ENGINEERING SERVICES FOR VARIOUS PROJECTS AND ON CALL SERVICES

FOUR WATERS ENGINEERING

OCTOBER 17, 2022

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October 17, 2022

Jake Broom (sent via email to: jbroom@masc.sc)
Chief Operating Officer
Municipal Association of South Carolina
PO Box 12109
Columbia, S.C. 29211

RE: Municipal Association of South Carolina
Professional Engineering Services
On Call and Various Projects

Evaluation Committee,

Four Waters Engineering, Inc. (4Waters) is pleased to submit our proposal to provide Professional Engineering Services to various municipalities within South Carolina that need technical assistance pertaining to American Rescue Plan Act projects. We understand these assignments are to replace aged water and sanitary sewers, and support local governments are they upgrade their infrastructure.

4Waters is well positioned to assist Municipal Association of South Carolina (MASC) communities, as they undertake localized improvements through their service area. This proposal outlines our firm's corporate and staff experience, ability to perform, and references to assist in demonstrating our value. We believe that our proposal details the distinguishing features we feel illustrate why we are the right firm to be selected to assist Municipal Association of South Carolina communities with their engineering needs. Our staff is experienced with completing the following project types, so we would like to submit on the following list:

- Water Line Extensions, and Replacements
- Sewer Line Rehabilitations, Replacements, and Extensions
- Wastewater Lift and Pump Stations
- Force Main Repairs, Replacements, and New Facilities
- Water Treatment Facility Improvements
- Wastewater Treatment Facility Improvements
- Water and Wastewater System Evaluation
- Other Water and Wastewater Services (as needed)

Skilled Manager: Our project manager Dwaine Falls' career spans 25 years, during which he has led engineering design teams on a variety of municipal projects. He will be proactive in communicating and strive to resolve issues before they become problematic for communities. Mr. Falls has completed numerous civil engineering engagements including dense urban environments, political implications, and high community involvement. **Dwaine has undertaken six federally and provincially funded utility projects under the Ontario Infrastructure Expenditures 2009 – 2011 Act, which is similar to the current American Rescue Plan.** He understands the requirements, documentation, financial impact and allocated time frames these types of projects entails.

Relationship Driven: We understand that all organizations, including municipalities have constraints, including financial. **We are committed to putting municipalities needs first regarding decisions affecting their long-term infrastructure.** This relationship mindset drives our commitment to excellence and repeat clients, we would like to establish relationships with the various Municipal Association of South Carolina communities. This means being responsive to requests and inquiries, maintaining continual, regular communication with staff, council members, and stakeholders, along with providing exemplary service throughout our contracts.

Qualified Staff: 4Waters has the capacity, availability, and willingness to meet time and budget constraints involved with these local municipalities. The staff put forward in this proposal will be dedicated for the duration of assignments, so that they are available throughout the course of the work. We confirm that each Project Team member has the available time required to execute their specific responsibilities for projects. **We will not exchange or substitute our key personnel on proposed assignments without appropriate approval.** Having completed over 50 miles of watermains, gravity sewers and forcemains within the last five years, we are experienced in undertaking these types of projects.

Experienced with Similar Assignments: 4Waters currently provides similar engineering services to various communities throughout the southeast, including Port Royal, SC and Ridgeland, SC on an ongoing basis. We have completed multiple assignments for these municipalities, as provided within our proposal. As a result, we are familiar with the concerns and pitfalls that have the potential to affect communities and we are prepared to use our experience to help with their needs.

As the primary author of this proposal, **I am fully vested in working with the local municipalities and would like the opportunity to undertake their American Rescue Plan Act projects.** If you wish to discuss our proposal in detail, please contact me at (864) 569-6145, via email at dfalls@4weng.com.

Sincerely,

Four Waters Engineering, Inc.

Dwaine R Falls

Dwaine R. Falls, PE, Peng.
Principal Engineer

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SECTION 1: TECHNICAL APPROACH AND UNDERSTANDING

PROJECT APPROACH

We understand the Municipal Association of South Carolina's strong interest in ensuring that the selected consultant offers the right mixture of technical expertise, experience, and training regarding design budgets. Our team has extensive experience, including water/sewer extensions, replacements, and upgrades along with roadway repairs. We are also experienced with regulatory approvals and construction support services. Our project staff is appropriately qualified for the various assignments based on their recent successes, expertise, and specific experience.

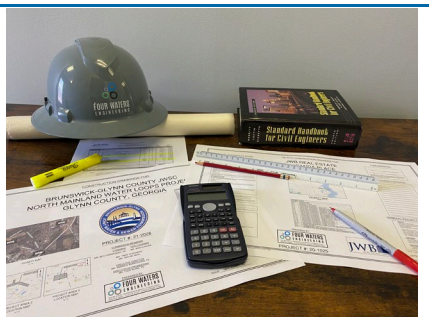
Dwaine Falls, our project manager has completed multiple sanitary sewer replacement projects that have been partially funded by the SC Department of Commerce mechanisms, which required documentation along with reports provided to the various funding agency. He has worked closely with the Council of Governments (COG) staff and understands their policies and procedures. Within the last five years, Dwaine has undertaken four sanitary and three watermain projects which involved state and federal funding.

4Waters' approach to these types of assignments is based upon our experience successfully executing similar projects. Having completed water/sewer projects around the Southeast, U.S., we are experienced with all aspects of the design process. A description of the main activities which will be undertaken during our typical project is provided in the sections below.

Project Kick-Off Meeting:	4Waters will commence the project(s) by hosting a kick-off meeting with the local municipality and other team members to discuss the scope of work, proposed work plan, along with deliverables and milestones. This meeting will be attended by Dwaine Falls, our Project Manager who will be responsible for managing the activities during this assignment.
Progress Meetings:	We anticipate progress/design meetings throughout the duration of the various project(s). Communication with staff will be continuous, through a combination of phone calls and emails, as well as formal and informal meetings with our Project Manager being the point of contact.
Review Existing Documentation:	4Waters will work on reviewing, and analyzing all existing plans, reports, and drawings relevant to this project. This information will be utilized during the preliminary design phases.
Topographical Survey:	4Waters will undertake field surveys to obtain field information for the engineering design. Critical locations (manholes, catch basins, sidewalks, trees, etc.) will be surveyed using conventional surveying techniques (total station, or GPS). This survey will be of existing conditions and will be the basis for design.
Construction Design Documents	Where available, we will use SC DHEC standards for design and construction of the watermain and sanitary sewer. Knowing the benefit of using municipalities standard details, drawings and specifications allows us to efficiently incorporate their documents into the project. Additional standard drawings will be provided by 4Waters based on our experience in multiple jurisdictions.
Engage permitting agencies:	Early in the process, we will proactively engage different regulatory agencies (SC DHEC, SC DOT) that may have concerns about the project and provide mitigation measures. This is especially important to avoid any surprises in terms of their expectations and regulatory requirements later in the project. 4Waters will prepare and submit all the necessary documentation required by these agencies.

