-305-5420
www.fayettecountyga.gov

May 17, 2019

**Subject: Request for Proposals #1670-P: Engineer of Record for Water System
Interconnectivity Initiative**

Gentlemen/Ladies:

Fayette County, Georgia invites you to submit a proposal for Engineer of Record for the Water System Interconnectivity Initiative. You are invited to submit a proposal in accordance with the information contained herein.

A mandatory pre-proposal conference will be held at 9am on Wednesday, June 5, 2019 at the Water System Administration Office at 245 McDonough Rd, Fayetteville, GA 30215 to provide an opportunity for you to become more familiar with the project, and to ask questions. Companies that attend will be invited to submit proposals.

Questions concerning this request for proposals should be addressed to Natasha Duggan, Contract Administrator in writing via email to nduggan@fayettecountyga.gov or fax to (770) 719-5534. Questions will be accepted until 3pm, Thursday, June 13, 2019.

Purchasing Department office hours are Monday through Friday 8:00 a.m. to 5:00 p.m. The office telephone number is (770) 305-5420.

Please return your response to the following address:

Fayette County Purchasing Department
140 Stonewall Avenue West, Suite 204
Fayetteville, Georgia 30214

Request for Proposals # 1670-P
Request for Proposals Name: **Engineer of Record for Water System
Interconnectivity Initiative**

Your envelope must be sealed, and should show your company's name and address.

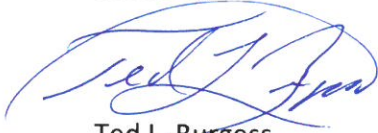
Please note: Newly enacted Legislation (HB 318) requires a written agreement from any consultant who is paid or engaged to develop specifications or requirements for bids or proposals. By executing the agreement, the consultant agrees to avoid any appearance of impropriety, and to disclose any material transaction or relationship that might lead to a conflict of interest. Since contract task orders resulting from this RFP could potentially include bid specification development, the *Certificate of Absence of Conflict of Interest* is included for you to sign and return with your proposal

Proposals will be received at the above address until 3pm, Thursday, June 27, 2019 in the Purchasing Department, Suite 204. Proposals will be opened at that time, and the names of the responding companies will be read.

Proposals must be signed to be considered. Late proposals, faxed proposals, or emailed proposals, cannot be considered.

If you download this Request for Proposals from the county's web site, it will be your responsibility to check the web site for any addenda that might be issued for this solicitation. The county cannot not be responsible for a vendor not receiving information provided in any addendum.

Sincerely,



Ted L. Burgess
Director of Purchasing

Attachment

SCOPE OF WORK
Request for Proposals #1670-P
Engineer of Record for Water System Interconnectivity Initiative

OBJECTIVE

Fayette County, Georgia seeks to enter into an Engineer of Record contract with a qualified firm for services as needed to complete a water system interconnectivity initiative. This will include, but not be limited to, the following tasks:

- Hydraulic water model of the Fayette County Water System's distribution network.
- Safe yield analysis of the county's reservoirs.
- Long-term water supply demand planning.
- Rate study for wholesale water sales and sustainable service delivery.
- Other tasks as may be identified during the course of the initiative.

As specified in the Terms and Conditions section of this Request for Proposal, the county reserves the right to competitively solicit other vendors for tasks or projects that are anticipated to cost \$200,000 or over, but which would otherwise fall within the scope of work specified herein.

INTRODUCTION

The Fayette County Water System (FCWS) is a part of the Fayette County government, operating under the Board of Commissioners and the County Administrator. The Water Committee acts in an advisory capacity to the county's Board of Commissioners.

The FCWS has three Category I Dams and four raw water storage reservoirs, which are Lake Kedron, Lake Peachtree, Lake Horton, and Lake McIntosh. Storage within the reservoirs is as follows:

- Lake Peachtree/Lake Kedron – 2.4 Billion Gallons
- Lake Horton – 3.5 Billion Gallons
- Lake McIntosh – 1.5 Billion Gallons

Two water treatment plants provide potable water, as follows:

- Crosstown Water Treatment Facility: Built in 1986, expanded in 1997, and again in 2017/2018 has a capacity of 22.5 million gallons per day (MGD).
- South Fayette Water Treatment Facility: Completed in 2001; has a capacity of 9.3 MGD.

The current permitted withdrawals from the reservoirs are as follows:

- 4 MGD from Lake Peachtree/Lake Kedron
- Up to 16 MGD from the Flint River/Lake Horton when flow conditions allow
- 10.4 MGD from Lake McIntosh

The FCWS has an Agreement with the City of Atlanta to purchase finished water if needed, up to 4 MGD.

Potable water storage capacity includes 7.0 million gallons of elevated storage, and 9.0 million gallons of in-ground storage, for a total of 16.0 million gallons.

The county's population has increased steadily over the years. The Atlanta Regional Commission's estimates show a population increase from 92,073 in the year 2000 to 112,549 in 2017. The population in 2040 is forecast to be 143,255.

Approximately 620 miles of water lines of various diameters, deliver water to approximately 30,000 customers in unincorporated Fayette County, the City of Peachtree City, the Town of Brooks, the Town of Woolsey, the Town of Tyrone, and through a wholesale contract with the City of Fayetteville. The FCWS is currently producing and selling about 9 MG of finished water per day.

STATEMENT OF NEED

Georgia Senate Bill 380, the *Water System Interconnection, Redundancy and Reliability Act*, was signed into law on May 20, 2010. Its purpose was to effect "proactive measures to reduce the risk of catastrophic interruptions of water service during emergencies." The Act states that the ultimate goal is to "modify a qualified system's operations to accept or share water with adjacent water providers within the Metropolitan North Georgia Water Planning District during emergencies to supply essential water needs.

SERVICES PROVIDED BY FCWS

The County will furnish to the successful firm (the Firm) all reasonably available records and information concerning the delivery of water services including financial reports, budgets, water production and consumption data. The County will also make staff available for inquiries by the Firm to gather data essential for completion of the study. The Firm must be clear in the Proposal to address any other assistance expected from the County or special documentation or resources that will be required. Additional information and services will be provided to the successful contractor as further detailed below in the Scope of Services.

SCOPE OF SERVICES

Task orders will be issued during the contract period as the need is identified. At a minimum, task orders will include the following:

Task 1 – Hydraulic Water Model

Background: Prior to the Model's development, preliminary work is needed to map FCWS's distribution network and to perform a number of system tests so that real-world parameters can be incorporated into the Model. The Model will be further developed for steady state (SS) and extended period (EP) simulations so that it can analyze a number of system conditions, future system improvements, and potential interconnections with neighboring counties and cities. The following Scope further identifies the tasks associated with this effort and details its specific work requirements.

Task 1A – Mapping of Existing Water System Features

FCWS does not have a Geographic Information System (GIS) map of the existing system. As part of this task, the Firm is to develop a GIS map of the distribution network, sufficient to perform hydraulic water modeling under the subsequent tasks listed below. Beyond the scope of this task in the ensuing years, FCWS wishes to update and develop greater accuracy of the mapping as information becomes available (e.g. from as-builts, subsurface utility mapping, etc) .

Excluding customer meters and service connections, the Firm shall create a map of water lines using historical records and reporting from the FCWS, and visual field inspections. Valves and fire hydrants will be located by the Firm using handheld Global Positioning System (GPS) type survey equipment, accurate to within three feet. All survey data shall then be processed in ArcMap or ArcGISPro to create maps and shapefiles of the features for import to a hydraulic water model. For each mapped feature, the GIS database shall contain relevant attribute data according to the feature type and as generally included in standard industry practice.

FCWS does not currently have georeferenced customer demand data. The Firm shall develop geo-referenced demand data sets for import to the Model, the basis of which will be FCWS-provided customer billing data for the previous year of service, for every customer on its system, and by parcel number (or street address). This data shall be processed to determine each customer's demand for the following conditions: Annual Average Day Demand, Spring/Summer Months Average Day Demand, and Fall/Winter Months Average Day Demand. The Firm shall also process the data to estimate peaking factors for maximum-day and peak-hour demand for the following conditions: Spring/Summer Months Max Day Demand, Spring/Summer Months Peak Hour Demand, Fall/Winter Months Max Day Demand, and Fall/Winter Months Peak Hour Demand. In addition, customer billing data shall be processed to determine demand patterns that are to be applied to the Model's EP scenarios as follows: light industrial, heavy industrial, commercial, office/institutional, single-family residential, and multi-family residential. Other data and mapping products which will be necessary for Model development will be provided by FCWS to the Firm and will include 2-foot topographic data and backgrounds for the entire County.

Provide the following specific requirements, on an hourly basis:

1. Meet with FCWS to discuss GIS work—meetings as necessary to achieve the deliverable.
2. Coordinate with FCWS staff to initially receive and process available record drawings and to identify general locations of existing system features.
3. Perform mapping work of relevant system features based on the above initial investigations, and develop preliminary GIS mapping from the map data.
4. Review preliminary mapping with FCWS staff, field-verify areas in question, and develop final mapping products (shapefiles) for import to the Model.
5. Receive and process customer billing records for the system, and develop demand shapefiles for import to the Model.
6. Receive from FCWS and process other mapping data for import to the Model, including topographic files and background layers.

Provide Task 1A deliverables to FCWS in electronic format on a USB device(s), including all map data in file geodatabase format in ArcGIS. Note that the FCWS should be able to export shapefiles should they desire as part of this deliverable. Additionally, provide a hard copy of all mapped water system features. The hard-copy map shall be comprised of multiple ANSI D sized sheets, the number of which shall be determined based on the need to clearly illustrate the types and locations of all system features, as identified above. Pipes in the maps shall be further identified to indicate nominal diameters and material types, and all tanks, pump stations, groundwater wells, control valves, and closed isolation valves shall be identified by name and location. Also include relevant background layers on the hard-copy map.

Task 1B – Field Testing

The Firm shall provide all staffing to conduct field testing of the system. Such tests include the following: fire flow tests, 24-hr pressure tests, pump station testing, and system troubleshooting. FCWS will provide one staff member to assist the field leader in testing; however, it shall be the responsibility of the Firm to provide additional personnel as may be required, for any safety and traffic control needs, depending on the test. FCWS will purchase new, highly accurate fire flow and pressure testing equipment for the Firm's use during field testing; the Firm will make recommendations on the equipment to be purchased. Such equipment will include the following: Two fire flow test kits (each containing a flow diffuser with integral pitot tube and attached digital pressure logger plus two separate digital pressure loggers) and three separate digital pressure loggers. When the project is complete, the Firm shall return all equipment to FCWS in good working order. Equipment that may become lost or damaged during use by the Firm shall be replaced in kind. Other field testing equipment and tools that may be required will be provided by FCWS.

Provide the following specific requirements:

1. Meet with FCWS to discuss field testing—minimum of two meetings.
2. Perform a minimum of 50 fire flow tests around the system for use in SS Model calibration. Fire Flow test locations shall be uniformly distributed around the system and on the full range of pipe sizes that are eight inches nominal diameter and larger. Fire flow tests shall be performed in accordance with the National Fire Protection Association's (NFPA) standard practices. Testing flow from an individual hydrant and simultaneously measuring pressures at the same hydrant will not be accepted. A minimum pressure drop of 10 pounds per square inch (psi) between static and residual pressure readings shall be required for all fire flow tests. Tests not meeting this minimum requirement shall be repeated while simultaneously flowing two or more hydrants so that the necessary pressure drop can be induced. Take all necessary precautions to prevent personal injury and damage to areas that are near the test locations.
3. Perform a minimum of ten 24-hour pressure tests around the system for use in EP Model calibration. Pressure test locations shall be evenly distributed around the system and on transmission mains, 12 inches nominal diameter and larger. Acquire and process tank level data from FCWS's Supervisory Control and Data Acquisition (SCADA) system for use in EP Model calibration. Other relevant SCADA data that FCWS will provide for this purpose include pump on/off status, discharge rates, control features, etc.
4. Perform pump station and groundwater well pump tests as may be necessary to verify the performance of the pumps with respect to the available pump curve data that will be provided by FCWS for use in the Model.
5. Consult with FCWS regarding system performance, and perform other tests and evaluations on the system as may be necessary to identify potential pre-existing conditions that would otherwise introduce error into the Model, if left unaccounted for. Such conditions could include pumps operating off their curves, faulty pump control valves, faulty pressure control valves, closed isolation valves, malfunctioning sensors, leaks, etc.