Engage Contractor for Constructability Review:	Getting contractors involved after the design process drives a reactive environment instead of a proactive one. 4Waters can team with a local contractor to provide constructability reviews for this assignment, with the intent of providing a solid design. They will review our preliminary design so we can furnish local communities with a design that is feasible and constructible.
Detailed Design:	4Waters will advance the preliminary design into detailed design consisting of construction drawings, bid quantities, specifications, contract documents, and cost estimates. The construction documents will be provided to municipalities for review before bidding. Additionally, we will meet with representatives to review the final design documents and construction cost estimates.
Permitting Approval:	It is anticipated that SC DHEC and SC DOT will approve their respective components of projects for construction activities within their jurisdiction. We will prepare and submit required applications for permits and approvals, with municipalities paying any fees.
Bidding Assistance:	4Waters will finalize construction documents including design drawings, contract specifications, and bid schedule. We will respond to Contractor inquiries during the bidding period, assist municipalities during the bidding period as may be required, undertake an analysis of contractor submissions for completeness and accuracy, and provide a bid review letter. Having completed multiple public funded projects, we are experienced in their approval, bidding, award, and administration process.
Construction Support Services:	During construction, 4Waters can provide construction support services. The project usually starts with a preconstruction meeting and ends with a punch list review. Some of the services that will be entail are construction inspection, scheduling, pay application review, budgeting, quality assurance, record keeping and record drawings.
Project Closeout:	Upon project completion, 4Waters will work closely with municipalities to ensure written documents are transferred to you for your records and permits are closed out with regulatory agencies.

PROJECT ISSUES



With most municipal improvement assignments, maintaining property access is a challenge, one that 4Waters realizes is a top concern. Allowing local residents and businesses to safely perform normal activities during construction is paramount to the success of a project of this nature. Our team has extensive experience working on projects in urban areas where maintaining access and ensuring the safety of pedestrians and motorists was a vital project component.

In working with communities, we understand that construction phasing may be required to allow safe, unimpeded movement of traffic and pedestrians during normal business hours. Based on our extensive experience, we believe the potential issues outlined below are typically involved with watermain and sanitary sewer projects. We will work with municipalities to minimize issues early in the project before they impact the schedule, as indicated in the following Mitigation Approach.

Potential Project Issues	Four Waters' Mitigation Approach
1. Maintenance of flows in existing sanitary sewers and services to residents and businesses	• Make tie ins and connections during low flow periods. • Assist contractor with temporary bypass pumping (if requested). • Notify affected users early regarding any disruption.
2. Maintenance of flows in existing watermains, fire lines and services to residents and businesses	• Explore offsetting proposed watermain from existing ones. • Assist contractor with temporary water plans (if requested). • Notify affected users early regarding any disruption.
3. Traffic/Pedestrian Management	• Discuss traffic and pedestrian routing with the County and DOT. • Explore possibility of closing streets except to local traffic. • Stage construction to minimize disruptions. • Work with business and property owners to maintain ingress/egress.
4. Stakeholder engagement and project acceptance	• Host open house forum to obtain public feedback. • Give project related presentations during council meetings.
5. Construction-oriented complaints (access, sediment debris, noise, vibration, etc.)	• Develop comprehensive specifications pertaining to working hours, conditions, access and temporary closures or utility disruptions. • Maintain a work status log and track all comments. Follow up with residents in a timely manner. • Designate a "Field Ambassador" to assist with residents' concerns.
6. Difficulty in obtaining permits or approvals	• Initiate discussion with SC DOT or SC DHEC early in project process. • Proactively seek their input during design phase. • Actively resolve their comments for approval.
7. Damage to trees, landscape or personal property	• Specify pre and post construction pictures or video. • Include tree protection fencing on drawings.

SECTION 2: WORK MANAGEMENT PLAN AND EXPERIENCE OF PROPOSED PERSONNEL

PROJECT CONTROLS

4Waters recognizes the importance of project controls in the overall success of assignments and places a strong emphasis on management and communication of scheduling and budgetary information essential to meeting client's goals. Our team offers a proactive approach to managing key areas such as project setup, systems selection, project controls, document control, progress reporting, and performance measurement. This ensures continuity with the project and the project team, along with the establishment of agreed control budgets imperative to managing project change. Our methodology ensures a solid platform is maintained throughout project phases and can be applied to all projects irrespective of size, capital value, or complexity.

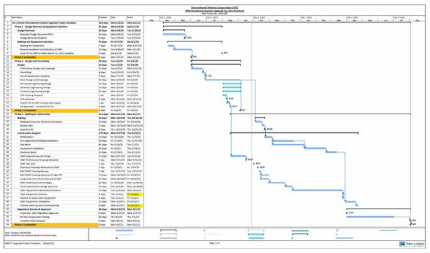
To assist with effective resource management, 4Waters uses BillQuick (BQE) software. BQE is an innovative and comprehensive accounting and management software package developed specifically for small- and medium-sized engineering and architectural firms. BQE allows our Project Managers to have direct, up-to-date information on all aspects of a project including project budgets, labor and expense efforts, and notes on all expended efforts and project status. The availability of such information allows our Project Managers to adapt quickly and effectively to assign resources where they are most needed.

Municipalities will also benefit from our company's compact structure. Decisions about resource allocation and schedules can be made quickly by senior personnel who have community's interests in mind. This ability will allow 4Waters to complete engineering assignments by South Carolina Infrastructure Investment Program's (SCIIP) December 31, 2026 deadline. 4Waters has the capacity, availability, and willingness to meet time and budget constraints which impact communities for their assignment(s).

SCHEDULE CONTROL

4Waters understands the significance of maintaining the agreed upon schedule being imperative to municipalities, stakeholders and funding agencies. Assisting other municipal clients with their SCIIP funded projects, we realize the constraint municipalities and utilities will be under to complete their projects by the end of 2026. Having undertaken six federally and provincially funded utility projects under the Ontario Infrastructure Expenditures 2009 – 2011 Act, Dwaine has experience completing these types of assignments within the allocated time frame. Knowing that funding can be reduced if construction is not completed by 2026, 4Waters will strive to complete the design efficiently so bidding and utility construction can promptly commence.

Our proven methodology ensures a viable schedule is maintained throughout project phases and can be applied to all projects irrespective of size, capital value, or complexity. 4Waters is willing to meet all of municipalities' time and budget requirements, we have a proven history of completing projects on schedule without the need for change orders.



In conjunction with municipalities' Project Manager, we will generate a project schedule for those assignments that we are awarded. As the project progresses, we will update the schedule to monitor milestones and critical path items for deliverables and meetings. We will work to maintain the proposed schedule, as well as identify activities where we can accelerate the schedule. Our Project Manager Dwaine Falls will be responsible for assessing progress and taking corrective measures, such as adding additional team members, as necessary, to meet originally scheduled completion dates.

QUALITY ASSURANCE/QUALITY CONTROL

The key to any quality management program is continuous inspection and improvement of the system. As the Project Principal and QA/QC Reviewer, Angela Bryan's attention to detail will lead the way for this endeavor, ensuring provided documents are accurate, correct, and complete. She will conduct thorough reviews on all project deliverables and background calculations. Before the QA/QC review, our program involves an initial review by the design team to look for critical items, text or dimensioning errors, readability, and formatting.

Reviews are completed sufficiently in advance of deliverable schedules to allow for updates and corrections. Deliverables are compared against the project scope of work, client standards, our own plans and specifications checklist, and the experience and knowledge of our QA/QC Engineer. This process helps ensure that our team adds value and provides sound engineering solutions and reliable designs.

To see a description of the roles that each of our team members will play for quality control, see the following Document Review Matrix.

Review Type	Responsibility	Description	Milestone
Project Manager Check	Project Manager	Compare project requirements and schedule to ensure the proposed timeline and resources are sufficient to produce the proposed scope of services and meet client expectations.	Continual
Individual Review	Each Individual	Completeness, technical correctness and agreement between plans and specifications using 4Waters Plans and Specifications Checklist	Each Project Milestone

Regulatory Review	QA/QC Reviewer	Review against applicable environmental, regulatory, and local codes to ensure work meets permitting requirements.	Each Project Milestone
Constructability Review	Reputable Local Contractor	With client approval, coordinate with local contractor for clarity and constructability to limit change orders, manage costs and expectations, and ensure that the intent of the design is delivered in the final project	During Detailed Design
Preliminary Deliverable Review	Regulatory Agency Representative	With client approval, coordinate with regulatory agencies during conceptual or preliminary design to identify any issues early and expedite the permit review process.	Before Project Milestones
Independent Review	Senior Staff Not Involved with Design	Review for accuracy, completeness, consistency, adherence to technical and client standards along with regulatory compliance. Involves review for clarity and readability.	Before Final Submittal

COST CONTROL

The most effective tool for cost control is 4Waters' efficiency and the reduction of surprises during the project. Additionally, we believe the best form of issue resolution is prevention. We achieve this by ensuring that we are thoroughly familiar with client standards, budgets, and schedules. Most importantly, we make sure we fully understand the goals, constraints and potential pitfalls of a project prior to finalization of the cost proposal and schedule. 4Waters engineers develop this understanding by conducting field investigations and meeting with client staff and operators, reviewing as-built documents, coordinating with geotechnical and subsurface utility engineering professionals, and discussing with relevant permitting agencies. The location and surroundings of the project site are also thoroughly evaluated to identify potential issues outside of the project area that could impact design or implementation of the design intent. Based on these investigations and research, any outstanding concerns are addressed with the client and the scope of work is altered appropriately or contingency tasks are built into the proposal.

PUBLIC RELATIONS

We understand that public entities are faced with increasing requirements to consult with the public regarding decisions that may affect them. In response to these challenges, 4Waters provides stakeholder engagement which may assist communities in consultations with the general public.

Our Project Manager, Dwaine Falls, is experienced with Open Houses and has represented clients at numerous public forums and can attend on behalf of municipalities. He will provide client approved information to the public and solicit their input, which may be incorporated into the design. We will work with municipalities in terms of organizing and coordinating the logistics for the event.

Our approach to public relations is both strategic, as well as tactical, ensuring that communities' objectives are achieved. To this end, we help manage risk, obtain regulatory approval, and gain credibility with community stakeholders. Our unique approach is based on our extensive experience in developing and implementing engagement plans for a variety of large - and small-scale projects.

KEY PERSONNEL

Our key personnel are identified below, with brief biographies to provide a better understanding of their capabilities. Our project team has substantial experience with engineering projects involving sanitary sewers, watermains, utility conflicts and relocations, and roadway repairs.

Dwaine Falls, P.Eng., P.E., R.L.S. | Project Manager

- Professional Engineer: NC, SC, GA, FL, OH, ON
- SC license number: #21839
- M.S. Engineering Mgmt
  B.S. Civil Engineering
- 25 Years of Experience
- SC Office Location

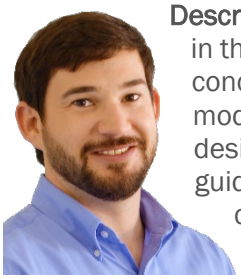
Description: Mr. Falls' experience includes civil engineering, construction, and surveying for both municipal and private sector clients. Dwaine specializes in the planning, design and construction support of sanitary collection systems, utility reconstruction, pump station upgrades, wastewater collection systems, stormwater management facilities, roadway improvements, subdivisions and site plan developments. Mr. Falls' strong technical background allows him to understand design components including drawing creation, specification writing, construction cost estimating and condition assessment. **He has completed seventeen (17) water and sewer projects within the last five years, which entails over 15 miles of pipes. These pipes range in size from 6" to 18" in diameter, and have been installed via open cut trenching, jack and bore, horizontal directional drilling and pipe ramming.**

Roles and Responsibilities: As Project Manager, Mr. Falls will provide supervisory leadership to the design team, while also acting as the liaison with municipalities. He will manage the project team to ensure deliverables are provided on time and budget. He will coordinate technical activities and maintain regular communication with community staff.

Representative Projects:

- Project Manager | Monarch Mill Village Phase III Sewer System Improvements | City of Union, SC
- Project Manager | Union Mill & Chamber Town Sewer System Rehabilitation| City of Union, SC
- Project Manager | W Main St/Evans St Area Sewer System Rehabilitation | City of Union, SC
- Design Manager | Zone A, Phase 2, Sewer and Water Improvements | City of LaBelle, FL
- Project Manager | Streetsville Watermain & Sewer Replacement | Region of Peel, ON
- Project Director | Sudduth Farms Pump Station & Force Main | City of Greer, SC
- Senior Engineer | North Mainland Water Loops Improvements | Glynn County, GA

Michael Klink, P.E. | Senior Engineer



- Professional Engineer: NC, SC, GA, FL, LA
- SC license number: #21839
- M.S. Civil Engineering
  B.S. Civil Engineering
- 17 Years of Experience
- FL Office Location

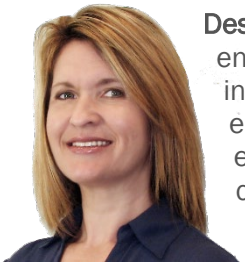
Description: Mr. Klink's experience involves working as a civil engineer in the water, storm, and wastewater fields. His background includes conceptual, preliminary and detailed design, planning and modeling, permitting, and construction administration. Mr. Klink designs projects of varying size and complexity, coordinates and guides project teams, supervises designs and checks for quality and cost control. **He has worked on a variety of projects for municipalities and private developers, including water and sanitary extensions, pump stations and forcemains.** He regularly provides design and permitting of Maintenance of Traffic/Traffic Control Plans (MOT/TCP) for utility projects.