Provide Task 1B deliverables to FCWS in electronic format on a USB device and in hard-copy format, including a memorandum to report the dates, times, locations, and results of the tests identified above.

Task 1C – Water Model Development

The Model shall be developed using the most current version of Bentley WaterGEMS CONNECT Edition software (Software) and licensed to accept a minimum of ten-thousand (10,000) pipe elements. The Firm shall assign a lead engineer who will be responsible for the Model's development in its entirety. The lead engineer shall be registered in the State of Georgia with 15 or more years of experience in the area of water resource engineering. The individual shall have experience in water distribution system design, experience in development of calibrated SS and EP hydraulic models, and a thorough understanding of water hydraulics and chemistry. The same qualifying requirements of this individual shall apply to another who may later work in the same capacity on the project. The hydraulic elements and background layers of the Model shall be constructed in the State Plane Coordinate System through import of the mapping data discussed above. Topographic data shall also be incorporated into the Model so that the system features will be modeled at their actual elevations. After import of the GIS files, manually adding

and editing certain hydraulic elements within the Model will also be required at locations such as pump stations, tanks, valve vaults, etc. For every feature in the system, the Model shall include a corresponding hydraulic element with the same physical and operational characteristics as real-world item. The Model shall be developed around a number of modeling scenarios that will be largely based on the season of year and the demand conditions discussed above. The Model's scenarios shall also account for various operational practices that FCWS employs, depending on the time of year and demand conditions.

Provide the following specific requirements:

1. Meet with FCWS to discuss Model construction—minimum of four meetings.
2. Perform field inspections to ascertain piping configurations in and around pumping facilities, tanks, and valve vaults for specification in the model.
3. Receive, process, and incorporate into the Model source data for all pumps, tanks, pipes, valves, and other relevant features. Pump performance characteristics shall be specified according to FCWS-provided pump curves. The availability or reliability of the existing pump curves is not currently known, requiring limited pump evaluations to determine if any pumps require formal testing. Pumps that do require formal testing will be determined by FCWS with the Firm's input. In such cases, FCWS will acquire and pay for the services of an independent agency to perform pump tests in accordance with Hydraulic Institute standards. The pump curves developed from this work would then be used to specify the performance characteristics of those pumps in the Model. Pump controls shall be specified in the Model according to the actual controls that are used for each pump in the system. In addition, tank geometries such as diameter and important elevations shall be specified in the Model according to FCWS-provided record drawings of the tanks or other reported data. Tank controls such as altitude valves and elevation set points shall be specified according to the actual controls that may be used for each tank in the system. In addition, actual (not nominal) pipe diameters shall be specified in the Model based on materials of construction and pressure ratings. Pipe C-factors shall be specified within industry standard ranges and based on the results of the SS and EP calibration. Pipe lengths shall automatically be established in the Model through import of mapping files and manual edits where needed. Pipe nominal diameters and flow velocities shall be indicated by separate sets of color coding schemes. In addition, junctions shall automatically be established in the Model through import of GIS files. However, additional junctions shall be added to all pipes so that spacing does not exceed one-thousand (1,000) feet and to satisfy the following criteria: at high and low points along the pipelines, locations where hydrants are used for fire flow and pressure tests, and along pipelines where customer demands are naturally aggregated. Junction static pressures, residual pressures, water age, and chlorine residuals shall be indicated by separate sets of color coding schemes. Junction elevations shall be specified in the Model based on imported 2-foot topographic data and minor adjustments to account for FCWS's standards for the bury depth of pipes. Junction demands shall be specified in the Model through import of GIS files, and additional demands shall be distributed to account for unbilled water demand, estimates of which will be provided to the Firm by FCWS. In addition, valves shall be specified in the Model according to their type and inside diameter, as well as certain operational settings that may be used depending on the type of valve.

4. Establish scenarios in the Model based on seasonal demand conditions. Scenarios shall be set up to run either SS or EP simulations. Also, the scenario structure shall take advantage of the Software's use of inheritance, whereby a child scenario inherits certain properties and the demands of its parent scenario. The scenarios that follow shall be included in the Model: Base SS Annual Avg Day Demand; Base EP Annual Avg Day Demand; Base EP Chlorine Residuals; Base EP Water Age; Fl/Wn SS Avg Day Demand; Fl/Wn SS Max Day Demand; Fl/Wn SS Max Day Demand +FF; Fl/Wn SS Pk Hour Demand; Fl/Wn EP Avg Day Demand; Sp/Su SS Avg Day Demand; Sp/Su SS Max Day Demand; Sp/Su SS Max Day Demand +FF; Sp/Su SS Pk Hour Demand; Sp/Su EP Avg Day Demand.