Roles and Responsibilities: As the Senior Engineer, Mr. Klink will coordinate design activities to ensure technical information provided is accurate, complete, and has gone through the QA/QC process. He will guide designers and CAD staff as they produce project drawings. Mr. Klink will provide technical oversight to projects and work with operational staff to ensure his design is compatible with their ongoing operations.

Representative Projects:

- Senior Engineer | Columbia Avenue Area Sewer Extension | Town of Port Royal, SC
- Project Engineer | LS2030 Lift Station and Forcemain Improvements | Glynn County, GA
- Project Engineer | Ribaut Road Sewer Extension | Town of Port Royal, SC
- Project Manager | 10th Street South Infrastructure Project | City Jacksonville Beach, FL
- Project Manager | Grampell Drive Gravity Sewer Bulkhead Replacement | Jacksonville, FL
- Project Manager | Royal Palm and Narcissus Avenue Sewer Extension | Town of Port Royal, SC

Angela Bryan, P.E., LEED AP| Project Principal and QA/QC Reviewer



Description: Ms. Bryan's years of experience involves environmental and civil engineering with a strong background in all levels of water, wastewater, and stormwater engineering, including extensive trenchless installation expertise. She has designed water distribution, wastewater collection and transmission, and reuse distribution systems; water and wastewater treatment and disposal systems. Additionally, she has prepared many master plans for water and wastewater systems to serve both municipalities and private developments. **Ms. Bryan has led engineering design teams, engineering and environmental studies, contract administration, contract advisory, constructability review, independent review and coordination with other engineering disciplines within the organization.**

- Professional Engineer: SC, GA, FL
- SC license number: #28229
- MBA
  B.S. Environmental Engineering
- 27 Years of Experience
- FL Office Location

Roles and Responsibilities: As Project Principal, Ms. Bryan is ultimately responsible for the performance of 4Waters for the projects assigned under the various contracts. She will undertake QA/QC reviews on the various documents that are prepared by 4Waters for the assignments. She is capable of identifying project risks along with initiating mitigation measures, providing the confidence that projects will be delivered on time and on budget.

Representative Projects:

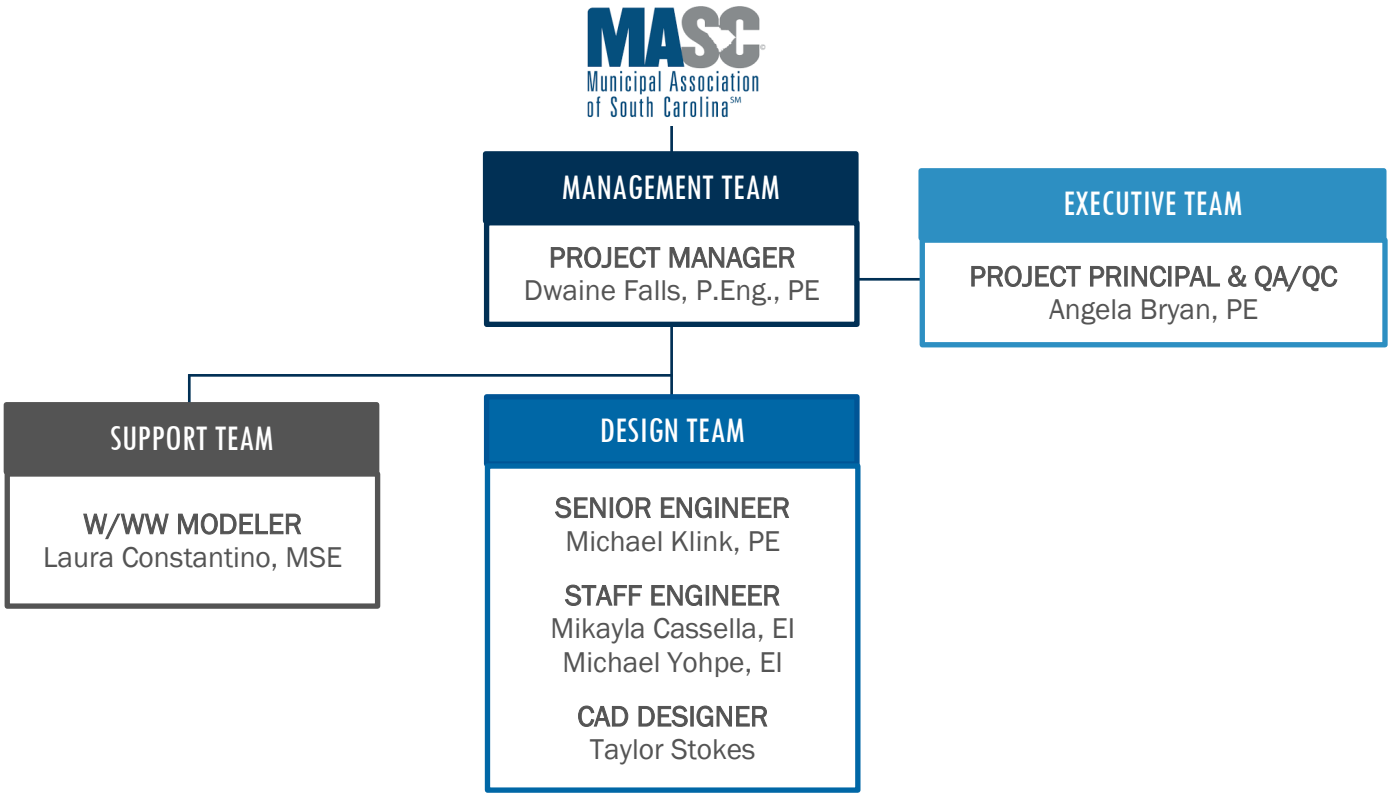
- Project Manager | East Beach Subdivision Water and Sanitary Sewer Improvements | Glynn County, GA
- Senior Engineer | | 10th Street South Infrastructure Project | City Jacksonville Beach, FL
- QA/QC | Columbia Avenue Sewer Extension | Town of Port Royal, SC
- Project Manager | Water/Sewer Systems 2019 Capital Improvement Plan | Town of Ridgeland, SC
- Project Manager | EDA Water and Sewer Resilience Projects | Town of Ridgeland, SC

ADDITIONAL PERSONNEL

Personnel/Office Location	Proposed Role	License	Relevant Degree(s) or Software Proficiency	Years' Experience
Laura Constantino, MSE - FL	Hydraulic Modeler/ System Evaluations	N/A	B.S. Meteorology M.S. Environmental Engineering	15
Representative Projects: ▪ Project Manager | Zone A Septic to Sewer Improvements | City of Labelle, FL ▪ System Evaluations | Water/Sewer Systems 2019 Capital Improvement Plan| Town of Ridgeland, SC ▪ Project Manager | City-wide Sewage Lift Station and Hydraulic Evaluation | City of Jacksonville Beach, FL				
Mikayla Cassella, EI - FL	Staff Engineer	EI: FL	B.S. Civil Engineering B.S. Crop & Soil Env. Sci.	7
Representative Projects: ▪ Engineer-in-Training | Hydrogeologic Modeling for Reuse Feasibility Study | City of Palm Coast, FL ▪ Engineer-in-Training | AWIA Risk & Resilience Assessment & Emergency Response Plan | Town of Ridgeland, SC				
Michael Yohpe, EI - FL	Staff Engineer	EI: FL	B.S. Environmental Engineering	3
Representative Projects: ▪ Engineer-in-Training | Forbes St. Area Galvanized Water Main Replacement | JEA, Jacksonville, FL ▪ Engineer-in-Training | Chatmire Septic-to-Sewer |Florida Governmental Utility Authority (FGUA), FL				
Taylor Stokes - SC	Designer	CEPSCI: SC	AutoCAD and AutoCAD 3D	8
Representative Projects: ▪ Designer/Drafter/Inspector | Duke Energy Stormwater Inspections | Oconee County, SC ▪ Designer/Drafter | W Main St./Evans St. Area Sewer System Rehabilitation | Union, SC				

STAFFING CONFIGURATION

4Waters has carefully assembled a team that ensures that MASC will have the resources, expertise, and responsive service required to meet the needs of a contract of this nature. The organization chart below outlines the team structure to be utilized for this contract.



The Project Manager will be ultimately responsible for communication, project schedule, and budget. He may be assisted on individual tasks by a Task Leader selected from the individuals listed on the organization chart. All project management activities will be overseen by the Principal-in-Charge, who will serve as a secondary point of contact for MASC.

The role of the Project Manager will be as follows:

- Allocate resources and assign project team based on required skill set, availability, and project schedule.
- Spearhead all scope development, cost proposal preparation, negotiation, and contract execution with oversight from the Principal-in-Charge
- Provide oversight of all Task Orders issued under the contract
- Serve as the primary point of contact for the MASC Project Manager and COG personnel
- Provide review and conduct and assign QA/QC of all Task Order deliverables (working in conjunction with QA/QC Officer as outlined on the organization chart)
- Maintain schedules for all Task Orders and ensure schedules are met,
- Address and facilitate solutions for any issues/problems that arise during the execution of Task Orders
- Facilitate coordination and communication with all 4Waters Team members

SECTION 3: EXPERIENCE OF THE FIRM

CORPORATE BACKGROUND/HISTORY

Four Waters Engineering (4Waters) is a multidisciplinary consulting firm offering a wide range of environmental and civil engineering services. We provide professional services throughout the Southeast U.S. to public and private clients. Our concentration on water related issues (water, storm and sanitary) is demonstrated by our corporate name. Additionally, our services range from environmental assessment to master planning, route and feasibility studies, condition assessment, modeling, system optimization, peer review, and cost estimating (capital and operating). We would like to be selected as a consultant to assist municipalities with their American Rescue Plan funded projects.

Firm Fast Facts	
Year Established:	2015
Years Working in South Carolina:	6
Number of FTE & Contract Employees:	20
Number of Offices	2
Federal Tax Identification Number	47-2758988
DUNS Number	079914266
SC Certificate of Authorization	5166

OFFICE LOCATIONS

4Waters is headquartered in Jacksonville Beach, FL, and that office will service the Lowcountry while our Greenville, SC office is anticipated to service the Upstate and Midlands portion of the state. Our South Carolina office is located at:

Four Waters Engineering, Inc.
150 Milestone Way, Suite D
Greenville, SC 29601

MUNICIPAL CLIENTS

4Waters provides expertise in all aspects of planning, designing, approval, and construction support of public infrastructure projects. As a service provider to municipalities in the Southeast region, 4Waters has significant engineering experience on a wide variety of assignments. A brief selection of municipalities and utility authorities which we have provided professional services to includes the following:

Ridgeland, SC	Beaufort County, SC	Port Royal, SC
Brunswick-Glynn JWSC, GA	Nashville, GA	Bryan County, GA
Daytona Beach, FL	Jacksonville, FL	JEA, Jacksonville, FL

RELEVANT EXPERIENCE

Our senior staff's experience comprises over 200+ years of civil and environmental engineering, providing us the ability to successfully complete large complex municipal projects. Our staff is experienced in project management, data collection, conceptual, preliminary and detailed design, permitting, bidding assistance, construction support, along with stakeholder engagement. We have earned this experience through a variety of project types and clients and can apply our lessons learned and understanding of potential project pitfalls to successfully complete assigned projects. Below are some of our relevant services that we foresee being applicable for this assignment:

- Sanitary Sewers and Services
- Watermains and Services
- Utility Protection and Relocations
- Trenchless Technology Construction
- Stakeholder Engagement
- DOT, SC DHEC and USACE Permitting
- Maintenance of Traffic/Traffic Control
- Construction Support Services

PROJECT EXPERIENCE TABLE

The 4Waters Team has extensive experience on assignments which are similar to MASC's assignments. We have provided the following projects undertaken by 4Waters in the last five years to demonstrate the depth and breadth of our corporate experience.

Project Name	Client	Construction Cost	Duration (months)	Water or Sanitary Sewer	Reports	Const. Document	Permitting	Bidding Asst.	Const Support
Columbia Avenue Area Sewer Extension	Town of Port Royal, SC	$782,729	12	※	※	※	※	※	※
Narcissus Lane and Royal Palm CDBG Sewer Extension	Town of Port Royal, SC	$1,340,101	15	※	※	※	※	※	※
Ribaut Road Sewer Extension	Town of Port Royal, SC	$686,060	13	※	※	※	※		
Water and Sewer Improvements, Zone A, Ph. 1 & 2	City of Labelle, FL	$347,790 (eng.)	Ongoing	※	※	※	※	※	※
Harry Driggers Blvd and Canal Rd Force Main, Gravity Sewer, and Water Main Improvements	BGJWSC, Glynn County, GA	$4,647,568	10	※	※	※	※	※	※
Middleburg Apartments Water and Sewer Improvements	Middleburg Assoc. Middleburg, FL	$590,000	9.5	※	※	※	※	※	※
10th Street South Infrastructure Project	City of Jacksonville Beach, FL	$187,237 (eng.)	Ongoing	※	※	※	※	※	
Grampell Drive Gravity Sewer and Bulkhead Replacement	JEA, Jacksonville, FL	$57,663 (eng.)	Ongoing	※	※	※	※	※	
US-1 Utility Corridor Improvements	COJ/JEA, Jacksonville, FL	$1,198,549	8	※	※	※	※	※	※
CDBG Grant Funding for Gravity Sewer Improvements	Town of Ridgeland, SC	$52,020 (eng.)	8	※	※				
Lift Station 2030 Upgrades, Forcemain Improvements and Sea Island Road Watermain Improvements	BGJWSC, Glynn County, GA	$1,981,117	9	※	※	※	※	※	※
Water and Sewer Improvements, Zone J	City of Labelle, FL	$115,000 (eng.)	Ongoing	※	※	※	※	※	※
Cecil Airport Perimeter Road Water Main	JEA, Jacksonville, FL	$4,803,709	12	※	※	※	※	※	※
E Adams St. Sewer Rehabilitation	Town of Ridgeland, SC	$152,900	9	※	※	※	※	※	※
Small Water & Sewer Projects	City of Jacksonville Beach, FL	$352,651	11	※	※	※	※	※	※
JEA Manhole Inspection and Rehabilitation Program	JEA, Jacksonville, FL	$705,000 (eng.)	36	※	※				
Walnut Street Emergency Bypass Force Main Prog. Design-Build	JEA, Jacksonville, FL	$1,294,619	4	※	※	※	※	※	※
3rd Street Gravity Sewer & Water Main Extension	City of St. Augustine, FL	$59,888	Ongoing	※	※	※	※	※	※