The scenarios listed above are further stipulated as follows:

1. A Base scenario shall be set up to model hydraulics for Annual Average-Day demand conditions under SS conditions. SS scenarios shall also be set up to model hydraulics for Average-Day demand conditions for both the Spring/Summer and Fall/Winter times of year. From each of these two seasonal parent scenarios, SS child scenarios shall be set up to model hydraulics for Maximum-Day and Peak-Hour demand conditions. When selecting any of these (and other) scenarios to run, the Model shall automatically activate the appropriate set of demands and the unique operational characteristics for that particular scenario.
2. An SS fire flow scenario shall be set up as a child scenario to each of the two Maximum-Day demand parent scenarios, and they shall be set up to model hydraulics and fire flow conditions. Fire flow demands shall be modeled simultaneously with customer demands and shall be based on County zoning and each individual zone's unique fire flow needs.
3. An EP scenario shall be set up as a child scenario to each of the three Average-Day demand parent scenarios to model hydraulics. The duration of the EP scenarios shall be 24 hours-long, minimum, and all EP scenarios shall apply the same set of demand patterns.
4. A chlorine residuals scenario shall be set up as a child to the Base EP scenario to model system-wide chlorine residuals, and a water age scenario shall be set up as a child to the Base EP scenario to model system-wide water age. The duration of these water quality scenarios shall be 288 hours long, minimum, and both water quality scenarios shall apply the same set of demand patterns as the other EP scenarios. Also, both water quality scenarios shall be set up so that water quality results at any given location can be estimated with respect to other locations in the system (i.e. comparative system-wide estimates are acceptable, instead of calibrated water quality results).

Also provide the following specific requirements:

1. Once the Model is producing hydraulic results without error notifications, perform SS calibration on the scenario that corresponds to the time of year the fire flow tests are conducted and on each of the three EP scenarios. Perform manual or automated calibration routine by adjusting pipe C-factors, demand patterns, and the amount of estimated unbilled water. It will be necessary that the combined adjustment of these three parameters is applied to both the SS and EP calibration processes.

2. For SS calibration, FCWS will provide the Firm SCADA data on pump discharge rates, tank levels, and operational controls during the days that each of the 50 fire flow tests are conducted. This data shall then be specified in the Model to establish the boundary conditions of the system during each of these tests. For SS calibration, locations of the fire hydrants in each field test shall be specified in the Model with corresponding junctions at the same locations. Therefore, each location on the modeled network will contain a Test Junction where static and residual pressure are reported, plus one (or more) Flow Junctions from which fire flow is withdrawn.
3. SS calibration shall be verified by running the selected calibration scenario and comparing the following parameters for each fire flow test: (1) Modeled static pressure vs. field test static pressure, (2) Modeled residual pressure vs. field test residual pressure (with the field test's fire flow rate being withdrawn from the Flow Junction during the Model run). SS calibration shall be considered complete after adjustments are made to C-factors and unbilled water parameters and according to the following criteria: The average percent difference between modeled and field-measured static and residual pressures for all 50 tests is not greater than five percent; and the percent difference between modeled and field-measured static and residual pressures for any individual test is not greater than ten percent.
4. For EP calibration, FCWS will provide the Firm SCADA data over the course of a 24-hour period and during the three times of year that correspond to the seasonal EP scenarios. This information shall be specified in the Model so that the system's boundary conditions for each seasonal scenario can be established. FCWS will also provide the Firm SCADA data for the elevations of all tanks during the same periods. This data shall be used to verify EP calibration by comparing the data to the modeled tank drafting patterns.
5. EP calibration shall be considered complete after final adjustments are made to the demand patterns as necessary so that modeled tank drafting patterns follow those from SCADA records with no more than ten percent difference at any hour in the simulation.
6. If the above calibration standards cannot be met, then it is likely that certain aspects of the Model are not consistent with field conditions, in which case, it shall be necessary to identify the discrepancies, correct the Model, and then repeat the calibration procedures.

Provide Task 1C deliverables to FCWS in electronic format on a USB device, including the water Model file and all other files that are produced by and in support of the Model file.

Task 1D – Report of Modeling Results

Prepare a report for FCWS that details the methodology used to develop the Model and that identifies relevant results which are obtained from each of the scenario runs.

Provide the following specific requirements:

1. An overview that discusses the background of the Model's development, a summary of its features, and the ways it can be used and maintained over time. Identify the methodology used to construct the Model for each type of hydraulic element, for the specified parameters that define the elements, for the established scenarios, and for the calibration procedures.

2. Information on the development of the scenarios including SS and EP parameters, customer and unbilled water demand assignments, fire flow assignments, demand patterns, specific operational and control parameters for hydraulic elements, and other information that differentiates one scenario from another.
3. Calibration information, to include description of the calibration procedures for both SS and EP scenarios, tabular data on modeled vs. measured static and residual pressures, calculated percent differences, and graphic data showing tank drafting patterns for both the modeled tanks and their respective tanks in the system.
4. Relevant information on consequential modeling results by scenario.
5. Final observations about the system and that recommends potential future modeling projects.

Provide Task 1D deliverables to FCWS, including one hard copy of the report and one set of all files of the report in electronic format. The hard copy of the report shall be provided in a three-ring binder with a front cover page, table of contents, topic sections, appendices, and attached copies of all data that is used in Model development. The electronic files of the report shall be provided on a USB device, in native format(s) and in Portable Document Format (PDF), and shall include all files that comprise the hard copy of the report.

Task 2 – Safe Yield Analysis

With increasing water demand and recent droughts that have impacted the region, the FCWS requires an analysis of its water supply for internal water planning purposes. In order to accurately plan for the future, the FCWS wishes to conduct a Safe Yield Analysis on its existing water supply reservoirs. This is an analysis of the reliable annual average quantity that can be withdrawn during a critical drought period (drought of record for the region).

The Firm shall perform a streamflow analysis to 1) evaluate the downstream impacts of the raw water withdrawal on each of the surface waters used for water withdrawals in these impoundments, and 2) if recent droughts have impacted the statistics (or calculations) of the Instream Flow Protection Threshold (IFPT), the required minimum flow release below the dam of each of the reservoirs. Based on the downstream impact analyses of each of the reservoirs on permitted conditions versus recent drought conditions, the Firm will be able to determine if there is a change in available water supply to the County.