PROJECT SUMMARIES

PROJECT 1 | ROYAL PALMS AND NARCISSUS LANE GRAVITY SEWER EXTENSION | TOWN OF PORT ROYAL, SC

RELEVANT SERVICES
- Sewer Line Extension
- Project Design Submittals/Reviews
- Permitting
- Traffic Control Plans
- Construction Bid Documents
- Construction Management Assistance
- Funded Projects

TEAM MEMBERS IN KEY ROLES
Michael Klink, PE –Engineer of Record

OWNER CONTACT
Van Willis, Town Manager
(843) 986-2205 | vwillis@portroyal.org

PROJECT STATUS
Completed

4Waters provided engineering services for extension of a sewer main including gravity sewer line installation, sewer lateral installation to ROW, abandonment of existing septic tanks, and site restoration. The project was located on Royal Palms Road, Narcissus Lane, Smilax Avenue, and Rosemont Avenue in the Town of Port Royal, South Carolina. The funding for the majority of this project came from a CDBG Grant the Town obtained.

The professional engineering services needed to complete project included the following:

- Data collection including field surveying, geotechnical evaluation, and environmental review.
- Preliminary and final design and specifications for the sewer system.
- Preparation and submission of necessary regulatory agency permits.
- Assistance with bidding, bid review, bid award assistance, and recommendation of award.
- Construction administration services.

The project included approximately 4,377 LF of 8" PVC gravity sewer line, 20 4-foot diameter manholes with 24" lids, 70 sewer service lateral connections, including the demolition and abandonment of septic tanks, 280 SY of roadway replacement, and 12,147 SY of asphalt resurfacing.

This project required coordination with the local utility company—Beaufort Jasper Water and Sewer Authority (BJWSA), South Carolina Department of Transportation (SCDOT), the Lowcountry Council of Governments (LoCOG), and the City of Beaufort.

Royal Palms Road, Narcissus Lane, Smilax Avenue, Rosemont Avenue, and Azalea Drive were located in SCDOT right-of-way (ROW). Therefore, coordination meetings with SCDOT were required for installation of gravity sewer in roadways, along with an SCDOT encroachment permit. An extensive maintenance of traffic (MOT) plan was required along with multiple details based on the type and existing roadway located in SCDOT ROW. The two gravity sewer tie-in locations are located in the City of Beaufort and a private community, which also required coordination and approval. Record drawings were pepared to BJWSA standards and required BJWSA approval at each milestone.

PROJECT 2 ZONE A SEPTIC TANK CONVERSION TO SEWER | CITY OF LABELLE, FL

RELEVANT SERVICES
- Sewer Line Extensions
- Wastewater Lift/Pump Station
- Force Main
- Project Design Submittals/Reviews
- Permitting
- Traffic Control Plans
- Construction Bid Documents
- Construction Management Assistance
- Funding Assistance

TEAM MEMBERS IN KEY ROLES
Dwaine Falls, PE – Engineer of Record

OWNER CONTACT
Gary Hull, Superintendent of Public Works
863.675.2872 | ghull@citylabelle.com

PROJECT STATUS
Ph. 1 Under Construction
Ph. 2 Ongoing

The City of LaBelle wishes to convert septic tank users located in the Zone A Area (North of Hickpochee Avenue between Bridge Street and North Elm Street) within the City to centralized sewer to protect water quality in the Caloosahatchee River. The project consists of approximately 7,700 linear feet (LF) of 8-inch PVC gravity sewer, approximately 24 manholes, and one pump station with approximately 5,100 LF of 6-inch and 8-inch forcemain to provide approximately 146 customers with sanitary sewer service.

The project was broken into two phases. The first phase includes construction of the pump station and forcemain and the second includes the construction of the gravity main. The project also requires removal and replacement of approximately 23,780 square yards (SY) of asphalt roadway for sewer installation. The funding for this project comes from an Florida Department of Environmental Protection (FDEP) Water Quality Grant the City obtained.

4Waters provided services for this project including planning and data collection, project management, conceptual and final design, funding assistance, and construction phase services.

To expedite the project, 4Waters prepared a conceptual design and hydraulic analysis while the topographical survey, utility designations and geotechnical investigation were ongoing. The hydraulic analysis included an evaluation of the current and anticipated buildout sewer flow for the service area and a determination of recommended pump rate. Additionally, 4Waters identified how these flows will impact the downstream portion of the system. A conceptual layout of the recommended gravity main routing and sizing was prepared, along with the pump station site location, forcemain routing, and tie-in location.

Permitting for the project included a FDEP permit for Constructing a Domestic Wastewater Collection/Transmission System. 4Waters also provided bidding and contractor selection services, construction project management services including attendance at the pre-construction meeting, shop drawing review, progress meeting attendance, pay application review and verification, and review of record drawings.

PROJECT 3 | RIBAUT ROAD SEWER EXTENSION | TOWN OF PORT ROYAL, SC

RELEVANT SERVICES
- System Evaluation
- Sewer Line Extension
- New Pump Station and Force Main
- Force Main Extension
- Funding Administration

TEAM MEMBERS IN KEY ROLES
Michael Klink, P.E.,– Project Engineer
Angela Bryan, P.E., LEED AP – QA/QC

OWNER CONTACT
Van Willis, Town Manager
(843) 986-2205 | vwillis@portroyal.org

PROJECT STATUS
Completed

4Waters Engineers were responsible for developing a Sewer Master Plan for an approximately 150-acre area, just north of Battery Creek of the Town of Port Royal. This area included a SC Ports Authority property and property to the east of Madrid Avenue and south of Ribaut Road, and consisted of abandoned, undeveloped land and commercial and residential properties on septic sewer systems. The Master Plan concentrated on three components of the area's growth: future development of the port property, redevelopment of commercial parcels along Ribaut Road, and gravity sewer system expansion to phase out septic tank use.

The first phase included a centralized pump station, forcemain to a tie-in location, and initial gravity sewer to the north, south, east, and west to allow for tie-in locations of future development. After the Sewer Master Plan was approved by Beaufort-Jasper Water and Sewer Authority (BJWSA), the Town and BJWSA teamed together to implement the first phase. 4Waters Engineers were responsible for the design, permitting, and construction administration of Pump Station SS34 located on Columbia Avenue and the gravity sewer extensions to the north, south, east and west. The first phase installation prepared the Town for future development of the port property, commercial redevelopment along Ribaut Road, and potential for future septic system tank phase-outs.

The project team also coordinated with BJWSA to incorporate relocation of a newer, unused pump station at the Marine Corps Air Station in Beaufort into the design. The forcemain from the proposed pump station to the tie-in location was also designed but due to land acquisition issues an alternative route was determined and designed by BJWSA. BJWSA and the responsible 4Waters Engineers were able to coordinate the design and permitting to construct the improvements and prepare for future septic sewer system phase-outs, commercial redevelopment on Ribaut Road, and future development of the port property.

As part of the second phase of the project, 4Waters provided engineering services to complete the Town of Port Royal sewer main extension to Columbia Avenue, 16th Street, Edinburgh Avenue, and Ritter Circle (approximately 3,800 LF). The funding for the majority of this project came from a CDBG Grant.

4Waters prepared a conceptual design, coordinating with Town staff and BJWSA engineering staff to determine accurate sewer loading and appropriate size for the gravity sewer mains. The final design was completed incorporating feedback from the Town and BJWSA. 4Waters provided submittals to the Lowcountry Council of Governments (LoCOG) for Section 208 Certification and to the South Carolina Department of Health and Environmental Control (SCDHEC) for wastewater permitting and the Ocean and Coastal Resource Management (OCRM) for sediment and erosion control approval, along with a Coastal Zone Certification. 4Waters staff also provided bidding assistance and are currently providing construction phase services including coordinating with LoCOG for funding administration and regular site visits.

PROJECT 4 | NORTH MAINLAND WATER LOOPS PROJECT | BRUNSWICK-GLYNN COUNTY JOINT WATER & SEWER COMMISSION, GA

RELEVANT SERVICES

- Water Line Extension
- Project Design Submittals/Reviews
- Permitting*
- Traffic Control Plans
- Construction Bid Documents*
- Construction Bidding Assistance*
- Construction Management Assistance*
- Construction Inspection Services*
- Construction Closeout Services*

TEAM MEMBERS IN KEY ROLES

Angela Bryan, P.E., LEED AP – Project Manager
Dwaine Falls, PE – Senior Civil Engineer

OWNER CONTACT

Todd Kline, PE, Project Manager
(912) 261-7122 | tkline@bgjwsc.org

PROJECT STATUS

Permitting Ongoing
*Services included in project scope, may not be complete

4Waters staff have been working collaboratively with BGJWSC since 2008 to develop a comprehensive understanding of their infrastructure. This has included work on the 20-year Master Plan and two five-year updates. This collaboration has resulted in a deep understanding of the BGJWSC water system, including identification of deficiencies and opportunities to rectify them to provide redundancy in the watermain system andconsistent service to existing customers.

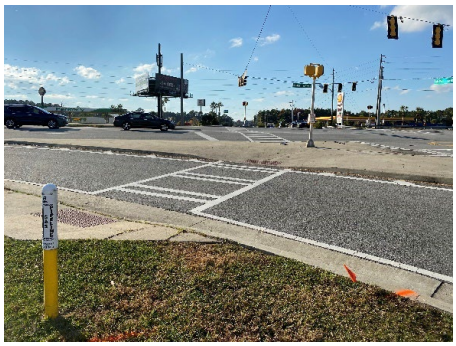
This project involved designing three watermain interconnections located within separate areas of BGJWSC's service area. These sites are located along the following roads: 1) Hautala Drive, 2) Old Jesup Road and Bailey Road, and 3) Perry Lane Road and Millennium Boulevard in Brunswick, Glynn County, Georgia. It is anticipated these interconnections will improve the water pressure within BGJWSC's service areax`

Project Area #1 entialed approximately 970 ft of 12" diameter PVC (DR18) watermain installed along Hautala Drive, including two connection points, fire hydrants, services and all necessary appurtenances. Determination of Norfolk Southern's railroad right of way was required to ensure watermain construction did not intrude upon the railroad's property.

Project Area #2 involved approximately 999 ft of 12" diameter PVC (DR18) watermain constructed within Bailey Road, and 2,775 ft of 12" diameter PVC (DR18) watermain installed along Old Jesup Road along with with connection points, fire hydrants, services and all necessary appurtenances.

Old Jesup Road has two waterways (Burnett Creek and a drainage ditch system) which are being crossed with the proposed watermain. These waterways cross the road in concrete box culverts, with anticipated depths of about 9-12 ft. below the road surface. It is anitipated the proposed watermain to be installed via horizontal directional drilling at these two locations, consisting of 689 ft of 16" diameter HDPE (DR11) pipe.

Project Area #3 consists of about 461 ft. of 10" diameter HDPE (DR11) watermain installed via horizontal directional drilling under Golden Isles Parkway. In discussions with GDOT, installation of the proposed watermain across Golden Isles Parkway via open cut trenching is not viable. Although Golden Isles Parkway is a designated limited control highway, GDOT's preference is the watermain be installed trenchless. Additionally, this intersection has been improved within the last five years, including new curbs, striping and pavement, so open cut trenching may present a political issue.



An Alternatives Evaluation Report, detailing existing conditions along with proposed watermain routing and construction methodology was provided to BGJWSC. Upon approval of the report by their Board of Commissioners, the 60% design commenced, which followed the report's recommendations. This allowed BGJWSC staff the confidence to proceed with detailed design, with the knowledge that design revisions would be minimal.

PROJECT 5

EDA WATER AND SEWER RESILIENCE IMPROVEMENTS | TOWN OF RIDGELAND, SC

RELEVANT SERVICES

- Wastewater Lift/Pump Stations
- Sewer Line Rehabilitation
- Water Well and Water Main Rehabilitation
- Federal Funding

TEAM MEMBERS IN KEY ROLES

Angela Bryan, P.E., LEED AP – Project Manager
Dwaine Falls, PE – Senior Civil Engineer
Michael Klink, PE – Senior Project Engineer
Laura Constantino, MSE – Hydraulic Analysis

OWNER CONTACT

Dennis Averkin, Town Administrator
843.726.7504 | daverkin@ridgelandsc.gov

PROJECT STATUS

Design Ongoing; Construction Start Early 2023

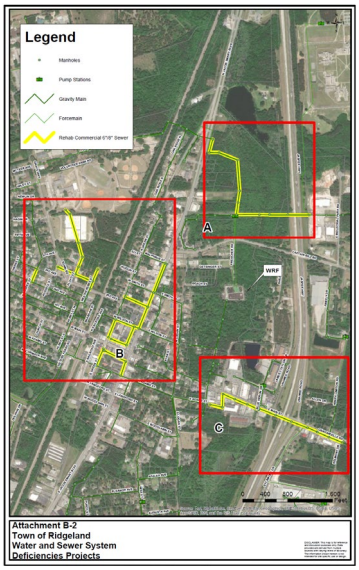
Four Waters Engineering prepared an evaluation of the Town's water and sewer facilities which resulted in an overall assessment of vulnerability, condition, and operational efficiency of each major component of the water and sewer systems. The assessment also provided a capital improvement plan (CIP) with recommended improvements, prioritization, and estimated construction costs.