The Firm shall perform a Safe Yield Analysis on the existing operations of each of the County's existing water supply reservoirs. This task includes coordination with the Georgia Environmental Protection Division (EPD) to determine the required IFPT (analyzing upstream and downstream conditions of each reservoir).

The FCWS and the Firm shall agree upon the use of an existing USGS stream gage in order to obtain precipitation and pan evaporation data for the area that will best apply to the reservoir being analyzed. This data, along with continuous streamflow monitoring, shall be used to validate simulated streamflows as part of the Safe Yield Analysis.

The Firm shall prepare a technical memorandum on the methodology used to prepare the IFPT for review by the County and then for submittal to EPD. The Firm shall deliver the Safe Yield Model, and a draft and final technical memorandum describing the rationale used in the Safe Yield Model and summarizing discussions with the regulators.

Task 3 – Long Term Water Supply Demand Planning

The FCWS requires a study showing current and future water demands. Future water demands shall be projected over a 50-year planning period. The FCWS will furnish the Firm with a population projection study prepared by others, and the Firm is expected to use this data, along with a comparison of the County's and each incorporated municipality's Land Use and Comprehensive Plans to derive an opinion of the long term water needs of the County. The Firm shall analyze the current wholesale water customers of the County as well as the current domestic and non-domestic water customers. Changes in wholesale, domestic and non-domestic customers, along with water conservation shall be considered in the projected per capita water demand. The Firm shall provide a technical memorandum with the rationale defining the current and future water demands, and be prepared to defend the content with the appropriate regulators. This demand shall be analyzed versus the FCWS's available water supply (determined from the Safe Yield Analysis) to determine if there is an adequate long term supply or deficiency.

Task 4 – Rate Study

The 2017 operating revenues for the FCWS were about \$16,000,000. The existing rate structure will be provided to the successful firm.

The FCWS is operated as an enterprise fund with revenues and expenses accounted for separately from the County's General and other funds. The FCWS's enterprise funds must receive sufficient total revenue to ensure proper operation and maintenance of the system, as well as preserve the financial integrity of the utility and the fund.

The County in collaboration with the Firm will be developing a 10-year capital plan for the enterprise funds over the next two years.

The Rate Study should be prepared in two separate phases:

- **Phase I** – The FCWS is considering a request from a neighboring County for purchase of finished water. Upon completion of the Safe Yield Analysis and the Long Term Water Supply Demand Planning study, the Firm will develop a recommended wholesale rate to the neighboring County, assuming that it is determined that an adequate supply, production and delivery capability exists.
- **Phase II** – Upon completion of the Hydraulic Water Model and development of a 10-year Capital Plan by the FCWS, approximately 18 months after commencement, the Firm will:
 - Recommend an updated wholesale rate for water sales to the neighboring County;
 - Determine rates and charges that will generate sufficient revenue in order to continue to sustain service delivery and improve the stability of the FCWS;
 - Assess the equity and methodology of recommended rates for residential, commercial, and industrial customers;

- Evaluate the needs for future funding of capital improvements and maintenance, including examining the need for future debt service issuance.
- Determine the revenue requirements to provide adequate reserves for the water enterprise fund.

The FCWS desires that, to the extent practical, each customer is responsible for paying the cost of providing service to them. The cost of service delivery includes all operating costs, the expense of funding capital projects and debt service, and the expense of maintaining reasonable reserves thereafter. The Cost of Service Delivery portion of the study will define and separate fixed and variable costs. The study should identify costs to be allocated across all customer groups and those costs that may need to be associated with a specific customer group. To these ends the Cost of Service Delivery analysis and the resulting determination of revenue requirements shall be evaluated in a manner consistent with the following requirements:

- The current and future cost of providing water services shall be in accordance with established and anticipated standards and regulations.
- Projected demands shall consider reasonable changes due to economic conditions, the demand of major customers and general growth patterns.
- The adequacy of reserves for operating and capital projects shall be examined to determine the level of reserves sufficient to offset low consumption/revenue years while also reducing spikes in annual rate increases.
- An examination of the enterprise funds' use of debt financing for capital improvements should be made so that recommendations can be made related to its uses and limitations on its use with respect to maintaining a proper balance for debt coverage and rate stabilization over the Study period.
- Long term costs of capital improvements shall consider the age of the existing infrastructure and reasonably expected changes in environmental regulations and other impacts.

The rate structure review and design process shall include a 3-year implementation plan (2021-2024) and a 5-year implementation plan (2021-2026) with an evaluation of projections for a ten-year period of 2021-2031. The rate structure review shall be based on the most current data for customers, billable demand/usage, rates, and costs for the fiscal year ending December 31, 2018.

The Firm shall present the findings and conclusions of the Rate Study's tasks in a clear, concise manner in a formal written report. At least ten printed copies of the Rate Study shall be provided along with a digital copy. A summary presentation to the FCWS will be required during a regularly scheduled meeting or at such other time as may be determined. At a minimum, the formal report shall include or address the following:

- An Executive Summary of the recommendations.
- 3-year and 5-year implementation plans with detailed recommendation for changes to the current rate and fee structures.
- A comparison, with illustrations, of the benefits of any proposed modifications to the existing structure of rates as opposed to the financial impacts on customers.
- A sampling of a minimum of three 'case-study' customers per classification showing the difference of charges between existing and proposed rates.

- An analysis and discussion of the impact of existing and future capital improvements on the rates and/or rate structures being recommended.
- An assessment of revenue needs for the next ten years, to include adequate coverage for operations and maintenance, capital improvements, and debt service.
- An analysis of the projected reserves for the next ten years.
- A comparison of current and recommended rates to other water utilities in surrounding utilities.
- A schedule for timely and coordinated execution of all essential aspects of the report's recommendations.

PROPOSAL RESPONSE REQUIREMENTS – (Please limit your RFP response to 25 single-sided pages)

1. Cover Page: Include the Request for Proposal number (#1670-P) and title (*Engineer of Record for Water System Interconnectivity Initiative*). Also include your Firm's name, address, telephone number, fax number, and e-mail address.

2. Table of Contents

3. Required Documents:

- Company Information Page
- Contractors Affidavit
- References
- Signed addenda if any are issued
- State of Georgia license for Professional Engineer (see #5.e. below).

4. Understanding and Approach: State your understanding of the objectives of this project. Describe the approach you propose to take in addressing the needs addressed by the Scope of Work in this RFP. Identify potential challenges you may face, and how you would resolve them.

Describe any specialization or unique capabilities of your firm that may be beneficial in delivery of this project.

5. Project Team:

- Identify the Firm's key employees and sub-consultants who would be assigned to the project team (the project team may include personnel employed by the Firm, or a mixture of personnel and outside sub-consultants).
- Include a resume for the key team members (the company's personnel and sub-consultants).
- Identify the main contact person for the project team and a secondary contact.
- Describe each key team member's experience with comparable projects, the role that each member played, and the expected role of each for this project.
- Firms shall be required to have on their proposed team, at least one Professional Engineer, licensed in the State of Georgia, who is also recognized by the Georgia Department of Natural Resources - Safe Dams Program as an "Engineer of Record" with respect to Category I Dams.

6. **Firm's Expertise and Experience:** Provide a brief overview of your company, including its size and number of employees, corporate structure, legal status, number of years in business, background and history. Include the firm's experience in providing services such as those described in this RFP.

Demonstrate the Firm's experience and qualifications by listing relevant projects that were similar to the work addressed by this RFP on the References form, including any projects with Fayette County and the incorporated municipalities within the county. Projects within the last five years are preferred, but projects over five years ago may be considered if relevant.

7. **Office Locations:** Indicate the location of the Firm's office that will administer and manage projects for the FCWS. Also, indicate branch office locations from where each proposed team member and sub-consultant is based.
8. **Fees & Hourly Rates Schedule:** All fees and other price information shall be provided in a sealed envelope, separate from the proposal.

Services under Task 1A will be performed on an hourly basis, with a maximum not-to-exceed price, at the hourly rates indicated on the Rate Schedule. If you would use job classifications that are not listed, please attach additional sheets as necessary.

Services under Tasks 1B-1D, Task 2, Task 3, and Task 4 will be performed for the Lump Sum Fee indicated on the Rate Schedule. Indicate the Firm's hourly rates on the Rate Sheet provided herein.

Not-to-exceed prices, and firm fixed prices, shall include all fees, charges, and expenses including travel, copies, lodging, or any other costs.

For other tasks that may be awarded during the term of the initiative, not-to-exceed or firm-fixed prices will be negotiated for each task order, using the hourly fees shown on the Rate Schedule. If the county and the Firm cannot agree on the negotiated price for a Task Order, the county reserves the right to solicit another vendor for the work included in said Task Order.

EVALUATION CRITERIA

Award will be made to the responsive, responsible firm whose proposal is most advantageous to the county, with price and other factors considered. An Evaluation Committee will review and evaluate proposals.

Technical Merit: Evaluation scores will be based 70% on technical merit of the proposal (please see items 4-7 in the Proposal Response Requirements section above), as follows:

	<u>Maximum Points</u>
a. Understanding and approach	40
b. Project team	30
c. Firm's expertise and experience	20
d. Office location	<u>10</u>
Total Earnable Points	100

Price: The remaining 30% of your score will be determined by your proposed price, as compared to other responding entities. Proposed prices will be assigned points earned through use of a “variance” weighted method. The lowest offered price will earn the maximum number of points for the Pricing portion of the score. Proposals’ price scores will be calculated based on the variance of their prices from the lowest offered price.

Presentations: The County may, at its discretion, choose one or more of the best-scoring firms to make in-person presentations. If more than one company makes a presentation, the Evaluation Committee will evaluate and score the presentations, and adjust evaluation score totals accordingly, by up to a maximum of 30 points.

GENERAL TERMS AND CONDITIONS
Request for Proposals #1670-P
Engineer of Record for Water System Interconnectivity Initiative

1. **Definitions:** The term "contractor" as used herein and elsewhere in these Terms and Conditions shall be used synonymously with the terms "successful offeror" or "Firm." The term "county" shall mean Fayette County, Georgia.
2. **Preparation of Offers:** It shall be the responsibility of the offeror to examine specifications, scope of work, schedule and all instructions that are part of this request for proposal. Failure to observe any of the instructions or conditions in this request for proposal may result in rejection of the offer.

All of the specifications and information contained in this request for proposal, unless specifically excepted in writing by the offeror and such exceptions being included with the offer, will form the basis of the contract between the successful offeror and the county. The offeror should take care to answer all questions and provide all requested information.

3. **Submission of Offers:** Offerors must submit their proposal, along with any amendments issued by the county, in a sealed opaque envelope with the following information written on the outside of the envelope:
 - a. The offeror's company name,
 - b. The Request For Proposals (RFP) number, which is 1670-P and
 - c. The RFP Name, which is **Engineer of Record for Water System Interconnectivity Initiative.**

Price schedules shall be placed in an additional opaque sealed envelope, identified as the price schedule, and enclosed in the sealed envelope with the proposal.

Mail or deliver one (1) original proposal, signed in ink by a company official authorized to make a legal and binding offer, and one (1) copy, and a copy on one (1) flash drive to:

Fayette County Government
Purchasing Department
140 Stonewall Avenue West, Suite 204
Fayetteville, GA 30214

Attention: Contracts Administrator

4. **Timely Receipt:** Offers not received by the time and date of the scheduled proposal opening will not be considered, unless the delay is a result of action or inaction of the county.
5. **Open Offer:** The offer, once submitted and opened, shall remain open for acceptance for a period of at least ninety days from the date of the opening unless this time-frame is specifically excepted to in your offer.

6. **Corrections or Withdrawals:** The offeror may correct a mistake, or withdraw a proposal before the proposal opening date by sending written notification to the Director of Purchasing. Proposals may be withdrawn after the opening only with written authorization from the Director of Purchasing.