The Lowcountry Council of Governments (LCOG) identified an opportunity for the Town to apply for the U.S. Department of Commerce (DOC) EDA Disaster Assistance Program to improve vulnerable water and sewer facilities and increase the system resilience with a particular focus on portions of the system which serve commercial areas. Based on these program goals, 4Waters used the CIP to develop a priority list of vulnerable facilities to be included in the grant program application, including Pump Stations #3, 4, 5, 6, 8, 9, 12, Well Site #2, Water Reclamation Facility (WRF) Sewer Basin, PS3 & PS4 Sewer Basins, and a new Supervisory Control and Data Acquisition (SCADA) System. The purpose of the program was to repair, replace, or improve the Town's water and sewer system by replacing or upgrading existing pumping systems, rehabilitating piping systems, adding backup power supplies, improving site access during flood periods, and providing remote operations and data collection of the key components of the utility system.

The proposed project improvements include rehabilitation of gravity sewer piping within three sewer basins - PS3 Sewer Basin, WRF Sewer Basin, and PS4 Sewer Basin. 4Waters team performed CCTV inspection of all of the sewer mains to determine the existing condition and size and pipe material for the approximately 14,760 LF of 6- to 8-inch gravity sewer piping identified for rehabilitation. Trenchless technologies including Cured In Place Pipe (CIPP) and pipebursting are proposed for rehabilitation where possible based on depth, condition, and size of the mains to provide improved structural integrity, reduce inflow & infiltration, and minimize impact and inconvenience to the public.

For the pump stations, 4Waters coordinated with the Town to identify capacity issues or potential development which required an increase in pump station capacity. The Town's sewer system includes sub-systems which have manifolded pump stations where several pump stations operate on a single forcemain, and repumping operations where a downstream pump station repumps flow from several upstream pump stations. Accordingly, a hydraulic evaluation was important to help ensure that any modifications made to pump rate or capacity did not negatively impact other pump stations on the system.

4Waters prepared a hydraulic analysis using spreadsheets and SewerGEMS modeling software to evaluate pump modifications for the facilities and select suitable pumps. A brief technical memorandum documenting the hydraulic analysis and pump selections was prepared and included design operating flow and headloss conditions. Two of the pump stations include complete replacement with new wet well, the remainder are rehabilitation in place. The pump sizes range from 3 Hp to 60 Hp. Improvements also include a complete SCADA system upgrade to include remote-control capabilities for the pumps.



For the Town's water system, priority improvements were recommended for Well Site No. 2, located on 2nd Avenue. The recommended rehabilitation improvements include and expansion of the building to isolate disinfection and water quality chemical to reduce corrosion, painting of the building, repainting of the ductile iron well header piping, electrical service upgrade, new control panel components – starter and controls, generator and transfer switch, and SCADA upgrades

Approved design is anticipated for completion fall 2022 with construction anticipated to begin in early 2023. The grant includes an 18 month period for construction, and three months for grant closeout.

CORPORATE REFERENCES

In a service industry such as engineering consulting, the name, reputation and reliability of a company and its staff are paramount to the success of the firm. We have included the following references to help you gain an understanding of the quality services the 4Waters Team consistently provides:

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Director of Engineering
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Brunswick, GA 31520
912.261.7122
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SECTION 4: FAMILIARITY WITH FEDERAL FUNDING REQUIREMENTS

FUNDING MANAGEMENT

Having been involved in numerous state and federal environmental projects, 4Waters is experienced in assisting clients with funding and managing funding from the following sources.

- Community Development Block Grant Program (CDBG);
- Rural Infrastructure Authority (RIA) Grants;
- State Revolving Funds (SRF) Loans;
- Economic Development Administration (EDA) Assistance Program;
- U.S Department of Agriculture Rural Development Program (USDA RD);
- Department of Housing and Urban Development (HUD);

4Waters can manage these types of funded projects and is experienced in the various forms and requirements to undertake these types of assignments.

FUNDING EXPERIENCE

4Waters has been involved in numerous state and federal environmental projects, and is therefore experienced in assisting clients with funding applications and administration. Below is a list of select 4Waters projects which have been funded by state and federal program grants, loans, and appropriations.

Project Name	Location	Approx. Grant Award Value	Funding Type	Project Status
Columbia Avenue Sewer Extension	Port Royal, SC	$550,182	CDBG	Completed
Sewer Rehabilitation, Phase 1	Ridgeland, SC	$750,000	CDBG	Completed
Jimmy Mixson WRF Upgrades	Ridgeland, SC	$3,197,200 $1,000,000	USDA RD RIA	Completed
CDBG Septic to Sewer Conversion	LaBelle, FL	$700,000	CDBG	Completed
Evergreen Regional Pond	Beaufort County, SC	$229,124	319 Grant	Construction
Zone A Septic to Sewer Conversion	LaBelle, FL	$3,128,500	FDEP	Construction
Zone B Septic to Sewer Conversion	LaBelle, FL	$3,243,000	FDEP	Design
Zone J Septic to Sewer Conversion	LaBelle, FL	$908,500	FDEP	Design
Narcissus Lane & Royal Palms Road Gravity Sewer Extension	Port Royal, SC	$838,851	CDBG	Design
Paris Avenue Streetscape Improvements	Port Royal, SC	$644,490	CDBG	Design
Water and Sewer Resilience Improvements	Ridgeland, SC	$3,388,000	US Dept. Commerce	Design
Water Main Extension Project	LaBelle, FL	$1,298,931	FL Legislative Appropriation	Design

COMPETITIVE PROCUREMENT ENVIRONMENT

4Water regularly assists clients during bidding by trying to obtain the maximum number of bids for our projects. This may involve separating contracts into smaller components that specialized companies can perform, combining projects into a Program Management style contract to solicit interest or even contacting local contractors to encourage them to provide bids. **Due to the many future SCIIP projects that will be bid around the same time and demand contractors' work and associated material acquisition, bidding assignments under this contract early will be critical in meeting the 2026 deadline.**

The current environment has resulted in substantially increased construction pricing, which has affected multiple municipal clients. Being aware of material costs, we aim to provide designs that reduce complex construction methods, thus saving on material and labor costs. Sanitary systems, which typically consists of gravity pipes have been affected the least by the recent construction cost increases, while watermain have been affected more.

Having completed multiple federal and state funded construction bidding phases, we understand the documentation and requirements involved with these projects. **Our staff is familiar with various Council of Governments (COG) staff and have developed a relationship with them. We understand their procedures and feel comfortable working alongside them to complete American Rescue Plan funded projects.**