The county reserves the right to waive any defect or irregularity in any proposal received.

In case of discrepancy between the unit price and the extended or total price, the unit price shall prevail.

7. **Trade Secrets – Confidentiality:** If any person or entity submits a bid or proposal that contains trade secrets, an affidavit shall be included with the bid or proposal. The affidavit shall declare the specific included information which constitutes trade secrets. Any trade secrets must be either (1) placed in a separate envelope, clearly identified and marked as such, or (2) at a minimum, marked in the affidavit or an attached document explaining exactly where such information is, and otherwise marked, highlighted, or made plainly visible. See Georgia law at O.C.G.A. § 50-18-72 (A)(34).
8. **Site Conditions:** Offerors are urged to visit the site to familiarize themselves with site conditions. Upon submission of an offer, it is understood that the offeror is acknowledging his acceptance of all site conditions.
9. **References:** Offerors shall submit with proposals a list of three (3) jobs the offeror has done that are of the same or similar nature to the work described herein. For each job listed include a brief description of the work, a contact person, mailing address, valid telephone number and the date job was completed.
10. **Ethics – Disclosure of Relationships:** Before a proposed contract in excess of \$10,000.00 is recommended for award to the Board of Commissioners or the County Administrator, or before the County renews, extends, or otherwise modifies a contract after it has been awarded, the contractor must disclose certain relationships with any County Commissioner or County Official, or their spouse, mother, father, grandparent, brother, sister, son or daughter related by blood, adoption, or marriage (including in-laws). A relationship that must be reported exists if any of these individuals is a director, officer, partner, or employee, or has a substantial financial interest in the business, as described in Fayette County Ordinance Chapter 2, Article IV, Division 3 (Code of Ethics).

If such relationship exists between your company and any individual mentioned above, relevant information must be presented in the form of a written letter to the Director of Purchasing. You must include the letter with any bid, proposal, or price quote you submit to the Purchasing Department.

In the event that a contractor fails to comply with this requirement, the County will take action as appropriate to the situation, which may include actions up to and including rejection of the bid or offer, cancellation of the contract in question, or debarment or suspension from award of a County contract for a period of up to three years.

11. **Evaluation of Offers:** The evaluation of offers and the determination as to acceptability of services offered shall be the responsibility of the county. Accordingly, to insure that sufficient information is available, the offeror may be required to submit literature, samples, or other information prior to award. The county reserves the right to obtain clarification or additional information from any firm regarding its proposal. The county reserves the right to select a responsive, responsible firm on the basis of best value that is deemed to be most advantageous to the owners. The county further reserves the right to reject any proposal, or all proposals, and to re-release the request for proposals.
12. **Non-Collusion:** By responding to this request for proposals, the offeror shall be deemed to have represented and warranted that the proposal is not made in connection with any other offeror submitting a separate response to this request for proposals, and is in all respects fair and without collusion or fraud.
13. **Ability To Perform:** The offeror may be required, upon request, to provide to the satisfaction of the county that he/she has the skill, experience and the necessary facilities, as well as sufficient financial and human resources, to perform the contract in a satisfactory manner and within the required time. If the available evidence is not satisfactory to the county, the county may reject the offer.
14. **Notice to Proceed:** The County shall not be liable for payment of any work done or any costs incurred by any offeror prior to the county issuing a written notice to proceed.
15. **Term of Contract:** The term of this agreement shall begin upon issuance of a Notice to Proceed through June 30, 2020. Thereafter, this agreement may be renewed by the county for additional 12 month renewal terms (each a "Renewal Term" and together with the Initial Term, the "Term"), which renewal will be by letter or other written correspondence from the county to the contractor ninety (90) days prior to expiration of the Initial Term or the then-current Renewal Term. If the county fails to provide notice of renewal, this Agreement will terminate at the end of the Initial Term or the then-current Renewal Term. This agreement is subject to the multi-year contractual provisions of O.C.G.A. 36-60-13(a).
16. **Unavailability of Funds:** This contract will terminate immediately and absolutely at such time as appropriated and otherwise unobligated funds are no longer available to satisfy the obligations of the county under the contract.
17. **Payment Terms:** The County's standard payment terms are Net 30. Any deviation from standard payment terms must be specified in the awarded contract, and both parties must agree on such deviation.
18. **Severability:** The invalidity of one or more of the phrases, sentences, clauses or sections contained in the contract shall not affect the validity of the remaining portion of the contract. If any provision of the contract is held to be unenforceable, then both parties shall be relieved of all obligations arising under such provision to the extent that the provision is unenforceable. In such case, the contract shall be deemed amended to the extent necessary to make it enforceable while preserving its intent.

19. **Indemnification:** The contractor shall defend, indemnify and save the county and all its officers, agents and employees harmless from all suits, actions, or other claims of any character, name and description brought for or on account of any damages, losses, or expenses to the extent caused by or resulting from the negligence, recklessness, or intentionally wrongful conduct of the contractor or other persons employed or utilized by the contractor in the performance of the contract. The contractor shall pay any judgment with cost which may be obtained against the county growing out of such damages, losses, or expenses.
20. **Non-Assignment:** Assignment of any contract resulting from this request for proposals will not be authorized, except with express written authorization from the county.
21. **Insurance:** The contractor shall procure and maintain the following insurance, to be in effect throughout the term of the contract, in at least the amounts and limits set forth as follows:
- **General Liability Insurance:** \$1,000,000 combined single limit per occurrence, including bodily and personal injury, destruction of property, and contractual liability.
 - **Automobile Liability Insurance:** \$1,000,000 combined single limit each occurrence, including bodily injury and property damage liability.
 - **Worker's Compensation:** Workers Compensation as required by Georgia statute.
 - **Professional Liability (Errors and Omissions) Insurance:** \$2,000,000 limit per claim and aggregate.

Before a contract is executed with the successful offeror, the successful offeror shall provide Certificates of Insurance for all required coverage. The successful offeror can provide the Certificate of Insurance after award of the contract, but must be provided prior to execution of the contract document by both parties. Certificates shall list an additional insured as follows:

Fayette County, Georgia
140 Stonewall Avenue West
Fayetteville, GA 30214

22. **Termination for Cause:** The county may terminate the contract for cause by sending written notice to the contractor of the contractor's default in the performance of any term of this agreement. Termination shall be without prejudice to any of the county's rights or remedies by law.
23. **Termination for Convenience:** The county may terminate the contract for its convenience at any time with 10 days' written notice to the contractor. In the event of termination for convenience, the county will pay the contractor for services performed. The county will compensate partially completed performance based upon a signed statement of completion submitted by the contractor, which shall itemize each element of performance completed.

24. **Force Majeure:** Neither party shall be deemed to be in breach of the contract to the extent that performance of its obligations is delayed, restricted, or prevented by reason of any act of God, natural disaster, act of government, or any other act or condition beyond the reasonable control of the party in question.

25. **Governing Law:** This agreement shall be governed in accordance with the laws of the State of Georgia. The parties agree to submit to the jurisdiction in Georgia, and further agree that any cause of action arising under this agreement shall be required to be brought in the appropriate venue in Fayette County, Georgia.

Checklist of Required Documents

*(Be Sure to Return This Checklist and
the Required Documents in the order listed below)*

RFP #1670-P: Engineer of Record for Water System Interconnectivity Initiative

Company information – on the form provided _____

Contractor Affidavit under O.C.G.A. § 13-10-91(b)(1) _____

Completed Proposal _____

Sealed Pricing _____

List of exceptions, if any – on the form provided _____

References – on form provided _____

Certification of Absence of Conflict of Interest
For Development of Specifications or Scope of Work _____

Addenda, if Any _____

COMPANY NAME: _____

COMPANY INFORMATION
RFP #1670-P: Engineer of Record for Water System Interconnectivity Initiative

Company Name: _____

Physical Address: _____

Mailing Address (if different): _____

AUTHORIZED REPRESENTATIVE

Signature: _____

Printed or Typed Name: _____

Title: _____

Email Address: _____

Phone Number: _____ Fax Number: _____

PROJECT CONTACT PERSON

Name: _____

Title: _____

Office Number: _____ Cellular Number: _____

Email Address: _____

REFERENCES

RFP #1670-P: Engineer of Record for Water System Interconnectivity Initiative

Please list three (3) references for current or recent customers who can verify the quality of service your company provides. Projects of similar size and scope are preferable.

1. Government/Company Name _____

City & State _____

Work or Service Provided _____

Approximate Completion Date _____

Contact Person and Title _____

Phone _____ Email _____

2. Government/Company Name _____

City & State _____

Work or Service Provided _____

Approximate Completion Date _____

Contact Person and Title _____

Phone _____ Email _____

3. Government/Company Name _____

City & State _____

Work or Service Provided _____

Approximate Completion Date _____

Contact Person and Title _____

Phone _____ Email _____

COMPANY NAME _____

Contractor Affidavit under O.C.G.A. § 13-10-91(b)(1)

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services on behalf of Fayette County, Georgia has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by O.C.G.A. § 13-10-91(b). Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

Federal Work Authorization User Identification Number

Date of Authorization

Name of Contractor

#1670-P Engineer of Record for Water System Interconnectivity Initiative

Name of Project

Fayette County Georgia

Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, _____, 2019 in (city) _____, (state) _____

Signature of Authorized Officer or Agent

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME

ON THIS THE _____ DAY OF _____, 2019

NOTARY PUBLIC

My Commission Expires:

**Certification of Absence of Conflict of Interest
For Development of Specifications or Scope of Work**

*Required for each contract or arrangement to prepare or develop specifications or requirements
(O.C.G.A. § 36-80-28)*

The undersigned Consultant, who is entering into a contract or arrangement with Fayette County, Georgia (the County) to prepare or develop specifications or requirements for an invitation for bids, request for proposals, purchase order, or any other type of solicitation for said County certifies that:

1. Consultant shall avoid any appearance of impropriety and shall follow all policies and procedures of the County, as may be related to the project.

2. Consultant discloses below any material transaction or relationship currently known to Consultant that reasonably could be expected to give rise to a conflict of interest, including, but not limited to, that of the Consultant, or the Consultant's employees, agents or subsidiaries (Include past, present, or known prospective engagements, involvement in litigation or other dispute, client relationships, or other business or financial interest):

3. Consultant shall immediately disclose any material transaction or relationship subsequently discovered during the pendency of the contract or arrangement.

4. Consultant acknowledges that any violation or threatened violation of the agreement may cause irreparable injury to the County, entitling the County to seek injunctive relief in addition to all other legal remedies.

Signature of Contractor's Authorized Official

Printed Name & Title of Authorized Official

Date

**RFP #1670-P: Water System Modeling, Analysis & Rate Study
Fees and Hourly Rates Schedule**

Firm Name: _____

PROPOSED FEES			
Task	Price Structure	Est. Hours	Fee
1A (Map Existing Water System Features)	Not-to-Exceed Price		\$
Task 1B (Field Testing), 1C (Model Dev) & 1D (Report)	Firm Fixed Price		\$
Task 2 (Safe Yield Analysis)	Firm Fixed Price		\$
Task 3 (L-T Water Supply Demand Planning)	Firm Fixed Price		\$
Task 4 (Rate Study) – Phase I: Recommend Wholesale Water Rates	Firm Fixed Price		\$
Task 4 (Rate Study) – Phase II: Updated Wholesale Rate; Residential, Commercial & Industrial Rates; Funding for Capital Improvement & Maintenance; Requirements for Enterprise Reserves	Firm Fixed Price		\$
Total Proposed Not-to-Exceed Price			\$

Proposed maximum annual fee increase, if any, effective on the date of each contract renewal.	_____ %
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